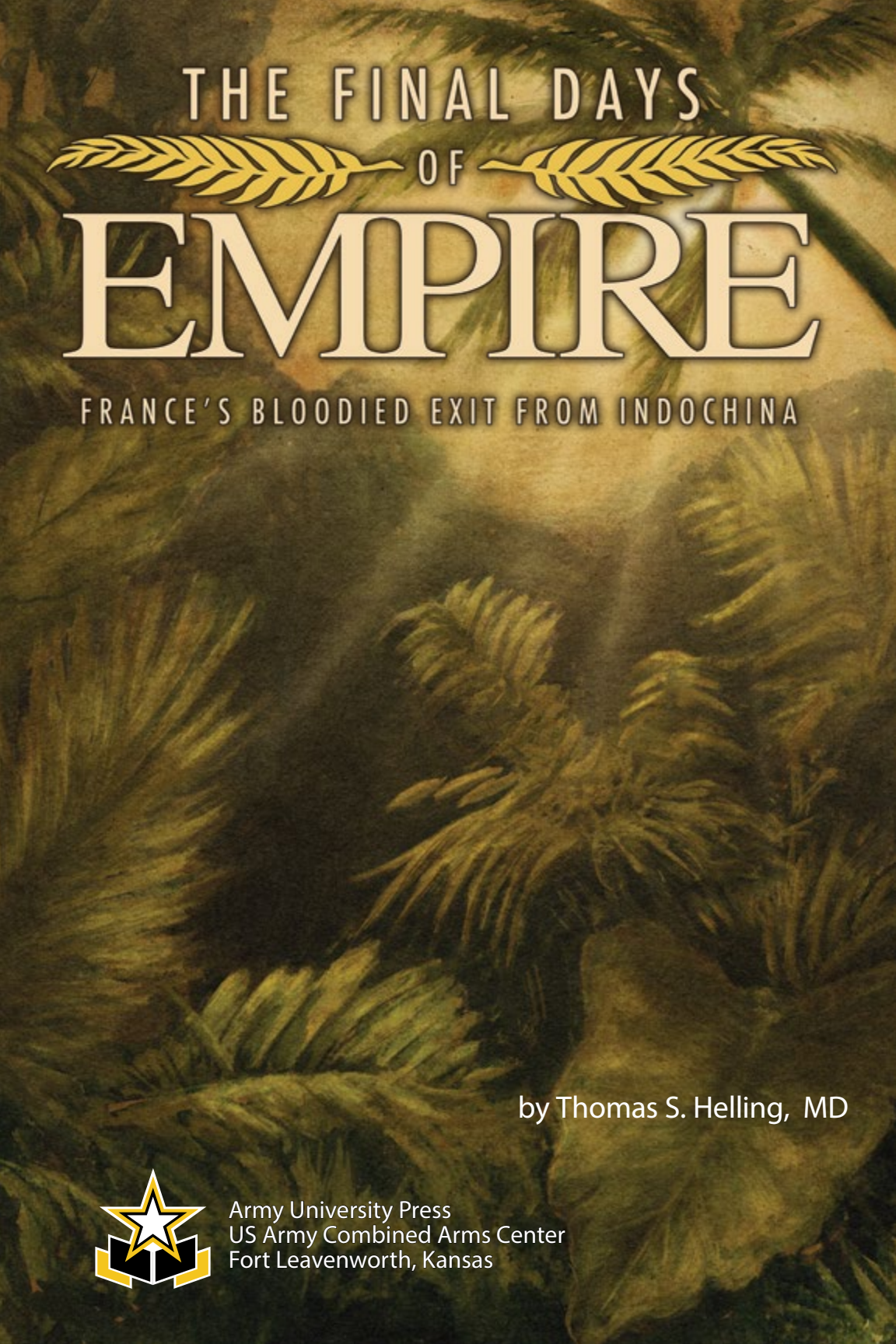

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The Final Days of Empire
France's Bloodied Exit from Indochina

Thomas S. Helling, MD

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Preface

In Virgil's *Eclogue, Book II*, the shepherd Corydon pines for the lovely boy Alexis who shuns his every advance. "O cruel Alexis, care you nothing for my songs? Have you no pity for me? You will drive me at last to death," Corydon laments. Indeed, such foolishness. Alexis rebuffed the lad. *Quae te dementia cepit*!—"What madness has consumed you!" Corydon is told. Move on, find another who does not scorn. Would that the embattled French had listened to the wisdom of Virgil. Would that they had disengaged from their *Việt* foe and found another people, another land, in which to sink their ambivalent curiosities and designs. But no. Now here on the plain of Điện Biên Phủ they will reap the wickedness of their persistence. They will feel the scorn of a love abused and a love rejected. And the mutilated forms of the fallen, mixed with mud and blood and disgrace, must be met with an ingenuity and desperation and devotion almost another folly in itself. Truly those tormented healers would ask themselves "*Quae nos dementia cepit*!"—what madness consumes us![1]

There was no question that the debacle in a remote mountainous valley of Tonkin known to the local T'ai tribes as Thèng was a permeating evil. Forces had impinged on their quiet, bucolic lifestyle around the tiny village of Mương Thèng. Their clash proved the culmination of years of strife, bloodshed, and sorrow as a rebellious and insistent *Việt* army entrapped and almost annihilated French forces intent on maintaining their tenuous hold on a lucrative colonial empire in Southeast Asia. Warriors fell at a ferocious pace on both sides, their wounds inflicted amidst the most damning of climate, terrain, weather, and neglect.

The hills of northern Indochina, the frontiers of a region called Tonkin where stark highlands merge with those of the neighboring Chinese provinces and, to the west, give way to the valleys of Laos, were the backdrop to the death throes of France's imperial designs of Indochinese domination. Blood would be spilt here—in torrents. On and around these lush peaks thousands of colonial surrogates—German *legionnaires*, Moroccan *goums*, Algerian *tiraillieurs*—and idealistic young *Việt bộ đội*, struggled mightily and fell, struck down by those capricious gods of war who know not mercy or kindness or compassion.

It was an ugly war, a war of contempt, of treachery, of sabotage. It was a war of victims and abandonment and atonement; a war of desecration, of mutilation, of evisceration. Above all, it was a war of a geography as

malignant as the combatants within. And for those sent to heal, a war of sweat, death, isolation, and uncommon benevolence.

In her memoir *L'Amant*, Marguerite Duras vividly portrays the clash of cultures engendered by French colonial attempts to pacify and subjugate their Indochinese "protectorates."[2] Pitted against accouterments of the western world were ancient customs distinctly Confucian and a pace distinctly Asian. Indeed, as Pierre Brocheux contended, it was an ambiguous and entirely intolerable arrangement under which sizable numbers of Vietnamese seethed.[3] That French mandates introduced needed modernization was inescapable. Those same rebellious native elements just as keenly pined for tools to liberate the masses of impoverished, ailing, and uneducated peasants immobilized by a feudal system of mandarins and wedded to a Confucian ideology that limited social mobility. But French intentions were largely capitalistic. Grooming a reliable, sturdy, but subservient labor force to advance trade and economic prosperity of France itself was a primary driving force for colonization.

Ostensibly France advanced their *mission civilisatrice*, their firm belief that Western influence lay at the root of modernization. Indeed, for health it was so. Whether to ensure a robust work force for more mercenary missions, or out of a compassion for human suffering, scientists flocked to the country, for centuries imperiled by waves of disastrous epidemics and plagues. It was an age of microbes and no better laboratory there was than the rice fields of Indochina. In their wake spread the initiatives that could relieve those sweeping diseases that felled so many Indochinese. In truth, there was effort placed to educate Vietnamese in Western ways, to promote medicine as Europe saw it, to give native ownership to the health of their country. And the Vietnamese rushed to embrace it, eager to learn the magic of medicine brought by the French.

Beneath it all, though, lay anger and resentment. Peasants still toiled, have-starved in the paddies, corruption infected the aristocracy, French authority was almost total. Obedience, subservience and trust soon wore thin. There would be no eventual liberation, no independence. French presence seemed eternal. And so, attitudes turned militant. Warfare had always been part of Vietnamese history. Conflict and strife were as native as the splendid hills where it was fought. And conflict would rise again. Clashes would pit colonial troops against impassioned followers of the charismatic Hồ Chí Minh and his brilliant general Võ Nguyên Giáp. Victims multiplied. Amidst startling, expansive foliage—rich, exuberant canopied forests and velvet, layered paddies—victims on both sides lan-

guished in their green hells until rotten or mercifully withdrawn by those sent to rescue and repair.

And, at the last, the French stand at Điện Biên Phủ in 1954 was the culmination of this protracted and bitter feud between French opportunists—intent on their civilizing mission—and a long-suffering but restless people who sought relief from feudal injustices. Hồ Chí Minh had given hope. He had given pride. And he would usher the down-trodden into a new age of independence, equality, and growth. The breakup was violent and filled with emotional duplicity. It had torn both sides apart, physically and spiritually spent after decades of strife, resentment, and, now, even hatred. The sweet benefits of wealth, health, and adventure had run their course and all that remained were shadows of empire or scars of literal enslavement.

For the French, colonialism was decaying in the mire of open hostilities spiraling out of control. Legions of fresh, young men (although only a minority of their militants were native "French"), were to be consumed, lost in wildernesses and rice fields, butchered by a foe that desired nothing less than total annihilation. For Vietnamese, this was the one desperate lunge for independence and self-determination, promised but never delivered by their occupiers. As a price, thousands of impassioned but naïve boys threw themselves onto barbed wire and muzzles of weapons that mowed them down dispassionately like so much ripened corn.

On one hand, these are tales of bloodshed, of suffering, of sacrifice. Slaughter in the name of enlightenment or liberation, but slaughter all the same. An evil air permeated Indochina of the 1950s. Open warfare hacked at the spirits of decency and charity. Its victims and memories haunt and beguile. They beg understanding but there can be none, not in killing and destruction. The Nineteenth Century French novelist George Sand, who witnessed the violence of the Franco-Prussian War, perhaps said it best:

> They [soldiers] arrive cold and hard as a snowstorm…They do not think at all, it is not in their best Interest…they are unconscious and terrible war machines. This war is particularly brutal, without soul, without discrimination…It is an exchange of projectiles more or less numerous, having more or less scope, which paralyzes the individual value, makes null the consciousness and the will of the soldier.[4]

On the other hand, there were true tales of redemption as medical men and women on both sides strove to salvage whom they could. It is the same in all wars. There are those who would give soul to soullessness, hope to the hopeless, compassion to the forlorn. Here in Indochina, it was

no different. They are the ones who must weather the snowstorm. Only in Indochina, in this war, the storm was colder, the challenges more extreme, the wounds weightier, and the nurturing earth less forgiving.

As in all wars healing men and women followed the carnage—were even part of it—and tended to the maimed and dying just the same as millennia ago. These doctors and nurses were to display a selflessness that rose above basic instincts to resist, kill, and survive. They labored to find those elusive miracles hidden in the horrors of battle, to resurrect the dying and heal the stricken, even to give mercy to the undeserving. It is remarkable testimony and happens again and again: in the worst of times, we humans can become our best. These, the final stages of France's bid for colonial greatness, represented nothing but the dogged ingenuity of battlefield surgeons to rescue the horribly maimed. As from antiquity, the plight of the fallen in combat becomes almost an afterthought in the grand pronouncement of power and courage. Perhaps the only medical lesson learned on both sides was the vital importance of early care by virtue of proximity and quick evacuation to centers of medical sophistication. And that was only accomplished through the courage of front-line medical providers working to save the injured under the most austere of circumstances. Yet it would never be enough to relieve the terrors of those prostrate men twice damaged by the weapons of war and the punishing vulnerability of their helpless condition.

Notes

1. Horace Andrews [Ed] *Virgil's Eclogues and Georgics* (Boston: Crocker and Brewster, 1862), Book II, lines 6-7; line 69; pages 4-5.

2. Marguerite Duras, *L'Amant* (Paris: Les Éditions de Minuit, 1984).

3. Pierre Brocheux and Daniel Hémery, *Indochina: An Ambiguous Colonization, 1858-1954* (Berkeley: University of California Press, 2009).

4. George Sand, *Journal d'un Voyageur Pendant la Guerre* (Paris: Michel Lèvy Frères, 1871), 30.

Chapter 1

Breathtaking Lands

The pure and simple abuse of…strength.

—Georges Clemenceau

They were breathtaking lands, great expanses of mahoganies and acacias and bamboos, endless seas of emerald paddies, jagged peaks of sawtoothed jungle. War came in all its passion and ugliness and defiled such beauty with a hatred only humans can muster, filling those territories with wastage and death.

Geography furnished a backdrop to the turmoil brooding within and would eventually spell the downfall of France's colonial ambitions. Her overseas behavior in Indochina had created a culture of violence—and of victims. For the French, imperialism, the prepared pickings of a fertile peninsula—riches of the East—would come at a very steep price. It had really never been a placid arrangement. On the surface Vietnamese complied obediently with colonial mandates but secretly seethed at blatant prejudices. France carved up Indochina into one colony and four protectorates. The French colony of Cochinchina was established in 1864 and the protectorates of Annam, Tonkin, Cambodia, and Laos after the Sino-French War of 1884-1885. To the French, then, "Vietnam" included the areas of Tonkin, Annam, and Cochinchina, although Vietnamese felt differently. To them, it was one country. Vietnamese referred to Đông Kinh, "Tonkin" in Western parlance, literally, "Eastern Capital," as the northern region, Bắc Kỳ or Bắc Bộ; Annam as central areas, Trung Bộ or Trung Kỳ; and Cochinchina as southern areas, Nam Kỳ or Nam Bộ. It was all one big ancestral territory. And they chafed at the partitioning. Vietnamese would always desire unification. But unification did not fit with French imperial designs. Yet, even in France, not all agreed with the wisdom of subduing and apportioning the Indochinese Peninsula. In the Chamber of Deputies in July, 1885, Georges Clemenceau waxed vehemently against the arrogance of a superior race "civilizing" an inferior one:

> The conquest you advocate is the pure and simple abuse of the strength that a scientific civilization gives to a rudimentary civilization, to denigrate man, to torture him, to extract all the strength that is in him for the benefit of the so-called civilizer. This is not the right: it is delusion. To speak of civilization in this respect is to add hypocrisy to violence.[1]

What had brought some degree of goodwill had been efforts by the French to provide the advantages of Western medical science for the benefit of a population long at the mercy of nature's fickle elements. Medicine had, in fact, been a true civilizing mission to Indochina. Despite, perhaps, veiled colonial motives (some considered a healthier working class a more productive working class), many colonial physicians truly embraced their role as healers. Inroads were impressive: vaccinations against smallpox, public health measures to reduce epidemics of cholera and dysentery. Nothing short of miracles to the local populations. And the surgical sciences, virtually unknown to Annamese before European cohabitation, extirpated even more disease from people formerly reliant on ancestral charms, herbs, and shamans.

Yet, visionary Vietnamese *literati* soon yearned for independence, to be ushered into a modern world by a benevolent partner versed in the political and economic strategies for prosperity and international recognition. Despite assurances that this would unfold, subjugation, intrigue, and manipulation fostered a realization that true independence would only come at the expense of conflict. Servitude, abuse, and inequities could not offset colonial benefits of education, vaccinations, and sanitation. Peaceful, political maneuverings had fallen flat. There seemed a keen desire by the French to maintain a rigid status quo.

So, friction developed. Sporadic at first. Isolated events of violence quickly punished. Sniping and assassination kept the colonist vigilant and the Vietnamese plotting. Yet this would never bring liberation. France had no interest in leaving and no interest in forfeiting their lucrative position in the imperial competition for Asian markets. Before long, pacifist movements floundered and more militant strains gained popularity. The charismatic Hồ Chí Minh and his Việt Minh movement spoke to those cherishing an identity and a cause. Hồ Chí Minh was a gentle man, not opposed to negotiation, but unrelenting in his desire for Vietnamese independence. For France he was a recalcitrant obstacle, a revolutionary, a dangerous prophet. So, the bloodletting began in earnest.

But this story does not dwell on those political and ideological machinations which can so preoccupy historians and theorists. There has been an abundance of material already attempting to explain, justify, and criticize maneuverings on both sides—the French and the popular front of Hồ Chí Minh. What has appeal is the plight of those effectors of policy. As always, the brunt of warmongering is born by individual men and women sent to do the fighting—mostly young, mostly easily persuaded and instilled with a zeal bordering on martyrdom. Or, in the case of many French troops in this Indochina war, by mercenary motivations hardly spiritual and more

akin to a liberation as well, but of a different nature—a personal liberation from oppression, social depravity, or poverty. For other warriors it was a simple joy of methodical violence.

The healing skills of surgery have long benefited from war. It is in such savagery that young surgeons practice, experiment, and innovate. Without exception the detritus of battle—those numbers stricken down—has given rise to progress in both an understanding of basic human physiology and techniques designed to restore life and facility and which, in due time, will benefit all of mankind in more peaceful epochs. It is a morbid fascination, this art of war surgery. The entire experience for medical workers is wrapped in danger and exhilaration. These quiet, intellectual men and women suddenly rush to the side of the wounded in all extremes of climate and combat, exposing themselves to the same egregious brutality as their patients. And the destruction of the human frame produced by weapons of modern warfare is so profound that any success in resuscitation and repair is nothing short of miraculous. Such astounding satisfactions can flood the human heart with feelings of divine inspiration.

But in war miracles are too infrequent. There is more death and destruction than resurrection. This also affects the care giver. God-like abilities can quickly give way to a deeper sense of futility, that the waste of humanity cannot be reconciled by any perceived supernatural talent. It can destroy a man or woman as surely as it destroyed their patient. That such experiences are filled with the hopeless and the doomed can drive out any purpose and rid those same willing hearts of worth.

This exposé on Indochina will focus on those caregivers: how they managed to endure the rigors of battle, retrieve their casualties, and deliver some modicum of treatment to temporize, stabilize, and, at their best, restore life and limb. Working under the most flimsy of constructs—medical systems barely equipped for the rigors of Indochinese wilderness—battlefield surgeons improvised to staunch those most immediate of life threats and performed superhuman activities to somehow clear the battle area of their defenseless patients. These providers were mostly young men and women, not so much older (and in some cases younger) than the victims they served. It was a monumental task—the immersion into masses of wounded men and the sorting through of whom could be saved and who was beyond salvation. One of the seasoned French surgeons put it succinctly:

> For a young surgeon, the essential phase of the sorting of casualties is certainly the most dreaded ordeal. The life of the injured often depends on the quick diagnosis, sometimes im-

> possible, because the imperative for surgery comes from the degree of urgency that is recognized.[2]

So recalled French forward surgeon Ernest Hantz. On both sides, speed was of the essence. A decisive determination of the most critical, those for whom surgical skill was not palliative but curative. The fight to salvage, waged by all the echelons of medical providers was a struggle of a different nature with a foe even more obstinate; a grim reaper whose wide swaths of suffering encompassed a plentiful harvest.

War has become a surgical disease. After the taming of those contagious epidemics that historically swept through military camps—yellow fever, malaria, cholera, dysentery—doctors now focused on wounds of battle. And indeed, the understanding of these maladies was just as challenging as those of a microscopic nature. The theme of casualty care was speed. The sooner injured reached medical units the more likely they were to survive. Baron Dominique-Jean Larrey, Napoleon Bonaparte's personal surgeon, had seen the consequences of delay—gravely injured men dead from neglect, or those soon to be, sporting rotting limbs rancid with gangrene. His solution was the ambulance volante—the "flying ambulance"—teams of doctors and aids rushing to the edge of combat to retrieve the wounded. Care would be given there—bandaging, splinting, pain relief. And now, with rapid fire weapons and high explosives, combatants would fall at a frightful pace. No less so in Indochina. Surgeons attacked such wounds with a mixture of ancient arts—amputation, slicing and exploring to stop bleeding, removal of dead or dying tissue—and new techniques to open and inspect those body cavities that, just generations ago were forbidden territory.

It had all changed with the brutality of the First World War. The "Great War" created waves of torn, mangled men so grievously stricken that few could survive arduous and lengthy transport miles to the rear. It was the beginning of modern, industrial strength war. *La guerre commença dans le plus grand désordre* (tr. The war began in the greatest disorder.) Jean Cocteau's *Thomas l'Imposteur* spoke.[3] Wounded littered battlefields in numbers unimaginable a decade prior. Ignored by timid stretcher-bearers, they rippled the air with stifled groans and sudden cries. Too few doctors faced unimaginable numbers of wounded. Near the battle front surgical abstention prevailed: leave the wounds alone—they will heal with simple cleansing. "Package and evacuation" only. Surgeons like the Frenchman Edmond Delorme had championed such attitudes. His experience in the past wars of the Nineteenth Century taught him so. But giant cannon and a rain of artillery tore into troops, shredding torsos and limbs. The manure

and mud of France's farm fields lent the fatal blow. Gas gangrene—the decomposition of living tissue from soil-bred bacteria—with breathtaking frequency; the fate of neglected injuries. It literally rotted men alive. Philosophy changed. Visionaries took charge. C*hirurgiens* à *l'avant* became the imperative—surgeons at the front! Operate early and thoroughly. Clean those filthy wounds, remove dead tissue, fabric and metal. Wash and wash with antiseptics. Even the great Delorme was eventually swayed.[4]

It was in Indochina that such early surgical care dominated—under canopied jungles and atop barren hillocks. Terrain and distance dictated such. Yes, large urban hospitals could be found and, sooner or later, serious casualties ended up there, but first aid began at the company and battalion level from doctors whose task it was to stabilize struggling bodies drug in to aid posts—*postes secours* they were called in French. Not far from the fighting these stations, dug in and sandbagged were the first places of resuscitation. Inspection, bandaging and, for the serious wounds, evacuation. In the wilds of Tonkin nothing was easy. Evacuation itself posed perils to the wounded. Snooping artillery was never far away, spotters looking zealously for such fat targets as stretcher-bearers. For the French those aid men were headed for surgical stations, the *antennes*, compact units with doctors able to start intravenous fluids, even blood, stop the bleeding, stabilize, and quickly move the patient out. They, too, were in harm's way, not that far from the same rattling machine guns or the violent explosions of incoming shells. For the Việt Minh it was not so much different. Their field hospitals, too, were a stone's throw from combat. Their surgeons also labored under the constant threat of bombardment and imminent attack. Their victims, too, bled startling amounts of blood and suffered the same horrible wounds.

Yet to battle in Hồ Chí Minh's Indochina would demand all this. Forays into the wilds of Tonkin searching for rebel soldiers isolated troops. Enclaves of strength, so called strongpoints, were shaky adventures. Colonials sheltered behind fortified positions could be encircled quickly. Ambushes and sudden, violent firefights dropped men behind barriers from which there was no easy escape. The ill-fated march from Cao Bằng along Route Coloniale 4 in northern Tonkin would demonstrate that. French infantry found themselves in untenable positions, unsupported, cut off, and isolated. For those unfortunates, medical care was non-existent. They were doomed. Too many were to die in the saw-tooth hills and thick vegetation of that country either from their wounds or direct encounters with lurking Việt Minh gunmen. Those stealthy *bộ đội* would stalk disoriented French legionnaires in ambushes and cut them down at point blank range.

Wounded and dead would lay side-by-side. Few escaped. With increasing sophistication as the war progressed, Việt Minh brought in heavy artillery and mortars to plague French expeditions. In confined spaces, such ordnance proved particularly deadly. The French term was *polycriblage*- a multiplicity of injuries. Indeed, surgical a*ntennes* (*antennes chirurgicales*) accompanied the troops, their motto of *trier, réanimer, évacuer* (sort, resuscitate, evacuate) was critical for the care of beleaguered companies. But these surgeons were not so much different than the men they treated. Hazard infected them, too. "It is in the dizzying din of often very closely spaced explosions that I force myself to forget the permanent danger and continue to operate in impossible conditions," *antenne* surgeon Hantz declared[5]. Yet it worked with surprising efficiency during their infiltration of Việt Minh supply routes near Nà Sản, a startling successful use of their *hérisson*, a "hedgehog" perimeter in the forward deployment of air-land integrated units designed for interdiction. The mobile *antennes chirurgicale*—those attached forward surgical teams—promptly treated and evacuated wounded men just as they had been designed, able to resuscitate (*réanimer*) and evacuate expeditiously. The clashes around Nà Sản proved to be an exemplary demonstration of the value of skilled combat surgeons operating in close support of battlefield units.

Bind them up and get them out. For the Việt Minh it was by foot travel. Primitive jungle paths beneath overarching foliage led miles to surgical stations, carefully camouflaged in forest trappings. These were anguishing journeys for broken men, the jostling of fracture legs or arms a constant source of torture. For the French, reliance on air transport was an essential, but put everyone at the mercy of weather and the determined enemy with his antiaircraft guns. Roads were no good. They were sparse and owned by the Việt Minh. Ambush was almost certain. The capital cities of *Hà Nội* and *Hải Phòng* were hundreds of miles distant. Only there, in hospitals of truly modern design, could the miracles of surgery be practiced. Only there would Frenchmen be healed.

The cat-and-mouse game played between French commanders and Hồ Chí Minh came to a climax in a valley on the border of Tonkin and Laos, a place natives of the high country called Mương Thèng. The French would name it Điện Biên Phủ. They dropped from the air to lure Việt Minh into the open. It was a poor choice on so many levels—terrain, weather, and location. Once again, the French utilized their *hérisson* tactic that was so effective at Nà Sản. This time, though, they were trapped. Việt Minh held the surrounding hills and rained down artillery and antiaircraft fire on the French garrison while infantry snaked their way closer and closer to French

redoubts. Unforeseen carnage mounted on both sides, but, for the French, their shrinking perimeter foretold disaster. Soon Hồ Chí Minh's brilliant General, Võ Nguyên Giáp, was pounding the labyrinth of trenches, bunkers, and improvised fortifications into little more than a garbage heap of soldiers, equipment, and ailing men. Cut off from rescue, legionnaires and colonials smelled their destiny in the stinking, dilapidated passageways of a subterranean world fit only for the damned. Care of gruesome wounds took on macabre features as their underground respites choked with casualties. Resuscitative surgical care became definitive care as evacuation for the French turned impossible. The precious *antennes* were strapped for equipment and personnel and were forced to continue care of their wounded far beyond their inherent capabilities. It was only the resourcefulness and courage of individual doctors and nurses that provided any comfort at all. For the besieging Việt Minh, inching ever closer to the heart of French command, numbers of human wave assaults would generate parades of victims pulled from the stacks of cadavers cut down by enemy fire. They, too, would be hauled to not so different uninviting places of chilling cold and pouring rain—the lean-toes of jungle hospitals. And a curious blend of modern with folk remedies was applied—French-inspired surgical technology coupled with *Thuốc Nam*, traditional Vietnamese medicine—new mixing with old, the signature irony of all of Indochina.

Still, the resiliency of the healers, those doctors and nurses who weathered the unbelievable hardships of this remote battleground was a story in itself. These practitioners of medicine had but a singular purpose—to dispense mercy in all the dank darknesses that combat created. This they did all too often with a passion that superseded prudence and self-preservation. They became the custodians of compassion, the antagonists of a pervasive evil and looming madness.

Indochina. Those exotic lands of exquisite beauty. Much would be learned here. War often does that. The French would learn the futility of colonialism and mourn the loss of so many young men. The Vietnamese would learn the exquisite price of freedom, paid with the blood of its idealistic countrymen. And surgeons on both sides would learn the horrors of war in all its cruelty and maiming and ruin. The victims they treated, those pathetic souls strewn along the roadsides and ravines and woods of backcountry would suffer the rigors of lengthy extraction, laborious crossings, and ultimately an uncertain salvation.

Some say that the lessons of war advance the science of medicine. Was that true in Indochina? The choking terrain of northern Tonkin proved a unique challenge. Transportation was slow and unpredictable. Suffering

men needed immediate treatment and enough that their condition could be stabilized for lengthy evacuations. The only refuge of any sophistication for these casualties was the Lanessan Hospital in Hà Nội. It was most often an arduous journey and proved to be the Achilles heel of combat casualty care. And for Việt Minh cadres it was equally critical. No urban hospitals existed for them, as the war was largely one of wilderness encampments. Hospitals were makeshift, canopied structures pilfered from discarded or captured French supplies. Facile surgeons were few and technology rudimentary. Once again, though, just as in World War II, the importance of early care—stop the hemorrhage, secure the airway, mercifully splint the fractures—was reaffirmed. The crack advanced surgical units of the French and the intrepid determination of Việt Minh doctors firmly established the role of far forward medical units, close to the front lines. It was only there, under the guns, that those potentially salvageable casualties could be saved. Of all the imperial and political lessons to be learned from this bloody conflict, perhaps the only one with substance and humanity was this one. Deployed, interdicting combat units must have adequate medical and surgical assets. There must be the capability to go beyond first aid, to address those injuries not of a frivolous nature that required some degree of surgical expertise. Nevertheless, with all its ugliness and brutality—indeed, it would be a bloodied exit—France's failed Indochina War demonstrated the resiliency of human ingenuity. The singular focus of doctors and nurses to salvage all the intentional and collateral damage battle can inflict is a remarkable story. This book will describe those efforts—organized and impromptu—that healthcare providers mobilized to address the peculiar and unforgiving circumstances of this jungle warfare.

Notes

1. “Un regard negative sur la colonization,” The discourse of Georges Clemenceau before the Chamber of Deputies in July, 1885.

2. Jean Thuries, Ernest Hantz, Jacques Aulong, Hantz: *Merci Toubib: Dien Bien Phu: Trois Médecins Racontent* (Paris: Éditions Italiques, 2004), 164.

3. Jean Cocteau, *Thomas l’Imposteur* (Paris: Gallimand, 1923), 7.

4. Edmond Delorme: *Les Enseignements Chirurgicaux de la Grand Guerre* (Paris: A. Maloine et Fils, 1919), 195.

5. Hantz, *Merci Toubib*, 165.

Chapter 2

La Mission Civilisatrice

> *We are dealing with a wretched population, but sweet and relatively very honest.*
>
> —Colonial Physician Gaston Dreyfus

Whether enticed by mysteries of endemic plagues or health demands of colonial troops, physicians had been in Indochina from the start. As early as 1627 Roman Catholic missions set up hospitals, dispensaries, *crèches*, asylums and leprosaria in Cochinchina, an historical exonym for region south of the Sông Gianh, the Gianh River that partitioned the country into Đàng Ngoài, the northern part, and Đàng Trong, the southern part. The term "Cochinchine" had come from the Malayan word *Kuchi* (or "Cauchy") as interpreted by Portuguese explorers in the Sixteenth Century. To distinguish it from the colony of Cochin, on the Malabar Coast of India, they added *Chine* because of its proximity to China. Europeans used Cochinchina to refer to only Đàng Trong, the southern regions.[1] There were even two physicians who accompanied Monseigneur Pierre Pigneau de Béhaine during his adventures there in the 1790s. More followed with the colonial troops in their efforts at conquest and pacification. Indeed, the doctors attached to military units would instill a true *mission civilatrise* for a country seemingly bogged in pestilence.

But pestilence not confined to the natives. Early French naval excursions in the middle of the 19th Century brought ashore sailors who felt the full wrath of local maladies. Over 900 deaths were counted among Admiral Charles Rigault de Genouilly's aborted French expedition of 1859. Dysentery, malaria, and cholera slashed through the unsuspecting Europeans. Yet, just three years later, by 1862, there were some 8,000 Europeans in Cochinchina, many of the soldiering profession. A distinctly un-European climate and terrain became an abiding curse for all who disembarked. Humidity, swamps, mosquitos, fevers and epidemics engulfed them like marauders. That year 635 died in hospitals of the colony, a mortality rate of almost eight per 100. Indeed, military doctors spent more time treating typhoid fever, dysentery, cholera, and malaria than battle wounds. In fact, malaria alone produced mortality rates several-fold higher than casualties of combat, particularly in the southern regions where almost two thirds of afflictions could be blamed on it.[2] Scourges of dysentery ravaged foreigners, the cramps and diarrhea a reminder of the tenuous hold colonists had

on an unrepentant land. To physicians it became a mission of charity, a higher calling. The western remedies they brought, even as the *parent pauvre* of conventional medical practice, were nothing short of miraculous. Military physician Jules Regnault, after several years' service in Tonkin, shrewdly observed that colonial doctors of the *fin de siecle* "attract more easily than the other officers the approval of the population . . ." and called his cadre of colleagues "medical missionaries:"

> [W]hile gradually disengaging from his priestly character, [the physician] retained a great role in the civilizing evolution by the influence he had not only on the great ones of the earth but also on the humblest members of society.[3]

Physician Gaston Dreyfus, bored with his metropolitan existence in France, had volunteered for duty in Tonkin, not for money or promotion, but simply the excitement of an exotic land. Yet, his sense of adventure soon soured. Arduous mountain travel wore on him—painful, exhausting footwork, rocky crags, rice fields, rivers, sometimes vegetation so thick it would take hours of hacking to advance a mile. Moreover, colonial behavior sickened him. Dreyfus witnessed beatings, harassments, and endless servitude, Annamites bent almost double carrying their "master's" loads. Yet, in all their hardships, he had been impressed by a gentleness—a pleasing shyness some might say:

> We are dealing with a wretched population, but sweet and relatively very honest. These unfortunates, persecuted by the Chinese and their mandarins, are of a very great timidity, and manageable at pleasure. They are treated absolutely as beasts of burden, regardless of age or life. They are required to bear all the labors, especially the most painful ones.[4]

Their life was a meager existence. If not the dominance of mandarins and colonists, furious epidemics swept through villages, patiently endured by long-suffering peasants, taking untold numbers of children and adults:

> Smallpox is ravaging immensely; the mortality is sometimes 80 or 90% in times of epidemic. So I think it is good to have our new "protectors" deliver immunization. We will have rendered them a service, at the same time as we protect our soldiers from contagion, by diminishing, and even by making the disease disappear from the country.[5]

"[M]urderous epidemics," were the words used by the eminent Pasteurian *Docteur* Albert Calmette—bringing down men and women in their prime. For the French, these people were the nidus of their work force, the

economic engine of the protectorates. Health issues crippled productivity and eventually might erode colonial commerce. Malaria struck at random, cholera and yellow fever burst among the communities "in a hurricane of death," and dysentery rose and fell as a continuous companion of village life. Simple hygiene was often at the root, and colonial doctors rushed to instill public health measures. "The fundamental principle of the colonizing work was the physical improvement of the colonized race," so wrote Benjamin Alonou.[6]

But it would be an uphill battle. Many villagers knew little of western medicine or, for that matter, the traditional Chinese medicine of Imperial Courts. Their remedies were dispensed by local "healers," steeped in the long-honored customs of *Kinh* ancestors hundreds of years in the making.

It would become a blending (if sometimes not a clash) of medical cultures. Chinese scholar Donald Harper contends that many Vietnamese medical practices stemmed from the Mawangdui manuscripts, dating to 168 BC and the Han dynasty, traditions established by the southern Chinese kingdoms of Chu and the proto-Vietnamese societies of the Nan Yueh (Nam Việt). While ostensibly a unique culture, the Nam Việt were at that time under control by their Chinese overlords. Substantial influence on medicinal customs among the Nam Việt likely occurred by virtue of their association with Chinese practices.[7] Here were found various charms, spells, and talismans, incorporated in the "Recipes of Yue." This list addressed 52 categories of ailments such as animal bites, leech bites, and maggots as well as demonic influences and magic. Most pertain to external causes and little mention was made of internal disorders. Harmonizing *Yin* and *Yang*—the dualistic approach to complementary forces of nature—played a prominent role in treatments. However, various potions were described, most using common botanical ingredients and also local (southern) spices such as cinnamon, ginger, and pepper. Less palpable but popular was the southern tradition of breath magic—incantations for driving away illnesses.[8] Traditional Vietnamese medicine (*Thuốc Nam*, or "southern medicine"), was considered largely an offshoot of these Chinese practices—mostly referred to by Vietnamese as *Thuốc Bắc* ("northern medicine). These were collected by the 14th Century Buddhist monk turned physician Tuệ Tĩnh. He compiled a treatise called *Nam dược thần hiệu* (Wonderful medicine of the South) consisting of 11 books listing remedies for 184 common diseases, using inexpensive and readily available medicinal herbs for the common people. His basic tenet was "southern medicine for southern people," and he discouraged the import of Chinese *materia medica.* Southern medicine, Tĩnh recounted, mixed physical and spiritual assimilations between humans and their land,

the local combinations of air, water, and earth uniquely embellished with charms and magic suited for local inhabitants. Tuệ Tĩnh repeatedly emphasized "[d]isciples of the old masters, their doctrine must be venerated but use the remedies of the South to heal the people of the South."[9]

Chinese considered southern medicine a bit more mysterious than that, steeped in phantoms and magic. "[I]nhabitants of…Yue [Nan Yueh, far northern Vietnam] were most given to worship of spirits and demons, the southern genius for magic was attributed to the sultry environment itself," Donald Harper wrote.[10]

As for Tuệ Tĩnh, his treatise was later codified in the writings of Lê Hữu Trác, more popularly known as Hải Thượng Lãn Ông, or, more simply, Lãn Ông (1720-1791). This 18th Century Annamite physician recorded traditional medicine philosophy—much taken from formal Chinese medicine including *yin* and *yang*, anatomy and physiology—as well as diagnostic aids (particularly an exhaustive examination of pulse characteristics). The strength of Vietnamese medicine would be in pharmacology, their pharmacists even sought out by the Chinese who imported a number of medicinal products from across the border. Lãn Ông wrote 10 books and 26 chapters of traditional Vietnamese medicine *Thuốc Nam.* A key volume was that on therapeutics where Lãn Ông detailed the "pharmacopeia of the South" listing of 650 drugs "from the three kingdoms" (that is, animal, vegetable, mineral) classified according to the standards of Chinese medical matter. Much of it, apparently, he took from the material set forth by Tuệ Tĩnh. Traditional medicine focused on the ingredients used and the manner in which treatment progressed, generally dividing maladies into external and internal sources and continuing the Confucian concepts of balancing *yin* and *yang*. All medicines were from wholly natural sources: animal, plant, and mineral products, and consisted of various ointments, plasters, poultices, and herbal brews. "The purpose of the therapy is to restore the organic balance momentarily broken and, if possible, to give it a point of perfection such that the health of the patient is better after than before the healing," he explained. Another Annamite, Phạm Đình Hổ, wrote the book *Vũ Trung Tùy Bút* ("written essays during rainy days") in Chinese sometime during the second half of the 18th Century. Afflictions of muscles and skin, the author stated, require treatment by ointments and plaster. Those of "energetic vessels" and viscera by acupuncture, incisions, and *moxa* plant. Much was placed on listening to the patient, and conducting an exam, largely based on the character of the pulses.[11]

"The annamite physicians are divided into two categories," so wrote the French military doctor Henry in 1898. The first category were the

"free" doctors who practice in rural areas, the small hamlets and villages. They practiced unsupervised; their trade apprentice-based. In many cases, skills had been passed from father to son. These were doctors to the peasant classes; some considered them no better than shamans. In the second category were the more educated. They were usually of the mandarin class as was their clientele. For these there was some attempt to supervise and regulate through the provincial health service. They called themselves *Thầy Thuốc*, literally, "master of medications" or "people's doctor." Yet Henry felt most had only a rudimentary education, even at best. A few had indeed been formally schooled in *Thầy Thuốc* in China. "Their diagnoses is based mainly on the state of the pulse, the appearance of the tongue, and the presence or absence of fever," he observed. Anatomy and physiology was largely unknown. Auscultation and percussion were skills totally foreign as well. And, although they knew botany quite well, dosages were inexact and methods empiric, without scientific basis or accuracy.[12]

Even less existed in the field of surgery. Introduction of western practices of asepsis and wound care took the indigenous populations by surprise, hardly aware that wounds could heal without suppuration. Of the surgical arts in Annam, Navy physician Dr. Vialet, in his visit in 1902, found not a trace:

> Surgery does not exist, so to speak, in the Far East; Annamite and Chinese are delighted to see the operative wounds, dressed according to the most scrupulous rules of asepsis and antisepsis, heal in five or six days. Also, they come easily to ask the care of the European surgeon as the reports of several small successes spread.[13]

Despite a dazzling knowledge of mineral, vegetable, and animal-based remedies, even some repulsive ones such as compounds of feces from young boys, pigs, cats, and dogs, mixed together that were used for cases of smallpox (before the vaccinations became available), surgery was attempted only rarely. The *indigènes*, who had immense faith in native "wizards," flocked to European doctors for surgical matters. Whether motivated by a fear of harming their patients or by a pecuniary incentive to sell a plethora of medications was uncertain. Nevertheless, to bleed or lance would be a distinctly distasteful undertaking for the *Thầy Thuốc*. With tongue-in-cheek Vialet added:

> For the same reasons should a foreign body come to obstruct the respiratory or digestive tracts, what is the point of trying to find it directly, when one can have so many remedies, all

so effective, and one of which, the blood of the comb of a black hen, can bring back life to people who have strangled themselves?[14]

Vialet felt that the root of the problem lay in a childish and fanciful notion of human anatomy. Embedded in ancestral culture was the forbiddance of autopsies so that any knowledge of anatomy would come almost accidentally through terrible mutilations or through extrapolation of animal anatomy. Understanding of physiology, equally important for surgical evolution, was also elemental and, for the most part, irrelevant to any rational treatment. Other than the pulse, which received inordinate amount of attention by local healers, only symptoms obvious to the senses were deemed important. Therapy focused on correction of cold and heat, for the Annamese the main causes of disease. The missionary physician Dan Beach Bradley found similar abhorrent practices in midwifery and obstetrics in early 19th Century Siam. Stubborn deliveries were enhanced by jumping up and down on the gravid uterus, and even with successful parturition, the poor mother had to endure a period of literal roasting before raging fires for a period of one month to cleanse mother and infant alike. Needless to say, familiarity with anatomy or inner workings of the pregnant female was largely unknown and awaiting introduction of anatomic plates by patient, diplomatic missionary doctors.[15]

The young gynecologist Du'o'ng ba Bành wrote, shortly before his untimely death in 1951 that, in traditional Vietnamese medicine, "Surgery is almost nonexistent except for some cutaneous operations or practice of acupuncture."[16] Even in traditional Chinese medicine, the so-called *Thuốc Bắc*, little mention was made of surgery. Of course, there was the legendary Chinese doctor Hua Tuo (circa 108-208 AD), reported to China's first surgeon. Not only a respected surgeon but also a superb herbalist, Hua Tuo used a concoction he called *ma fei san*, a liquid probably containing alcohol and cannabis, as an anesthetic, even employing it to produce unconsciousness in anticipation of abdominal surgery. Much has been lost of the Chinese surgical art through the first millennium until the Middle Ages. Apparently, Jesuit fathers, coming to China on missionary work introduced Western techniques in surgery, mostly, of course, for skin and soft tissue problems. William Welch of Johns Hopkins divulged his knowledge of Chinese surgery in a report before the medical and surgical faculty of Maryland in Baltimore in 1916. The Chinese, he reported, had enormous *materia medica* and vast medical writings, but when it came to surgery, literature was scarce. Surgery was largely done by missionaries and the Western physicians who followed. "They employ their native

doctors when anything is the matter with their insides, but for a surgical operation they seek the Western doctor," he found.[17]

It was something that laborers in the rice fields had never encountered, not even part of medicinal therapies local shamans would offer. Even at mid-20th Century, surgery bedazzled the peasantry. Western-educated surgeon Tôn Thất Tùng would remove a huge bladder stone from a ten-year-old boy in the rural *Việt Bắc*, after fleeing Hà Nội with the Việt Minh movement. He wrote that, during the operation, "villagers crowded around the operating room, some of them even climbing on trees to get a better view." Locals would thereafter refer to him as *ma Từng*, the possessor of supernatural powers.[18]

As for traditional medicine, *Thuốc Nam*, French physicians were baffled. Lacking scientific foundations, they mused over the reported effectiveness of pastoral concoctions, some of which, they found, were frank quackery. Still, villagers flocked to these healers, usually readily accessible, cheap, and sympathetic, their remedies soothing if not efficacious.

But colonial doctors saw much more to do. Public health concerns were of paramount importance, particularly in the era of bacteriology. The breadth of services needed for the indigenous communities quickly depleted their ranks. Sanitary measures and vaccinations needed more health workers. Then there was the desire to push forward with Western-type medical treatment in place of traditional Vietnamese medicine. This would require implementation of major health care policies. Between 1897 and 1902 *Gouverneur-général* Paul Doumer (1857-1932) instituted a number of measures. One of these applied directly to the manpower issue. It established a medical school, *l'École de Médecine de Hanoi*, (soon to be called *l'École de Médecine de Indochine*) to train native *médecins auxiliaries*, "auxiliary doctors." These so-called Auxiliary doctors would work alongside colonial physicians in rural areas of the protectorates—Cochichina, Annam, and Tonkin. Doumer spelled out his reasoning thusly:

> Its [l' École de Medicine de Indochine] primary purpose is to train Asian physicians who, together with the French physicians, are responsible for the health service in Indochina and for the medical posts set up outside; secondly, to contribute to scientific research concerning the etiology and treatment of diseases which affect, in the Far East, both Europeans and indigenous peoples.[19]

It was all cloaked in colonial overtones. He went on to say: "[t]he native doctor, instructed by us, paid by us, will, thanks to the position he cannot

fail to enjoy, be an instrument of French influence. By virtue of this beneficence, our domination will solidify."[20]

Ostensibly all part of this grand *mission civilisatrice.* Indeed, it was a wonderful era for science and medicine. Tremendous strides had been taken in blunting the effects of common epidemics such as cholera, typhoid, malaria, and smallpox. The age of bacteriology—the discoveries of the great Louis Pasteur and Robert Koch had revolutionized thinking about many diseases formally ascribed to bad humors. The lands of Indochina would provide a wealth of knowledge in transmissible diseases and fertile ground for the likes of Albert Calmette and Alexandre Yersin. The bright, young researcher Albert Calmette (1863-1933) had even managed to set up and direct a laboratory in Sài Gòn in 1890 modeled after the famous Parisian Pasteur Institute. His mission, as he defined it, was to develop "bacteriological research and the experimental study of infectious and parasitic diseases in warm climates." It was to be a mixture of basic research and practical clinical medicine. His Saigon branch would officially be designated a daughter facility of the Parisian Pasteur Institute in 1904. Calmette immersed himself as a laboratory scientist and bacteriologist, particularly in the tropical dysenteries and fevers. His work focused on the endemic cholera, as well as the more infrequent but lethal problem of snakebites and rabies.[21]

Alexandre Yersin (1863-1943) was a keen explorer of unknown lands. He had first visited Indochina in 1890 as a physician for the Messageries Maritimes Company, a French merchant line shipping into the Far East. Exotic Indochina held the secret of adventure and independence on which Yersin thrived. It would become his lifelong home. His overland travels in Indochina took him along the coast and into the remote highlands of Annam. Letters on his travels displayed the wonders of this land: "[w]e crossed a wooded country which, at night, appeared supernatural. I felt like I was dreaming." Yet his medical skills took a backseat to laboratory work. Perhaps because of a natural curiosity about disease or perhaps, as he later wrote: "I find great pleasure in taking care of those who come to me for help, but I do not want to make a *profession* of medicine." He simply felt it was unethical to take money from sick human beings, believing that medicine was "a ministry."[22] Still, he dwelled among the people, even those mountain dwellers infrequently encountered by Europeans. His contacts led to his work in malaria and smallpox and would eventually bring about his discovery of the plague bacillus, which would be named for him: *Yersinia pestis*.[23]

And indeed, Yerstin's bacillus and the bubonic plague would soon surface in Tonkin. Centuries-old bubonic plague was unknown before arrival

of the French. Yet, that would all change. At the turn of the century cases of plague were seen scattered throughout Tonkin, probably brought by Chinese junks from Canton. Reports of plague existed in the mid-Nineteenth Century, reported by missionaries, but these were probably cases of cholera, as any epidemic with a high death rate was attributed to plague. In the developing metropolis of Hà Nội bubonic plague first appeared in 1901, probably carried by rats who accompanied bales of cotton shipped from Hong Kong.[24] A major outbreak occurred in 1902 during Doumer's self-acclaimed Hà Nội Exposition, featuring the best aspects of his *mission civilisatrice* (Hà Nội's new sewer system, a hallmark of Doumer's urbanization, proved an ideal home for the numbers of infected rats). Despite the proactive measures instituted by colonial authorities, native distrust of their white overlords and their strange medical practices resulted in a wide non-compliance with public health precautions put in place to limit the spread of the disease. A resurgence of plague four years later brought into open conflict the reluctance of *indigènes* to accept public health policies, highlighting the lack of sensitivity of French authorities to address insecurities of the native population. Similar problems arose during the 1910 cholera epidemic in Hà Nội. The speed with which this epidemic spread was in part due to the public transportation system developed by Doumer as a mark of sophistication for the colonial region he engineered. Hospital resources for the indigent community were completely overwhelmed highlighting the inadequacies and disparities of the French dominated colonial structure. Even against the cholera pathogen—albeit of dubious quality—met with opposition by resident Vietnamese of Hà Nội, a poignant reminder of the inability of colonial government to effectively address the ethnic differences between colony and colonizer.[25]

It was science so juxtaposed to traditional ways of the popular *Thuốc Nam*. This was a form of quackery and empiricism that had no place in modern medicine, many thought, totally lacking experimental foundation. These parallel systems of practice—scientific Western medicine and traditional Vietnamese—would never be able to reconcile the tropical pathology rampant throughout the country. Somehow, these practices had to be supplanted by newer, modern science. Yet hospitals for the masses were simply inadequate. There were not nearly enough doctors or hospital beds. As a concerted plan to augment health care resources for the indigenous population, the *assistance médicale indigene* (indigenous medical assistance), or AMI was established in 1905 by *Gouverneur-général* Paul Beau along with his enlightened Director of Health Charles Grall. It would be modeled after similar systems in place in colonial Africa. Its major effort

would be focused on issues of basic hygiene and sanitary measures to ward of smallpox, cholera, typhoid fever, and malaria. This would require continuous efforts to visit, consult, educate, and examine the numberless villages spread throughout the countryside. Auxiliary doctors would be particularly suited for this kind of work. Beau maintained "It is above all [useful] in the popularization of the principles of hygiene that the action of the Annamite physician [as a member of the *assistance médicale* i*ndigène*] will be most fruitful."[26]

As for the auxiliary doctor, the new medical school would offer a three-year tract that, once completed and a final exam passed, produced a graduate certified as doctor and an employee of the colonial government. From an applicant pool of 375 highly qualified candidates, the first class of 30 students was chosen. While, theoretically, admission was open to students of any social class, the majority were from affluent and educated Annamite families. The curriculum featured not only the biologic sciences and pharmacology but also mathematics, physics, chemistry, and calculus. Mornings were used for clinical education—ward rounds, clinics, examinations—and afternoons were spent in classroom didactic sessions. The program began with mixed reviews. While students were bright, industrious, and fueled with a passion to care for their fellow citizens, some, in the early years, simply lost interest and dropped out. Nevertheless, a number were trained. Shortly, the school expanded to admit indigenous midwives and soon a curriculum for much-needed nurse-vaccinators was introduced:

> We must, by our indigenous auxiliaries, undertake everywhere the struggle against disease, spread hygienic practices, and teach prevention from smallpox, leprosy, typhoid fever, how to combat plague, cholera, malaria, and how to avoid the frightening mortality that weighs on the Annamese children.

So wrote Charles Clavel, *médecin-inspecteur des troupes colonials* (physician-general of the colonial troops) in 1908. By so doing, he claimed, "we will obtain the large and strong race destined to ensure prosperity and the future of Indochina."[27] One could not escape thinly veiled deeper purpose in the eyes of some colonists.

Of course, despite the apparent popularity of the new medical school, French authorities kept a tight rein on the freedom of auxiliary doctors. There was a level of mistrust fueled by such episodes as the 1908 attempt in Hanoi to poison the French garrison—the first inkling of a rebellious spirit—with the lethal hallucinogen *datura stramonium*, no doubt concocted by clandestine medically savvy *indigènes.* The government response

was a heavy-handed curtailment of access to western as well as traditional pharmaceuticals by Annamite practitioners.

Still, the AMI program had a positive impact on public health concerns, probably no more so than in vaccinations. At first traditional practitioners were loath to welcome this new western technique. But as fresh graduates from l'École de Médecine appeared, beginning in 1905 all would change. In 1906 almost one million vaccinations were performed in all five Indochinese protectorates, thanks primarily to indigenous auxiliary doctors and vaccinators. Yet, numbers of colonial and native physicians were still woefully inadequate. Whether officially acknowledged or not, there remained a pressing need for traditional practitioners. Even by 1942 only ninety European doctors, 54 Indochinese doctors, 92 European nurses and 1,462 native nurses were available for 23 million people—one doctor for every 157,000 inhabitants and one nurse for every 15,000.[28] In those remote communities of Tonkin, Annam, and Cochinchina villagers continued to rely on their shamans, ingesting and applying powders and plasters of their ancestors. *Thuốc Nam* flourished still. And remarkably some colonial physicians, notably Jules Regnault and Albert Sallet, embraced certain traditional practices and drugs as integral to the range of treatments possible for the rural populations.[29] At a conference on rural hygiene held in Bangkok in 1937 the question of Asian traditional medical practices was discussed. Clearly western-trained Asian doctors had little inclination to serve rural areas.

These healers can not to be regarded as charlatans, in the acceptance that we give to this term in Europe…The medical treatment [they propose] rests not only on religious and magical practices, but also on the results of a secular experience…[Furthermore] it would be advisable to sincerely search to what extent these ancient medical traditions could be reconciled with our own principles, instead of considering them as obsolete and unusable.

And for Indochina in particular the same ideas would be found. Recognizing the scarcity of western physicians for many remote areas of the country, the general living conditions of these people demanded acceptance of traditional medical practices:

> This tolerance of traditional medicine is not only an imperative moral and political obligation; it is also a material necessity…The future will undoubtedly take care…to juxtapose, if not "amalgamate traditional medicine and modern medicine into an acceptable organization."[30]

In fact, the 1920 financial crisis made it more imperative that traditional medicine be given an official role to compensate for shortages of personnel and pharmaceuticals in rural areas. Yet, even then, practitioners of these ancient arts had to remain within the framework of the AMI. It was a tradition rich in botanicals and pharmacotherapeutics, an amalgamation of Chinese and local practices stemming from centuries past. Yet indigenous healers relied on a form of empiricism that allowed or disallowed certain treatments based on their theoretical perceptions and translated to practical application of medicines often handed down from mentor to student.

For the Vietnamese, healing would always be a mixture of the traditional and the scientific. Home remedies blended with health practices of French physicians. Vaccinations vied with potions and salves for the illiterate of the countryside. Mystical shamans still reigned in the remote and mountainous villages where endemic pestilence dominated. Yet, penetrance of European theory and practice was unmistakable. And in the surgery arts, there was no comparison. The magic of surgical skill bewildered even the most skeptical. And perhaps, in all their insistence on modernization, the French unwittingly inculcated that expertise among Vietnamese doctors, those same medical men who would man jungle hospitals for the Việt Minh and save innumerable lives of their fellow rebels.

Notes

1. See Olga Dror and K.W. Taylor, *Views of Seventeenth-Century Vietnam: Christoforo Borri on Cochinchina and Samuel Baron on Tonkin* (Ithaca: Cornell Southeast Asia Program Publications: 2006), 15-19.

2. A. F. Dutroulau, *Traité des Maladies des Européens* (Paris: J.-B. Bailliere, 1869), 58.

3. Regnault, J. "Médecins Missionaires" *Revue Scientifique* 18 (1902): 641-647.

4. Thị Tuyết Trinh Nguyễn "*L'imaginaire Colonial Français de L'Indochine 1890-1935,*" Doctoral Thèses, Université François—Rabelais de Tours, 2014, 28.

5. Nguyễn, 33.

6. Alonou, B.K. "*Assistance Médicale Indigène: Action Humanitaire ou Œuvre Utilitaire," Revue du Cames* 7 (2006): 166-173.

7. See Oscar Chapuis, *A History of Vietnam from Hong Bang to Tu Duc* (Westport: Greenwood Press, 1995), 20-37.

8. See Donald Harper, *Early Chinese Medical Literature: The Mawangdui Medical Manuscript* (New York: Routledge, 1998).

9. C. Michele Thompson "Setting the Stage: Ancient Medical History of the Geographical Space that is now Vietnam*"* in: Monnais, Thompson, and Wahlberg [Ed], *Southern Medicine for Southern People* (Newcastle: Cambridge Scholars, 2012), 47-48.

10. Harper, *Early Chinese Medical Literature*, 159.

11. See Bates, A.W. "Lãn Ông Lê Hữu Trác, (1720–91) and the Vietnamese Medical Tradition," *J Med Biography* 15 (2007): 158-164.

12. Henry, Dr. "Médecins Annamites: Organisation du Service Médicale Indigène en Annam" *Ann d'Hygiène Médecine Coloniale* 1 (1898): 156-158.

13. Vialet, M. "Médecine et Chirurgie Indigène au Tonkin" *Archives de M*édecine *Navale*, 77 (1902): 34-55.

14. Vialet, 34-55.

15. Pearson, Quentin "'Womb with a View': The Introduction of Western Obstetrics in Nineteenth-Century Siam" *Bull Hist Med* 90 (2016): 1-31.

16. Du'o'ng ba Bành, "The Influence of Western Medicine on the Traditional Medicine of Viet Nam*" J Hist Med Allied Sci* 7 (1952): 79-84.

17. Welch, W.H. "Medicine in the Orient" *Bull Med Chir Faculty of Maryland* 8 (1916): 196-206.

18. Tôn Thất Tùng, *Reminiscences of a Vietnamese Surgeon* (Hanoi: Foreign Languages Publishing House, 1980), 35.

19. Paul Doumer, *Situation de l'Indochine Française de 1897 à 1901* (Hanoi: F.H. Schneier, 1902), 107-108.

20. Doumer, 107-108.

21. See a complete and informative biography of Albert Calmette (including quote) in Guénel, A. "The Creation of the First Overseas Pasteur Institute, or the Beginning of Albert Calmette's Pastorian Career" *Med Hist* 43 (1999): 1-25.

22. Moseley, J.E., "Travels of Alexandre Yersin: Letters of a Pastorian in Indochina, 1890-1894" *Perspect Biol Med* 24 (1981): 607-618 including quotes.

23. See also, concerning his Indochinese travels, Kousoulis, A.A." Karamanou, M." Tsoucalas, G." et al "Alexandre Yersin's Explorations (1892-1894) in French Indochina Before the Discovery of the Plague Bacillus" *Acta Med-Hist Adriat* 10 (2012): 303-310.

24. Rouffiandis, V. "La Peste Bubonique au Tonkin" *Annales d'Hygiène et de Médecine Coloniales* 8 (1905): 609-630.

25. See Vann, M.G., "Hanoi in the Time of Cholera: Epidemic Disease and Racial Power in the Colonial City" in Laurence Monnais, Harold J. Cook [Eds], *Global Movements, Local Concerns: Medicine and Health in Southeast Asia* (Singapore: NUS Press, 2012), 150-170.

26. Paul Beau, *Situation de l'Indo-Chine de 1902 à 1907* (Saigon: Commerciale Marcellin Rey, 1908), 228. See also Laurence Monnais-Rousselot "In the Shadow of the Colonial Hospital: Developing Health Care in Indochina, 1860-1939" in Gisèle Luce Bousquet and Pierre Brocheux [Eds] *Việt Nam Exposé: French Scholarship on Twentieth-Century Vietnamese Society* (Ann Arbor: University of Michigan Press, 2002), 140-186.

27. Charles Clavel, *L'Assistance Médicale Indigène en Indo-Chine* (Paris: Augustin Challamel, 1908), 28.

28. Thompson, M., "Medicine, Nationalism, and Revolution in Vietnam: The Roots of a Medical Collaboration to 1945" *EASTM* 21 (2003): 114-148.

29. Physician Albert Sallet (1877-1948) was a much loved devotee to Vietnamese culture and traditional medicine. He was quite well versed in botany and the finer aspects of the Vietnamese pharmacopeia. He was held in high regard for his unshakable ethics and his responsibility to the Vietnamese people.

30. Both quotes from Annick Guénel, "Constitution des Espaces Thérapeutiques en Asie du Sud-Est. Etat des lieux, Interrelations entre Thérapeutes, Comparaison Régionale" *1er Congrès du Réseau Asie*, September 24-25, 2003, Paris. See also Huard, P., "Le Docteur Albert Sallet" *Extrait du Bulletin Dân Viêt Nam* 3 (1949): 121-124.

Chapter 3

Hà Nội: City of the Rising Dragon

If there was a fulcrum for the seesaw fortunes of French and Vietnamese it would be located in the chief Tonkinese city of Hà Nội. This storied city would also become the epicenter of the new French medicine and provide a rallying point for nationalistic factions eager to receive Western influences and just as eager to oust the oppressive French; factions who indulged in skills and technologies of European health care but were loath to discard centuries old traditional Vietnamese medical practices.

In Vietnamese lore, Hà Nội was of mystical importance and revered by ancestral emperors. More prosaically, Hà Nội would come to play a central role in much of the intrigue of the first Indochina War, but particularly in the marshalling of medical resources for both sides. For one thing, had become a gateway for Vietnamese inauguration into the Western ways of surgical repairs for disrupted anatomy and physiology, skills highly prized in times of war. For the French, it would be the capital city of refuge and repair for torn men hustled bleeding and dying from the far reaches of its teetering empire.

According to legend, in AD 1010 Emperor Lý Thái Tổ moved the capital of Vietnam, then called Đại Cồ Việt, from Hoa Lư in Ninh Binh Province to a community tucked in the turns of the Sông Hồng (Red River) he would name Thăng Long (Rising Dragon). Hoa Lư, the previous capital, a town submerged in the limestone eruptions of Ninh Binh, while excellent for defense, was a distance from main roads, rivers, and population centers—almost impassable to human traffic. Ramparts, earthen barriers, and the toothed rock *calcaires* all conspired to make it a remote, austere dwelling place not designed for commerce, vitality, or progress as capitals should be. Lý Thái Tổ looked to a settlement called Đại La, then an assemblage of small hamlets—on the banks of the broad Sông Hồng; he saw sampans and junks plying their trade, rich exchanges of goods, a community vibrant, at the head-waters of the fertile delta. Surely, this would be an opportunity to expand the prosperity of his countrymen, now freed from the yoke of Chinese domination. It would mark the independence of the Đại Việt (Great Viet). Let it be, he declared, issuing the famous "Edict on the Transfer of the Capital." So, it would happen:

> [I]n the middle of heaven and earth with the position of rising dragon and stalking tiger, in the center of the four directions, convenient for the development of the nation. This area is

large and flat, high and bright, the population are not suffering from floods and darkness, everything is in full prosperity.[1]

In a transcendent way, Lý Thái Tổ considered Đại La to be placed in a space between Heaven and Earth, where "the dragon is coiled and the tiger crouching." It would become, as the emperor envisioned, a regal gathering place for people across the nation. Thus, in the year 1010 construction began of the massive enclosure and palaces of Thăng Long on the site of a former Chinese bastion erected in the Seventh Century—"walls, fortresses, palaces and all sorts of buildings" according to Hoàng Ni Tiếp, and would serve as Vietnam's imperial seat for the next 800 years.[2]

And so the city flourished. In the year 1010 construction began on the massive enclosure and palaces of Thăng Long on the site of a former Chinese bastion erected in the Seventh Century—"walls, fortresses, palaces and all sorts of buildings" according to Hoàng Ni Tiếp. Lý Thái Tổ himself designed the ramparts, moats, and regal houses painted brilliant red and etched with fanciful dragons and fairies. The entire complex occupied over 370 acres. In the 16th Century, during the Lê dynasty, the name of the capital was changed to Đông Kinh (Eastern Capital) the corruption of which by the French would give rise to the name "Tonkin" referring to the entire northern region of "Annam."

So it was that in the 1880s more French occupiers, in their zeal to pacify the rugged north—"Tonkin"—came upon Hà Nội, in all its splendor and cultural diversity. The physician and explorer Charles-Edouard Hocquard, on his journey in 1884, marveled at the myriad Annamite family dwellings, no more than three meters wide but over 60 meters deep. He noticed that the different districts of Hà Nội were completely separated from one another by large gates which occupied the whole width of the streets, and which closed at night. In fact, the doors through which one entered the Chinese neighborhoods were created like walls of the citadel, extremely solid. And just over the dikes was the broad Red River, reaching a width of one kilometer as it wound around Hà Nội. Two bodies of water highlighted the city. To the south, bordering the Thọ Xương district was Hồ Hoàn Kiếm (*Hoàn Kiếm* Lake). The French would soon label it *Le Petit Lac*. There was a fanciful legend engulfing Hoàn Kiếm. The name means "Lake of the Returned Sword." Fable had it that Emperor Lê Lợi, returned the sword he found there that he had used to defeat the Chinese of the Ming dynasty in the 15th Century. When Paul Doumer visited Hà Nội in 1897, he was struck by its idyllic scenery: "This little lake was charming in itself, very graceful," he wrote, "and the old white houses were of the most picturesque effect.

The Annamite quarters [just to the north and east] with narrow streets and thatched houses were very curious."[3] Further to the north, abutting the imperial citadel was a larger lake, called Tây Hồ—French would call it *Lac Tây Hồ*—actually a fresh water inlet of the Red River.

The Treaty of 1874 granted France a "concession" in Hà Nội, a small strip of river face just to the south of the town not far from *Le Petit Lac*. The French Concession comprised about 46 acres—some 300 meters long and 150 meters wide—bounded on the north by a narrow road heading to the Red River, on the west by dykes, on the east by the Red River. Eventually, in the 1880s, the ground was stockaded and public and private buildings were erected—described as "large houses without character surrounded by small flower gardens"—guarded by scores of soldiers. In 1887 Hà Nội, not Saigon, was declared the new capital of the French Indochinese Union. It was under Doumer's governorship that the face of Hà Nội would radically change. Perhaps because of pacification along the frontiers with China, all attention could be devoted to rejuvenating Tonkin's fiscal worth. By 1899 economic reforms had generated over 1.2 million piasters for Tonkin. French presence in an urbanizing Hà Nội was becoming plainly obvious. But the bustling economy meant re-ordering of the community. Many small native businesses and dwellings were swept under for the sake of modernization and expansion. French colonial rule also had inserted racial privilege into the very fabric of the emerging metropolis. Once subdued by feudal emperors and mandarin aristocracy, the peasant class now suffered from equally oppressive colonial practices. For example, Hà Nội itself with all its modern urban wonders, clearly segregated the "haves" from the "have-nots." The *quartier indigène*, or the Old City occupied less than a third of the geographic area but was home to 90 percent of the city's population.

Perhaps Doumer's crowning achievement was construction of the medical school, l'École de Médecine de Hanoi. He chose a nearby Catholic Mission Hospital that would house sick indigenous patients. The Sisters of Saint Paul de Chartes had originally procured the Mission Hospital for the Vietnamese in 1889.[4] It sat on expansive grounds, 40,000 square meters of re-claimed land, that would contain the new Hôpital Indigène du Protectorat (Protectorate Hospital for the Indigenous), called Nhà Thương Bảo Hộ by the Annamese (Hospital for the Protectorate. Thirty-five buildings of which 22 were used for treating patients, were built, all connected by tree lined walkways, located on Rue Borgnis-Desbordes. Patient pavilions would house from 20 to 30 patients each, most with verandas, and segregated into contagious and non-contagious wards. In 1928 new operating rooms would be built—two for infected patients and two upstairs

for those uninfected—and all the accouterments of modern surgical care: supply rooms, sterilization rooms, radiology, and offices for surgeons. It would become the major teaching and research facility for the new medical school.[5] Adjacent buildings belonging to the former Carmelite order were also transformed into a School of Midwives.[6] The compound would always be full to overflowing, so much so that at times two patients shared a bed. Only with construction of *d'un asile d'aliénés* (an "insane asylum") in the province of *Bắc Giang* would the crowding be relieved.[7]

By 1919, l'École de Médecine, despite its humble beginnings as a school for auxiliary doctors, could provide the same degree as French universities, and in 1921 graduates had the opportunity to pursue a doctorate thereby becoming full-fledged physicians of the same standing as their counterparts in the Metropole. Learned faculty in Hà Nội had always been of the mind to fully train their Vietnamese students. Their influence carried enough political support to authorize a full medical degree starting in 1933.[8] Forward-thinking Vietnamese by that time, had embraced many of the practices of Western medicine that seemed to relieve much suffering of their countrymen. Sweeping improvements in long-standing miseries had occurred: the vaccination of thousands against smallpox's scourge, effective treatment of plague, rabies, and malaria.

From l'École de Médecine would graduate several notable Annamite clinicians who would form the medical nidus for a new revolutionary movement. Most well-known was Tôn Thất Tùng. Born in 1912, son of an Annamite mandarin, he grew up on the banks of the Sông Hương—the Perfume River—in Huế. Being of privilege, he attended a French *lycée* (secondary school) and then gained admission to l'École de Médecine. Deeper aspirations than simply an "auxiliary doctor" churned in Tùng. He applied for an internship in 1938 (the only applicant that year) at the Protectorate Hospital in Hà Nội. Rather surprisingly he was accepted. There could not have been a better choice. In Tùng smoldered a relentless drive to achieve. Consuming clinical duties were not enough. Free time found him dissecting countless human liver specimens in the l'Institut Anatomique at the medical school, working under the guidance of his mentor, French Professor Pierre Huard. It was the plight of his patients with roundworms—*ascariasis*—in the liver and bile ducts that got his attention. With techniques perfected to fix the delicate veins and bile ducts within the liver, he came to understand the myriad channels of blood and bile that circulated. Though it has seemed so to many, liver anatomy was not a chaotic arrangement, he discovered, but a predictable distribution of fine blood vessels that bathed regions of the liver. It was a system of blood

flow that would enable surgeon Jacques Meyer-May and Tùng to remove almost one-third of a liver for cancer in 1938, a feat of some notoriety.

Yet despite an abiding fondness for his French teachers there seethed in Tùng a resentment for colonial oppression. At an early age, he was struck by the incongruities of Vietnamese life. "I often had to pass through French residential quarters on my way to school. Each day I had witnessed in anger fellow Vietnamese being humiliated by French or Eurasian children…[They] openly laughed at our customs in my presence." Even the endemic roundworm parasite was a consequence of tyranny, the result, he reasoned, of French, and later, Japanese oppression.[9] "How to drive the imperialists out?" he began to wonder.[10] His resolved hardened further by the fate of a young printing worker brought to him after suffering horrible tortures at the hands of the Japanese. Before he died the laborer took Tùng's hand and told him "to keep the faith in the future of our people."[11]

And it was the arrogance of the French surgical aristocracy that further humiliated him. The prestigious Parisian Académie de Chirurgie chastised his liver surgery with the dismissing comment "I will conclude [Tùng's liver resection] is a very irrational operation given the extreme uncertainty of the diagnosis of primary liver cancer."(an unfounded statement by any number of interpretations). Tùng was crushed by such a rebuke, and he buried himself back in his research on biliary stone disease and ascariasis. The Japanese occupation of Hà Nội from 1940 to 1945 severely limited surgical capabilities. Famine swept the countryside causing countless deaths, his people were even more miserable than under the French, and Tùng became further enraged at the ruthlessness and suffering.

He was not alone. Fellow physicians, trained *at* l'École de Médecine would have similar leanings. They saw and listened to the injustices of countless Vietnamese. It was this detestable French heel of subjugation, outwardly tolerated by the Vietnamese which such equanimity that would foster an shameless passion for liberation and independence. Unrest percolated. Staunch humanitarians and Vietnamese sympathizers Arlette and Henri Carpentier sensed it. In their 1989 exposé on Vietnam they acknowledged the rising revolutionary elements of the medical community:

> A corps of cadres of the highest valor stood out. They chose the cause of independence. They went to school and made a powerful contribution to the formation of a rapidly developing national health corps and were an important part of the people's victory: we cannot forget the prestigious names of

> the teachers Pham Ngoc Thach, Ton That Tung, Tran Huu Tuoc, Ho Dac Di. [12]

One of the most respected partisans was Doctor Hồ Đắc Di. Born of aristocratic leanings in 1900 and educated by the best clinicians of Paris, he was committed to Hồ Chí Minh's patriotic cause. Di had prestigious training in France in some of the finest Parisian hospitals. It was there, shortly after the Armistice of 1918, that he met Nguyễn Ái Quốc, later to be known as Hồ Chí Minh. Di was at once taken by the charisma of the skinny young man who cared so fervently about the fate of the Vietnamese people. Di returned to Vietnam and practiced at the Protectorate Hospital in Hà Nội, his academic passion so obvious that he was eventually awarded a faculty professorship at the medical school, the only Vietnamese ever to hold that title before the war of 1946-1954.[13] While Di was zealous about political revolution and reform, it did not detract from his medical efforts. He continued to work closely with his French colleagues and published several papers on surgical topics. His high morals and dedication to his patients would always precede him.

For surgeon Vũ Đình Tụng, another valued member of the medical school faculty, now 51 years old, revolutionary conviction would come with a steep price. He had two sons. His youngest son Vũ Văn Thanh was a patriot and rebel fighter. Battling French troops in the streets of Hà Nội he was struck in the abdomen by gunfire. Taken to a basement hideout, the boy's father was summoned. He knew at once the injury was probably fatal. There was no blood, no medications, and no other surgeon to take over. Vũ Đình Tụng operated on his own son, an operation that unveiled the catastrophe he had suspected. Nothing could be done. He watched his child's life slip away in his hands. Like a rabid dog, grief overtook him and would never let go. Some days later he was delivered a letter written on the back of old newspaper:

> I was told that your son sacrificed his life for our country. Knowing that I have no family, no children, and that Vietnam is my family, all Vietnamese youth are my descendants, losing each young man seems like I have lost my child…They are lost, but their spirit will always remain with the Vietnamese…They are the children of God [Vũ Đình Tụng was a devout Catholic]…Those young people are national heroes. Our compatriots and country will never forget them.

It was signed "Hồ Chí Minh."[14]

Now, war would bring a thrill, adding danger to the *ennui* of colonial life. Hà Nội, like Sài Gòn in the South, would become a city of intrigue. Spies, saboteurs, moles, and black markets abounded, Việt Minh keen on milking intelligence from any willing, or unwilling, colonial sympathizer. On the other hand, for the French, Hà Nội became a police state, with patrols, curfews, identification cards, and work permits. Without reliable networks of communication, rural Việt Minh units relied heavily on word-of-mouth information and clandestine affairs that often resulted in capture, jailing, and execution. Bribery, intimidation, and violence reaped rewards as there was little Việt Minh officers failed to discover about French troop movements and sorties into the countryside. And Hà Nội would be a city besieged. Hồ Chí Minh's guerillas harassed any attempts by delta farmers to resupply, forcing the population to become increasingly dependent on outside sources. By 1954 most of Hà Nội's rice was arriving from Sài Gòn. Lest one think hardships swayed citizens away from Hồ Chí Minh's liberation movement, nothing could be further from the truth. According to many, struggling Vietnamese shouldered their troubles willingly, longing for independence and whole-heartedly embracing the Communist movement. [15]

Over at the Lanessan military hospital wards were packed with young men fresh from the battlefield. Lanessan was the final deposit for massive wounds and gravely injured troops, funneled in from other station hospitals in Haiphong and Nam Dinh in the Red River Delta. There had been expansions and renovations in the 1930s. Under *chirurgien-chef* Pierre Huard, galleries were glassed in, surgical pavilions improved, and central heating installed. Ambulance traffic seemed to never cease day and night, unloading their human cargo in the parking lot just adjacent to a huge triage room. Sometimes helicopters would land, bringing one or two casualties. When business was particularly brisk a loud PA system would bark out the new arrivals so that extra help could be recruited. From triage the serious wounded, those in shock or suffering ominous chest or abdominal trauma, would be shifted to the "reanimation" (resuscitation) wing, inked on their foreheads a litany of medications given, maybe the latest blood pressure. Tagged to their web gear would be a field medical card listing their apparent injuries and any treatment given. Nurses would survey dressings and reinforce those that were soaking through with blood. Needles plunged through flesh giving tetanus toxoid, pain medication, and antibiotics. Fluids and blood would be hung. Hushed words of encouragement sometimes broke through the din of creaking beds and moaning patients: "*Non ce n'est pas trop mal*" (No, it's not too bad) and "*Oui,*

tu seras bien" (Yes, you'll be fine). Most would end up in the operating room; some would never exit.

Three surgical teams stood by to handle the influx of carnage. They would work in 72-hour cycles. The first 24 hours an assigned team would operate straight through, sometimes getting by on cold trays or even just a sandwich, for lack of time to eat at the mess. The second twenty-four hours the same team would be "in reserve" taking care of the lightly wounded, extracting bullets and shards under fluoroscopy. And the third 24 hours would be filled with ward rounds, checking on the recovering, deciding who should be transferred to Saigon or on to the Metropole. Many men would be sent directly back to their field units after a few days. In the final seven months of the war alone, from 1 January 1954 to the end of July, almost 8,500 wounded would pass through: half suffering limb injuries, many of those with fractured bones. For these, a thorough cleansing, *debridement*, and some type of bone-setting. A minority were not so lucky. Torso wounds—chest or abdomen—often demanded surgical intervention. Bleeding inside was usually the issue, that and repair of rents and punctures of bowel caused by bullets and shrapnel. These men would shortly head to the operating rooms, one or two times a day.[16] Their outcome was less predictable. Surgeons knew that the injured seldom came in orderly trickles. More likely were the surges so characteristic of battle casualties. Suddenly the receiving areas would be overflowing with bodies, all needing attention. It was rare that at least one of the teams was not continually operating. Between cases there was no time to waste. Operating rooms were quickly cleaned, because after those busy times clumps of congealed blood, crimson-soaked towels, used suture, and discarded containers soiled the floors like an unkempt butcher shop.

The most modern of supplies was often lacking. Elisabeth Sevier, a nurse working in the south in Tourane (Đà Nẵng) described outdated and inadequate equipment: rubber tubing rather than plastic, surgical instruments she did not even recognize, and 1930s vintage autoclaves for sterilization. Penicillin was scarce. Sulfa was the antibiotic of choice. Ether and chloroform were all the anesthetics available. Blood plasma was in abundance but whole blood was often contaminated with malaria parasites, and only reluctantly used. It was only when America decided to pump money into the war effort did medical materiel improve.

Yet the bustle of urban life would be oblivious to the horrors and deprivations at the Lanessan. Hà Nội remained a city of contrasts: stately colonial homes, toothless street vendors, rickety *Phở* -shops, lithe young women in *nón lá* and *áo dài,* and swarms of bicycles. A jumble of electric

wires, tram cables, and telephone lines, Hà Nội still exuded a mood, a smell, of modernity an insistence of romance. “I love Hanoi with a passion,” remarked legionnaire Hélie de Saint Marc, taken in by the “tender heat of the alleys and the air saturated with smells of spice.” “Pieces of myself still coat the surface of your sidewalks,” he wrote years later.[17] And, despite delicious threats of saboteurs, French gentlemen and ladies still graced sidewalks of the Métropole Café in linen suites and strapless dresses, flirtatious smoke from their *Gauloises* drifting skyward. Meanwhile in the old *quartier*, the city of 36 neighborhoods, an exquisite fog from dozens of opium dens wafted outward as if opaque enticements of hidden paradises, their recumbent clientele inside bent over lamps that caressed orgasmic smoke from coveted ceramic pipes and allowed the sinful aroma to blot out the purgatories of their existence.

And on Sundays, nursing their gin hangovers the well-heeled of colonial Hà Nội would file into holy congregations under chants of assuring redemption. *Mea culpa*, they would murmur and strike their breasts as if it would somehow cleanse tarnished souls. Prayers in the magnificent Saint Joseph Cathedral would fall flat and the numbers of young men for whom such supplication was offered already lay cold and stiff in the thick vegetation of Tonkin’s green hells. Decadent or not, Hà Nội would be a centerpiece of the Indochina War, the repository of French culture and respite from the war-torn infernos of remote Tonkin. And it would be a haven for the wounded, those bloody, ragged forms unloaded from truck, plane, or helicopter, into the arms of expert French surgeons and all the technology of mid-Twentieth Century medicine. No better than if they had been in Paris itself. It was their saving grace. For the Vietnamese, this sacred city would always represent the rudimentary essence of their people and the malignant core of French imperialism. It was there that the cancer must be uprooted.

Notes

1. Translation of the Vietnamese Institute of Social Sciences, from *Ngô Sĩ Liên, Đại Việt sử ký toàn thư,* (A Complete History of the Great Viet) (Hanoi: Social Sciences Publishing House, 1993).
2. "*Long*," meaning dragon, was a vision, according to legend that Ly Thai To had as he approached Đại La of a dragon climbing skyward. It also could refer to the serpentine course of the Red River which "snakes" around the city.
3. Paul Doumer, *L'Indo-Chine Française Souvenirs* (Paris: Vuibert et Nony, 1905), 115.
4. In 1896 the Catholic Mission of Western Tonkin decided to build a "native" hospital and entrusted this to the Sisters of Saint Paul of Chartes. Sister Antoine (Félicie Vacheron) was largely responsible for this effort, using building materials scavenged from the old military hospital on the banks of the Red River when it was torn down to make room for what would be the Lanessan Hospital. The land on which her hospital was built was reclaimed from swamp land, the sisters filling it in with brick, mud, and bamboo. It was designed to house Annamese victims of the great epidemics of the time, primarily cholera (see H. Cucherousset "Soeur Antoine [Félicie Vacheron, *des Dames de Saint-Paul de Chartres] et ses Oeuvres" L'Éveil Économique de l'Indochine*, 2 May 1926, 9-11.
5. It would then be called the Yersin Hospital from 1943-1954, then the *Phủ Doãn* Hospital from 1954-1958.
6. *L'École de plein exercise de Médecine et de Pharmacie de l'Indochine*, I*mprimerie d'Extreme-Orient*, Hanoi, 1931. The Carmelite order of nuns originated in Lisieux, France. They had begun a mission in Saigon in 1861 and then founded a similar enterprise in Hanoi in 1894. The famous Carmelite Theresa of Lisieux had desired to travel to Hanoi but worsening sickness prevented her.
7. *L'École de Plein Exercise de Médecine et de Pharmacie de l'Indochine* (Hanoi: *Imprimerie d'Extrême-Orient*, 1931) (no author).
8. Laurence Monnais-Rousselot, *Médecine et Colonisation. L'Aventure Indochinoise, 1860-1939* (Paris: CNRS Éditions, 2002), 301-316.
9. Restriction and confiscation of foodstuffs produced famines, he conjectured, that forced the peasant class into unsafe diets that harbored the ugly parasite.
10. Tùng, *Reminiscences*, 27.
11. Tùng, 28.
12. Arlette Carpentier and Henri Carpentier "*Quelque Éléments sur les Problèmes de la Santé*" in Alain Ruscio [Ed] *Vietnam: l'Histoire, la Terre, les Hommes* (Paris: L'Harmattan, 1989), 239-246.
13. See Vân Thảo Trình, *Les Compagnons de Route de Hồ Chí Minh* (Paris: Éditions Karthala, 2004), 72-74.
14. Vũ Đình Tụng's older son Vũ Đình Tín would also die in resistance fighting some years later. The letter from Hồ Chí Minh now resides in the Hồ Chí Minh Museum in Hanoi.

15. Sarah Turner “Hanoi’s Ancient Quarter Traders: Resilient Livelihoods in a Rapidly Transforming City,” *Urban Studies* 46 (2009): 1203-1221.
16. Chippaux, C., Lapalle, J. “Chirurgie de Guerre d’après les Observations Faites en Indo-Chine” *Bull Int Serv Santé Armées Terre Mer Air* 29 (1956): 13-15.
17. Hélie de Saint Marc, *Mémoires Les Champs de Braises* (Paris: Perrin, 1995), 139-145.

Chapter 4

Slaughter on *Route Coloniale* 4

"…there is no god but God…"

–Chant of the Moroccan Tabors

The road from Lạng Sơn to Cao Bằng would be pure massacre.

It was frontier country, the Việt Bắc, bordering on the Chinese provinces of Yunnan and Guangxi, French had built outposts here during the frontier wars in the 1880s—at Lạng Sơn, Thất Khê, Đông Khê, and Cao Bằng, only kilometers from the Chinese border. Strikingly beautiful but at the same instant foreboding. Terrain broken by limestone *calcaires*, literally sprouting from level ground hundreds of feet in the air, carpeted with dense forested jungle, and almost impenetrable underbrush. These were the highlands of northern Vietnam. High mountain passes dropped like rollercoasters through cliff-sized cuts, almost perpendicular—harboring endless limestone caves, crests, and precipices—into abrupt, verdant valleys. "[A] chaos of nipples, rocks, high massifs, with waters circulating in torrents, cascades, or rivers," the daring theorist Hubert Lyautey described it in the 1890s.[1] All best observed from a distance. For those hearty souls confined to sequestered small villages of stilted homes it was harsh living. Farmers tended their meager rice fields as they had done for centuries, bordered by idyllic streams. Few ventured into the wilderness—the *Rừng Núi*, the jungle—paths were almost non-existent and those cut were quickly usurped by malicious vegetation jealous of human penetration; vegetation so jubilant that it would obliterate any remnant of transgression in a matter of weeks. A perpetual wetness settled, humidity literally gripped the land, the smell of mildew heavy in the air. And the monsoons of May to October would drown the place in swamps, streams, and mud. Parasites thrived, perched on branches, leaves, grass, eager to gnaw any living thing passing by.

Such arresting scenery, all the way to Cao Bằng. These were remarkable journeys—some 60 kilometers northwest of Thất Khê; reminiscent to Frenchmen of the *Chartreuse* Mountains in southeastern France. Cuts into mountainsides like etchings in stone were the walkways, precipitous drops hundreds of meters on the outer edge. Breathtaking country, one would certainly describe it, stark perpendicular cliffs covered with green, hosting caves reachable only by the creepers and vines that dangled. French legionnaires had pursued Chinese pirates here, sometimes, in turn, trapped

by them, holed up in those very caves, living off of stored rice until they were rescued. Physician and explorer Charles-Édouard Hocquard, with French regulars labored over this ground in 1885. His passage from Lạng Sơn to Thất Khê left an impression of the honeycombed crags into which renegades could burrow:

> [A] high wall of calcareous rocks absolutely a peak…This strangely cut wall is hollowed out by deep caves, in which the inhabitants [Chinese bandits] had taken refuge…and had used them to hide their provisions and their flocks. It is nearly continuous, and gives passage, by narrow paths almost impassable, hidden beneath the creepers and under the clumps of stunted shrubs which cling to the rock. [2]

For centuries these trails were mere footpaths, cut by some ancient Annamite workers, seeking only travel from village to village or, perhaps later, used as roads of commerce to Chinese provinces only kilometers away. Conveyance then was on horseback in pouring rain and thick, slippery mud, up and down 45-degree inclines. Carts and sure-footed horses might make the trip, unless rains and floods obscured even these primitive walkways. It was not unknown for riders, animals, and wagons to pitch over the brink of precarious cliffs splashing into a morass of jungle that quickly swallowed them up. Hocquard wrote they were almost impassable but then, suddenly, a perilous 600-meter pass opened up to a brilliantly green Cao Bằng plain below, cut by the serene serpentine Sông Bằng Giang gleaming in an afternoon sun. It was as if heaven and earth had met.

Game here was plentiful. Tigers were heard but not often seen, the ominous rattling of their throats sometimes broke the silence of dawn and the snapping of their jaws stirred a primal fear as if one was soon destined for a gory death. They lashed out at humans—any humans—who had made a mockery of their sanctuaries and encroached on their lairs.

Mountain tribes had claimed the land, sturdy people—the clans of the Việt Bắc: Hmong, Mường, Nùng, Tày, Yao, and T'ai. These were highlanders, people who drifted south from China, driven before the Mongol hordes and hostile Chinese dynasties hundreds of years before. They settled in the valleys and worked the terraced slopes for wet rice and vegetables, gathering their livestock, communing in countless tiny villages. The French, almost contemptuously called them *montagnards*—"mountain people"—remote, primitive to them—yet cultures as rich as their embroidered garments, immune to the intrusion of European trade. They could be loyal and fearless, at home among the lush

Figure 4.1. Map of Indochina. Graphic by Army University Press staff.

greenery, brooding clouds, drizzling rain. It is here in these hilly regions that they resided and flourished. Adventurer Édouard Diguet saw them, a people apart from lowlanders, clinging to their chaotic mountainsides rising over 2,000 meters and thick forests, living in their stilt houses on simple furniture directly over barns where livestock—buffaloes, oxen, horse, and poultry kept them company.[3]

One may see a rainbow of ethnicities working the slopes and valleys, congregating in marketplaces, selling their wares. Lowland *Kinh* held highlanders in distain, ignorant, backwards. The French were no better. Colonials extended a right hand full of trinkets, the left held a club. Surrounding were expansive fields perfect for cultivating wet rice and "all the plantations one could want." A half day away rich deposits of asbestos and gypsum. "[S]end good money instead of cigars and liquors, little comfort to the poor devils on whose head it constantly rains," Hubert Lyautey wrote in the 1890s.[4]

Half a century hence would roam Hồ Chí Minh's *Kinh* cadres—Việt Minh, adept at jungle travel, through unchartered trails known only to the bandits who had crept back and forth across the Chinese border carrying guns, ammunition, and, now, who had imparted their wisdom to the new Communist insurgents. The Việt Bắc would be the Việt Minh's backyard, their neighborhood. They could cut through jungle like insects, crawling among vines, bush, and timber, unseen and almost unheard. And when in ambush they would wait for days, still, no coughing, no talking, waiting

for the perfect moment. Uncle Hồ had peopled the area with his followers. By 1950, they were regiments strong, not just guerrilla fighters, these were his troops, his seasoned bands now armed to the teeth. As for the *montagnards*, Hồ Chi Minh would treat them well, brethren now against the French.

Hồ Chí Minh had now made the Việt Bắc his home. Close to the Chinese border, only kilometers away, his regulars—his *chủ lực*—drifted in and out of China, arming and grouping in southern provinces of Yunnan and Guangxi. Among wet rice paddies and swidden fields, around buffalos, pigs, chickens, and horses, troops marched, young boys in green, rifles slung, scant packs for food—bare essentials—not more than a few days' provisions.

Now that winding mountain road generations removed from ancient paths snaking along the Chinese border, widened by the French, would be called *Route Coloniale* 4. It clung to mountainsides and spiraled down through luxuriant valleys. It was the sole gateway to northern Tonkin.

As an expeditionary soldier, Lieutenant Charles-Henry de Pirey trudged this "stormy and exhaustive mistress." "The RC4 [*Route Coloniale* 4] often gets lost under a bushy mass of unrelenting vegetation," he wrote, knowing Việt Minh "watchers" were somewhere unseen, hidden in tall grasses bordering the road. "The hell of dead valleys" he witnessed, and the road itself "rises towards heaven…as it disappears under the foliage" as if in shame, he felt, for betraying the pacifying mission for which it had been constructed.[5]

Lieutenant Général Jean Étienne Valluy thought he understood the territory. He knew a key to defeating Hồ Chi Minh's Việt Minh was to deprive them of the border regions with China, and thus their avenues for escape, rearmament, training, and provisions. The Japanese had known it, streaming into Tonkin in September, 1940, 100,000 strong, driving French troops before them, all the way down to Lạng Sơn and on to Bắc Ninh, just outside of Hà Nội before *Gouverneur-Général* Jean Decoux signed a treaty opening Indochina to Japanese occupation. Now, at war with the Việt Minh, Valluy pumped, ramming 15,000 French troops into the Việt Bắc in October, 1947, in a triple pincer move to snag high level officers, including Hồ Chi Minh himself, and scatter the rabble of insurgents sure to run at first encounter with trained colonials. It was a disaster. Việt Minh did not scatter but almost wiped out three battalions of paratroopers before they were rescued by a haggard overland force that fought tooth and nail down booby-trapped *Route Coloniale* 4 from Lạng Sơn to Cao Bằng and

through almost impenetrable jungle. These Việt Minh would not run, and French troops withdrew.

The border region would then be frontier warfare, just as it had been 50 years before[6]. French manned outposts at Lạng Sơn, Thất Khê, Đông Khê, and Cao Bằng, with wide stretches of *Route Coloniale* 4 in between. These fortifications were originally the idea of the brilliant strategist Colonel Joseph Gallieni, who, in the 1880s, served as commander of the "pacification" forces for the northeast region of Tonkin. Little fazed by the French, Việt *Kinh* and their *montagnard* sympathizers now prowled the rest. Prime targets were the vital convoys sent to resupply the French strongholds, their only access *Route Coloniale* 4. Limestone crags and caves were perfect sites for ambush, easy, open fields of fire right down the roadway, almost invisible to travelers. These convoys were a woeful sight: outdated American made GMC trucks chugging up and down inclines and around hairpin turns, to one side sheer cliffs, to the other almost perpendicular drop offs. Breakdowns were frequent, all halting while tires were changed, engines tinkered, gasoline replaced. Yet, French clung to the roadway, loathe to leave and submerge in dense, bordering jungle. They were "prisoners of their own cars and trucks." Movement was too often at a snail's pace—but just the right pace for the Việt Minh who, almost always, had been alerted and were well entrenched. Often a mobile medical unit was placed in the middle of the convoy. Madam Talon, a nurse in Indochina from 1946-1948, recalled that a "surgeon," specialized nurses, and a non-commissioned officer of the General Service usually rode along but with little useful equipment:

> At that time, we were doing bandages with crepe paper and bamboo was used for fractures. We had only sulphonamides, alcohol to burn, and tincture of iodine. To get penicillin, you had to buy it from the Chinese who were largely supplied by the Americans. The syringes sent from France could not be used with the needles that were in the box.[7]

It was Việt Minh country. Ambushes unsettled everyone. Troops, doctors, and nurses scattered under trucks and in the bush, hoping to evade snipers. Invariably there were casualties. Evacuations were particularly scary in the middle of a firefight. Improvised stretchers, using bamboo, tent canvas, or even fishing net needed four men to transport one wounded soldier to some prearranged evacuation station. Seldom could the roadway be used for fear of further traps. Sometimes local inhabitants were recruited to furnish buffalo or domesticated elephants for the journey. The casualty would then be loaded onto a flimsy single-engine plane for a harrowing

takeoff and trip to Hà Nội. Women who accompanied these convoys were not spared. Suzanne Poirier, sent to Tonkin with a regiment of *chasseurs*, escorted their convoys in ambulance trucks along *Route Coloniale* 4 from Cao Bằng to Lạng Sơn. Somewhere on this stretch in February, 1948, under a hail of gunfire she was seriously wounded in an ambush that killed over a dozen troopers. [8]

She was lucky. On New Year's Day, 1948 an *embuscade* had taken the lives of 20 legionnaires only 22 km out of Cao Bằng. Two months later—just weeks after Poirier's encounter—another. This time 25 dead. Almost every month an ambush, even against French armored columns. Fierce firefights by paratroopers and legionnaires merely to extricate themselves before being wiped out. During one ten-day period in December there were an estimated fifty attacks in the Lạng Sơn sector alone. The death toll climbed to 117 for all of 1948. The year 1949 would be worse. Ambushes intensified; more died. Territory between Thất Khê and Đông Khê—particularly hilly terrain—was the best for them. Columns had to traverse the so-called Lưng Phải pass, a narrow cut through high sheer walls, where assailants positioned to fire directly down on men and machines. Việt commander Colonel Đặng Văn Việt, himself a former student of medicine, described the zeal of his commando brethren:[9]

Everything happens as planned . . . the legionnaires were tough and well-trained. A long whistle gives the signal. All our fighters burst out of their entrenchments screaming at the top of their lungs *xung phong*! (assault!). In the jungle the fight is hand-to-hand. Knives are our specialty. Thus, we annihilated the enemy convoy . . .

French strongpoints made little difference. Việt guerrillas moved back and forth across the Chinese border with impunity, carting tons of weapons and supplies, setting deadly traps for French caravans. Those colonials who were cut down by Việt fire were almost doomed. Medical care was sketchy at best. Numbers of casualties lay about, certain to die if not dragged to safety somewhere off the road, and then saved only if a long, painful jungle trek could bring them back to civilization.

It got worse. On 3 September 1949 a major attack occurred, again in Lưng Phải pass. One hundred were killed—both soldiers and civilians; fifty-five vehicles battered and charred wrecks. Việt Minh bottled up trucks and armored cars by disabling them at key points at the front and at the rear and then zeroing mortars and recoilless rifle fire on the stalled traffic. Six kilometers of death and destruction. Việt soldiers saw brawny legionnaires crouched behind their trucks or dashing into ravines beside the road. Their

desperate wild firing hit almost nothing. Very few escaped the rampage. It would be nicknamed *La route sanglante* "The bloody road." French war correspondent Lucien Bodard relayed eyewitness reports of the violence, the Việt Minh synchronized, methodical. "[T]housands of naked bodies leaped up from the side of the road" Bodard wrote, and, like a human tide, literally washed over the men in their trucks:

> Regulars [Viets] went from truck to truck, gathering the weapons and the goods that had been left behind…Other regulars attacked the French who were still fighting on the embankments. Coolies with jungle knives finished off the wounded who had fallen onto the roadway or into the ditches. It was hand-to-hand fighting everywhere…the road was a graveyard, a charnel-house. Nothing was left of the convoy but a heap of ripped-open bodies and blackened engines. It was already beginning to stink.

The few legionnaires left fought desperately, but in the end, they blew their brains out before the Việt Minh reached them[10].

Lieutenant Pierre Guidicelli saw it, too. He was a *médecin de bataillon* for the *Sixième Groupe de Spahis Marocains*, (Sixth Group of Moroccan Spahis). His base was Lạng Sơn, a frontier town at the juncture of *Routes Coloniale* 1 and 4. A major French encampment, it was spread out on a broad plateau, ringed by rugged mountains, the first stop up *Route Coloniale* 4 towards Đồng Đăng and Friendship Pass into China. The *Song Kỳ Công* (Ky Cong River) meandered through, adding an element of tranquility but belying its strategic importance to both sides. In those days, bars and *fan-tan* houses lined the streets populated by shady characters, shuffling by, out of place with *montagnards* or lowly peasants. Lạng Sơn had long been a colonial outpost, a place to interdict opium traffic and arms dealings to and from China, but one sensed intrigue and wondered about black-market dealings.[11] For Guidicelli, this was his second tour in Indochina. Like many colonial doctors, he had volunteered for military service, feeling cheated from serving in World War II which, in his opinion, came to an end much too quick. "Dark clouds were accumulating in Indochina," Guidicelli the adventurer recalled, "Thank God the crisis did not settle." The Navy needed doctors and hurried along any volunteers for the colonies. Itching for action, he signed up and set sail on the *SS Pasteur* from Marseille on 21 February 1947. His first tour with the Foreign Legion was in the South, in the rich Mekong Delta. Now he had joined the *Spahis*, an elite formation of Moroccan infantry. They were assigned security for Route Coloniale 4 convoys roving through Na Chăm, Thất

Khê, Đông Khê, and Cao Bằng. This was much different than the South. It was almost unearthly terrain: spiked pitons, clotted jungles, pregnant limestone. Any passage through was a superhuman feat, the physical effort painful, exhausting. One either marched beside the road or hacked their way through entwined bush. Either way in an instant, Việt Minh grenades might detonate with blinding force or their bullets could smack into flesh and bone. His first convoy in early 1949 skirted pass the scene of a previous ambush, blackened cars still smoldering, dead by the side, their booted feet sticking out from under ponchos, the wounded still propped against sides of ambulances.

On 1 October 1949 his detachment of *Spahis* pulled out of Lạng Sơn headed for Cao Bằng: 400 armed men on foot, in trucks, and armored vehicles guarding a supply convoy. A double column of infantry lined the road, advanced scouts up ahead, Vietnamese partisans (militia) beating the bush on each side—the whole "package." Morale was good, he thought, despite the disaster of September. Yet, on the morning of October 2 they faced traversing Lưng Vai pass—like Lưng Phải pass, a surgical slash in calcareous rock—midway between the posts of Na Chăm and Thất Khê. Guidicelli thought it "a true cut-throat of limestones covered by jungle." Scouts were sent to search jutting peaks facing their route. Trucks, in groups of ten headed through the pass, sent off at intervals so as not to bunch up. Not until the preceding group had reached Thất Khê would the following troupe depart Na Chăm. This was all very orderly until Guidicelli and his medical team saw "hell breaks loose." Blanketing fire erupted from limestones to the rear, swarming with Việt Minh, who, expertly camouflaged, had avoided detection by Moroccan patrols. Hurrying for cover, Guidicelli and his men watched a rain of grape shot pepper the road. Before long shouts for medical care were heard, those shrill cries of *Toubib*! (*Medic*!) Guidicelli and his aides rushed forward, keeping to the embankments, in ankle-deep paddies, out of the line of fire. Some casualties tried to crawl towards them, others lay motionless. One, shot in the head, was gurgling, worrying his comrades who demanded action. Nothing to be done. Death throes. Before long, bandages and medicines were exhausted. There were so many wounded—and gruesome sights. One man, a loader for the 40 mm Bofors, those rapid-fire cannon that were pumping round after round into the cliffs, was hit snapping his thighbone. The unlucky victim tumbled onto Guidicelli as he was crouched caring for another, the broken, spiked femur sticking at right angles. A shot of morphine and the excruciating process of straightening the leg, fracture fragments grinding, the pain almost intolerable. "We are bunched up like a pack of rats," he remembered,

as they tried desperately to get wounded back to the waiting ambulances. He pushed any who could walk ahead, shouting to them "It's nothing… Move…Move!"

Finally, the waiting Dodge ambulances, all loaded quickly, he jumped in as it sped away to the small post of Bộ Cũng. Arriving at nightfall, he began sorting through his ragged bunch. There were few serious injuries, he remembered years later. He had left all the critically wounded at the scene, impossible to reach despite their feeble calls for medics; now almost certainly dead or finished off by Việt Minh. Here in the frontier country *postes de secours*—the aid posts—were non-existent. Wounded either hobbled into trucks or cars or awaited their fate in solitude, stifling moans that pain spawned, hoping not to be seen by the Việt Minh. On *Route Coloniale* 4 there would be no first aid, no modern medicine. Nor would their comrades return for them. Any attempt would invite another slaughter. Even the lucky ones, loaded into trucks like cargo, the trip would be long and dangerous. All the while the jostling grinding fractured bone ends, scraping against bared nerves, launching pain like electric shocks. Graham Greene, in *The Quiet American*, knew of those misfortunes. For wounded colonial troops "twelve hours, twenty-four hours, perhaps, on a stretcher to the ambulance…ambushes, gangrene. It is better to be killed outright." [12]

Nineteen troopers, including the commanding officer, died that day. At least that was the number of destroyed corpses counted at the ambush. Another 40 wounded made it back. Twenty-one were unaccounted for and were presumed dead somewhere off the road. Guidicelli had seen what happened to the dying, butchered by the enemy: decapitated, flayed open in a primitive ruthless way, as if mutilation was a ritual that demanded religious observance.[13]

But all would pale to October, 1950 and disaster along *Route Coloniale* 4.

In May 1950 Việt Minh surprised the French garrison at Đông Khê, midway along RC4. The stronghold was quickly overrun. It was during this melee that a French dentist, Paulette Gravejal, on temporary assignment at Đông Khê, was killed. The infirmary where she was presumably working was hit by a 75 mm artillery shell and virtually destroyed. Some days later *Médecin-Capitaine* Henry Distinguin was sent as a replacement following the retaking of the post by French paratroopers. His first stop was the infirmary, or what was left of it:

> There remained only the walls and the skeleton of the roof; the pharmacy had been hit by a75 mm shell, tablets and am-

> poules littered the ground. A few tarpaulins had been hastily strung to protect the wounded from the weather, and especially from the rain.[14]

Beside Gravejal almost 200 others, including the post commander, were killed or captured. Few human remains were left. Paulette's body was apparently never recovered.

It was evident Việt Minh tactics had improved. In a flurry of activity, the French High Command hastily improved key fortifications along RC4. Airstrips were hardened and expanded for aerial re-supply in case ground travel ceased. By necessity convoys became so weighty and heavily gunned that they were more an armored force than re-suppliers. In fact, by early 1950 Cao Bằng and Đông Khê relied almost exclusively on air support, so dangerous was overland travel. Yet airborne provisioning would not be sustainable. All knew that. As Việt Minh became more daring and better armed, these frontier forts would be cut off and doomed. During the summer General Marcel Carpentier, supreme commander of French Union forces, made the grim decision to abandon the forts. Troops might be better served patrolling urban areas and the flat Delta regions. It was an ill-fated compromise. He was forfeiting the frontier, but at the same time, he left sacrificial garrisons as a token, but doomed, French presence. Colonial troops now remained only at Cao Bằng, Đông Khê, Thất Khê, and Lạng Sơn. In those isolated outposts, soldiers peered over their fortified walls and into the emerald wilderness beyond. Veterans knew what was in store. Việt Minh troops waited like circling sharks. There was little chance of rescue. To Doctor Distinguin it was not hard to envision:

> One could not imagine the thoughts and the morale of those men who felt abandoned in their little world, lost in a hostile country, surrounded by invisible enemies, cunning and cruel, implacable in their aims and the means of achieving them.[15]

General Giáp, now aware he had cornered prey and almost unchallenged control of the Chinese border, sensed it was time to strike. From April to September of 1950, he had received more than 14,000 guns, 1,700 machine guns and 150 field cannon from the Communist Chinese.[16] The French would not leave in peace, he vowed. The Central Party had approved the "Border Campaign," encompassing the Cao Bằng-Bắc Kạn-Lạng Sơn territory to "annihilate a vital, important enemy element, to liberate the northern border region of our nation." [17]

On September 8 the battalion of the Eighth Moroccan Tabors, garrisoning the post of Đông Khê, were relieved by two companies of the Sec-

ond Battalion, Third Foreign Legion Regiment (II/3e REI). Two hundred and fifty men were replacing an entire battalion (usually numbering from 800 to 1,000 troops). Unbeknownst to them, Việt Minh had already encircled the post with an entire seasoned division, around 10,000 jungle fighters. Giáp planned to wipe them out, thus severing lines of communication all along *Route Coloniale* 4 from Cao Bằng to Lạng Sơn. At seven in the morning of September 16 the Việt Minh launched their attack. This was no longer a guerrilla war. This was not a hit and run operation. The garrison was hammered with 75 mm artillery and 81 mm mortars. Throughout the day, Việt Minh continued the pounding, sprinkled with stealthy infantry assaults. Incoming rounds inflicted heavy casualties on the French defenders including 28-year-old *Médecin-lieutenant* Jean Loup, the battalion surgeon, who took one in the leg, toppling him. A plea went out to drop paratroopers in, even a paratroop surgeon. Denied by High Command. Throughout the night Giáp's artillery keep up the pressure. The next day was no different. Enemy drew near, probing, then brazenly charging. The French in their trenches and battlements returning fire, barely able to stem the tide. Legionnaires fell at a frightful pace. By the evening of September 17 there were already 40 dead and 86 wounded. The hobbled Loup and his beleaguered nurses soon exhausted all medical supplies. No hope for evacuation. No one was getting in or out of Đông Khê. They were surrounded. Cut off. Now, Loup saw, many would simply exsanguinate. Until death took them the pain of their wounds coaxed groans and pleas from them that tore at his composure. For a second night the French valiantly fought on but by the morning of 18 September few were left. Some fled into the jungle, most were killed or wounded; whoever remained standing was taken captive, including the crippled Loup who was destined to die in captivity in 1951. Only a dozen legionnaires escaped.

It was with the fall of Đông Khê that General Alessandri, commander of French expeditionary troops in Tonkin made the predictable but ill-advised decision to send a column from Lạng Sơn to rescue and recapture Đông Khê. Perhaps survivors could be found. Certainly, his seasoned colonials could drive the rag-tag guerrillas away. In the meantime, Alessandri would evacuate Cao Bằng; their garrison was to head southeast along RC4 and rendezvous with his column from Lạng Sơn. Lieutenant Colonel Pierre Charton, commander of Cao Bằng's garrison, was outraged. Charton knew the country and knew his enemy. It was a suicide mission. By now Việt Minh were swarming along *Route Coloniale* 4, hoping to strike any relief force. Coupled with the terrain, the slow pace of his troops would virtually guarantee an ambush. On the other end, the Lạng Sơn force

would be headed by Colonel Marcel Le Page, a 52-year-old experienced, but tired, former artillery officer. Three thousand men, mostly North African colonial troops, were under his command. The Africans were chiefly Moroccan soldiery known as *goumiers*, fierce men known particularly for their willingness to fight hand-to-hand. Their basic units were called "goums"—analogous to companies—groups of "goums" were called "Tabors," roughly equivalent to a battalion.[18] Le Page would have two "Tabors" in his column, the First and 11th. With them was a field battalion of the Eighth *Regiment de Tirailleurs Marocain* (Eighth RTM). Besides vicious with their curved knife, the *janbiya*, Arab infantry were deadly shots at long range with their .303 British Enfield rifles. They should perform well at close combat. Arriving at Thất Khê on September 30, Le Page was also to pick up a contingent, the crack *1er Bataillon étranger de parachutistes*, (First Battalion, Foreign Legion Paratroopers) or, 1er BEP—mostly former German *SS* troopers. Their commander, though, was thoroughly French, the tough, seasoned *Commandant* Pierre Segrétain. Le Page was wary of *Route Coloniale* 4, an infantryman's nightmare. He had a bad feeling about this assignment. The whole affair, he feared, would not have a good ending. It was, in his words, *une mission de sacrifice* (a sacrificial mission), a French "Calvary."[19]

On 24 September, Alessandri gave the order to Charton: evacuate Cao Bằng. Codenamed THERESE, it all would be done hush-hush. No tipoffs. No preparations. No big guns or armored vehicles. All heavy equipment and motor transport were to be destroyed. They would leave on foot. Of course, such suddenness invited delays, and delays that would cost them dearly. The entire convoy would not depart until 3 October, days behind schedule. By then Charton knew that *Route Coloniale* 4 would be ripe for ambushes, even more so since over 500 civilians would tag along. Against orders, he took some of his heavy artillery and over a dozen trucks loaded with automatic weapons. His troops were a mixture of foreign legionnaires and Tabors. There were some armed *montagnards* tagging along. With the refugees he had almost 3,000 people in his column. The rendezvous point with Le Page would be the roadside town of Nâm Nung, 22 kilometers from Cao Bằng. By nightfall Charton's column had traveled a mere 20 kilometers and were bivouacked at Nâm Nung.

Overall field commander for this nefarious plan was a controversial figure by the name of Colonel Jean Constans, in charge of *la Zone Frontière* (the frontier zone). Reclusive, uninformed, he seemed more caught up with the privileges of his position than the onerous responsibilities of sinister battlefields. Doctor Distinguin held him in low regard. Despite

a regal bearing—an almost haughty demeanor, some would say—his chubby face lent more to a careless, even sluggish behavior than to crisp command. Rare were his ventures from the lavish villa in Lạng Sơn—the former mansion of the administrator of Lạng Sơn Province—and little did he know of his men's tribulations along the frontier. This engendered scant respect among his troops. Doctor Distinguin remarked "He was hated." In response to Le Page's understandable trepidations, even a request to postpone, Constans had curtly responded "*[A]ucun retard ne peut etre consenti* "("No delay can be granted").[20]

Arriving from Lạng Sơn, Le Page, his column now called *Groupement* BAYARD, picked up the paratroopers and set out from Thất Khê the following day. Upon approaching Đông Khê on 1 October, (Charton had not yet left Cao Bằng) he split his forces in a pincer move to encircle, but Việt Minh picked it up and drove them back. Suspecting that the *Route Coloniale* 4 was now cut by enemy troops, Constans, with no real appreciation of terrain or Le Page's situation, ordered him to abandon trying to recapture Đông Khê, and inexplicably, to head off the road, west, right into unchartered jungle, to find the parallel Quang Liệt Valley. On 4 October, Constans ordered Charton to do the same—leave the roadway and hack through bush to find the same Quang Liệt Valley, Incensed, Charton abandoned his precious artillery and trucks, and took to the jungle, stringing his motley column over six kilometers of wicked, impenetrable vegetation.

"*Je suis stupefait*" (I am amazed) Le Page later wrote.[21] It was now almost certainly suicidal. And, despite his temerity and an artilleryman's lack of élan, he was realistic. The wilderness they would have to traverse were choked with vegetation, almost impermeable—and the habitat of Việt Minh cadres, many of whom were ethnic T'ai and Tay from this region, who knew this country like the back of their hands.

Le Page chose to divide his men, sending himself and a party scurrying through the thickets to rendezvous with Charton and his column, and leaving a sizeable group—including his coveted paratroopers—perched on limestone hills to the west of Đông Khê. He hoped Segrétain's airborne troops could harass the Việt Minh and slow their pursuit. But Le Page had only the vaguest notion of where he was headed, maps were sketchy and incomplete. A perfect chaos of ferns, roots, vines, and grasses made for a dreadful, aimless crossing. Giáp saw it all and was not be fooled. He wasted no time with Le Page's group, stalking them the whole way with relentless sniping, and mortar barrages. Le Page finally took shelter on two prominent peaks near the Quang Liệt Valley through which Charton and his men were to pass. Meanwhile paratroopers and Moroccan goumiers on

those limestone redoubts were taking a beating. Vicious assaults were repulsed but only after Moroccans and legionnaires fought like "screaming lions," hand-to-hand combat often the rule. Moroccans slashed away with their *janbiya* leaving many *bộ đội* mutilated and bleeding. But it was soon plain that to hold these hills was futile. Before long they would be overrun. Already, by 3 October, 1er BEP surgeon *Medecin-Capitaine* Pierre Pédoussaut has assembled 100 wounded at his small jungle aid station. Not a few were critically wounded, not only colonials but Viets as well. Forty were stretcher patients, too badly injured to stand or walk. A few, with abdominal wounds were in shock. Little could be done for them. Pédoussaut had limited resources. He carried only morphine, atropine, penicillin, garrots for tourniquets, and hemostat clamps for bleeding vessels in his medical bag. His nurses—soldiers trained to dress and splint wounds—packed bandages, morphine, and maybe some plasma. There was no blood. The abdominal cases would surely die. They were given morphine. No way to evacuate. The surgical *antenne* at Thất Khê might as well have been on the moon.

Segrétain huddled with his officers. The hills around Đông Khê were becoming indefensible, that was clear. The only recourse was a measured withdrawal to join Le Page's column wandering through the jungle towards the Quang Liệt Valley. But the wounded had to be evacuated. There numbers were mounting, and some lay ashen and listless, precariously close to death. Others slumped behind rocky crags; their smashed limbs unable to bear any weight. It would be foolhardy to take them along. Evacuate first, towards *Route Coloniale* 4 and Thất Khê, then the rest fight their way to Le Page, it was decided. During the night of 3 October, a winding string of soldiers, their stricken comrades, and packs of supplies agonizingly inched their way back. And then that "boulevard of death" Lưng Phải Pass. It was here that the Việt Minh patiently waited. From perpendicular cliffs that bracketed the defile gunfire razed the hapless procession. Panic. Confusion. Screams of wounded. "It was a bloody mess," one officer recalled. Unnerved porters, fearing for their lives, dropped stretchers, some injured falling litter and all into the nearby stream. Mules brayed and stumbled, rushing about, their handlers gone or dead. Those with any composure tried to melt into the jungle to avoid the hail of bullets. No resistance could be organized, such was the confusion and terror. It was simply a matter of saving one's skin. Reaching Thất Khê was impossible. The only option was to find Le Page. Survivors, including many wounded, collected and, with paratroopers in the lead, began trekking through indecipherable jungle in pitch black night, by compass heading west to join Le

Page and his men. “Progress was agonizing, fatigue overwhelming,” one officer remembered. Machetes were needed to chop through the branches and vines. No time for sleep, little water. The misery of it all was magnified many times for the wounded, their odyssey a recital of tortures; the manhandling of mangled limbs sending bolts of excruciating pain. And from the moribund quiet pleas for a rapid end. Litter carries were an enormous drain on manpower. Eight were needed to carry just one. Sometimes strength simply gave out dumping the casualty unceremoniously from his stretcher. Screams of pain as already shattered arms and legs struck earth and rock. Any who could walk were made to, even with chest injuries. “An incredible spectacle of dozens of seriously wounded, sometimes dying along the way, transported in the worst conditions, not to the rear and a safe asylum, but forward and an unknown, hostile destination,” according to *Médecin-Capitaine* Pédoussaut.[22]

Eventually paratroopers, Moroccan goumiers and wounded, collected near the Quang Liệt Valley a short distance from Le Page’s men holed up just to the north. Attempting to reach the valley floor, from almost perpendicular cliffs, the wounded were literally hoisted down the bluffs writhing in pain, looking at the abyss below, one false step and a free fall to waiting rocks. To everyone’s surprise, at the bottom they were met by a relief detachment, mules and all, sent by Le Page. Injured were slung aboard—some 30 stretcher cases in all and another 50 who were able to limp along—and worked their way back to Le Page, now holed up in two flat recesses—“basins” they were called—surrounded by more high cliffs in an area near the small valley hamlet of Cốc Xá. Healthy paratroopers and Moroccans, much to their officers’ chagrin, were ordered back as well. For the experienced paratroopers these two basins where Le Page had bivouacked were indefensible—a nightmare—numbers of men bunched up like ducks on a pond, perfect targets for anyone lining the hills. But exhausted, parched, harassed by countless Việt Minh snipers, the tired Le Page wanted any respite, even one as precarious as Cốc Xá. The open ground was vast relief from the thick bush and forest he had hacked through for two days. He and his men were spent, water and food mostly gone. Yet, all were aware that to get out meant exiting through a narrow gulley or scaling down bluffs into the Quang Liệt Valley. Only one way was practical—the slender gorge, steep in its own right—but navigable. Indeed, Việt Minh knew it as well. Giáp had intercepted communications between Le Page and High Command. He was well aware of the trapped soldiers in the Cốc Xá basins and their planned break out. Hundreds of troops were sent scurrying to encircle Le Page’s havens. Soon the lime-

stone cliffs bristled with lantern helmets and automatic weapons. On October 5, Giáp issued his invective "Tonight we attack and strive to wipe out the Le Page bunch in the Quang Liệt region … Harass, wear down and wipe out in detail the Charton group…so that … we can consolidate forces to mobilize for a total wipe out." [23]

On the morning of October 6, the slaughter began. Machine gun burst, rifle cracks, and mortar blasts dotted the basins, echoing off the limestone in a crescendo symphony of death. Nowhere in the open was safe, all darted behind rocks or just "hit the dirt." Le Page had gathered his wounded, now numbering around 100, in one of the two basins along with the battalion doctors. Any partisan Vietnamese had bolted, scared out of their wits by the certainty of death or capture. The noose was tightening. That same morning Charton's men had reached the heights overlooking the Quang Liệt Valley just opposite the Cốc Xá gorge. There they sat, and waited. Le Page planned his breakout before dawn, next day. Paratroopers, those indomitable legionnaires, would lead the way followed by goumiers. Wounded in turn, then, so as not to slow down the escape—but only the wounded who could walk. The crippled, maimed, and destitute would not be going. They would stay and hope for clemency from the Việt Minh who were sure to soon appear. Last, would be Tabors—the rear guard. Charton was to wait for Le Page's men and join up for the final march to Thất Khê. For those miserable scores left on stretchers, too sick to move, two physicians stepped forward to stay: *Médecin-Lieutenant* Enjalbert (First Tabor) and Pédoussaut (First BEP). They were soon joined by *Médecin-Lieutenant* Rouviere (Eighth RTM) and *Médecin-Lieutenant* Levy (11th Tabor).

At five in the morning on 7 October, Le Page loosed his escape. In the lead, paratroopers raced down the narrow Cốc Xá gorge. Waiting Viets opened up with automatic rifle fire, grenades, and even pistol shots, all at close range. Carnage commenced. The staccato of blinking muzzles broke the pregnant air hugging cliffs above, followed by the zip and crack of metal biting into branches and rustling thick foliage. And then the quick thuds and gasps as humans felt the impact of hundreds of jacketed spindles, gasps as if death had forced all life from lungs in one final rush. Legionnaires fell by the meter. There was a crush of bodies, cries of rage, groans of the fallen; the earth carpeted with downed comrades, some dead, others soon to be. Snipers above picked off at leisure those on the ground. Legionnaires did not break stride, literally stepping on and over bodies of their fellow troopers. Sensing a massacre, Le Page then ordered his Moroccans to sweep the heights above so that the paratroopers could force

an exit into the valley. So goumiers took off, glorious martyrdom awaiting. "There is no god but God," they sang. It was their "*Chahada*," their song of death. And rows upon rows were mowed down by bullets as thick as hail. Others took their place only to fall in turn. But they pressed on, spraying foliage with rounds to one side and then the other. Such was their ardor and ferocity that the Việt Minh panicked at this outwardly demented assault and pulled back. The passage opened up, carpeted by corpses, and the writhing, cries of pain filling the morning air.

Then, those alive descended as best they could. Some through the gorge, slipping and sliding on blood and trampled foliage, others over the bluffs, inching down *liani* which hung like great ropes from towering trees seemingly sprouting from sheer limestone. Some broke, sending clumps of men to the bottom against the rocks below. One Moroccan, gone mad with terror, simply threw himself over the edge. A young officer for the Africans, Charles-Henry de Pirey, wrote of that awful plummet:

> There a body falls like a dead weight, dragging in its fall another man clinging to the rock … Suddenly, among the shrieks, a still more heart-rending howl, an old bearded goumier, who did not want to let go of the base plate of the mortar of which he was in charge, made the great plunge. The heavy piece of steel brushed us like a meteorite and flattened below an unfortunate man who thought he was temporarily out of danger. The bearded man beat the air with his arms like a disjointed puppet and, after ricocheting, he himself crashed near his murderous burden.[24]

At the bottom, a disorganized herd by now—hardly warriors any longer—scrambled across the valley floor to the ridges opposite and, they hoped, to the safety of Charton's forces. Many were weaponless, firearms cast aside to get down the bluffs. "We were in a vast chaos of rocks covered with stunted shrubs, which we first must cross before reaching the valley," remembered Louis Stein[25]. It was a trek of fifty or sixty meters. Little mercy or compassion remained. "I met a battalion doctor with a wound of the knee," one officer recalled. "He could no longer walk. I tried to comfort him, because one cannot envisage a 'stretcher'. It was now 'everyone for himself' … He asked me to leave his pistol, and to continue. I never saw him again."[26] (This might have been Asquaciati, battalion surgeon for the Third REI, one of Charton's units. He was listed as killed the morning of October 7 on Hill 477 opposite.) Those that found Charton's group were a pitiful lot, frantic, exhausted. Officers tried to rally their men, find weapons and ammunition. A fighting force was keenly needed. Viets had infested the valley

floor and were scrambling up Hill 477 firing and killing on the way. Moroccans looked the worst: shaken, beaten, hardly able to talk—utterly shattered. The escape had emptied them, as if death had been cheated at the cost of all courage and character. And now they were mere vacant souls seeking nothing but distance from horror. They had splashed across the small stream and sloshed through rice fields all the while stepping over dozens of corpses, ripened already and bloated to bursting. The odor of putrefaction had filled the flared nostrils of unnerved men like the specter of damnation overtaking them. Finally, up on hill 477 these raggedy mobs found Charton's numbers and cowered down, cringing at Việt fire, hoping for salvation from troops becoming as desperate as they. Five hundred sixty men escaped Cốc Xá; 560 men now left out some 3,000 troops of *Groupement* BAYARD who had left Thất Khê one week before. Paratroopers alone counted only nine officers and 121 men standing.

Back in the Cốc Xá basin the wounded, now some two-hundred of them, lay about in the elephant grass, faces towards the sky. Suffering yes—dried lips, intense thirst, exquisite pain—but complaining? Not a word. The celebrated legionnaire paratrooper, Roger Faulques, "the man of a thousand lives" was among them.

> I was injured four times in an hour and a half. First a shot to the right shoulder. A second round hit my left elbow. I continued. Another hit in the leg threw me to the ground. There, I took a fourth bullet which shattered my femur.

Leaning against a tree, in the midst of the dead and the dying, Faulques himself prepared to perish. He would lay there for three days, hovering near death until the Việt Minh found him.[27] With the Tabors, 29-year-old *Médecin-Capitaine* Rouviere went from man to man, soothing, calming, always with a smile and kind words. The report was that Rouviere seemed indifferent to the automatic fire that buzzed around him and snapped the branches above his head. He had drawn a Red Cross on a piece of white linen with mercurochrome hoping to signal compassion from the enemy. A young Lieutenant Robert Dequier remembered Rouviere who became angry when the lieutenant would not leave. "I command you to go, do you hear? I demand that you go, it is an order!" Rouviere shouted. Then, according to Dequier's later report:

> He [Rouviere] turned, totally disinterested in me. He stood immobile in the midst of all his dying men. He stretched his hands lightly, as if to show that he had given everything, he waited for the silent wave of the little men with the lantern

> helmets and the dark green outfits that were already outlined at the border of the clearing.[28]

No one ever saw Rouviere again. Some say he was killed by a mortar burst sometime during October 7, hunched over his wounded men. Listed as "*Disparu*" (missing in action), he was formally declared dead on March 4, 1956. Pédoussaut was there as well, himself wounded in the legs by shards from another mortar burst. He lapsed into unconsciousness but was saved from execution by his nurse who held up a Red Cross emblem as the enemy rushed in.

It was far from over. Việt Minh had taken to the opposite heights as well and surrounded Charton's ranks now scattered over five kilometers on the ridgelines west of the Quang Liệt Valley. Charton himself was in trouble. "From daybreak, the general situation, particularly that of my group, worsened in a catastrophic way," he remembered. He had been under constant attack from daybreak October 7 on, assaults sometimes repulsed other times not, driving Moroccan riflemen from their positions. "It was then that the Le Page group arrived in complete disorder, returning to the positions occupied by my group," he continued. Now the situation worsened. Men were literally elbow-to-elbow, such was the crowd gathering. And those little lantern-helmeted men leveled merciless fire on them, "balls whistling from all sides." Charton had enough. He took a group and struck out on his own, picking his way along the ridges. Giáp's crews chased, deftly gliding through thickets, until they had surrounded Charton. Then murder ensued; easy pickings for the Việt Minh, felling many a man at point blank range. Charton himself was wounded and taken prisoner.

Le Page, rooted on Hill 477 and deserted by Charton, saw no escape. He urged his troops to take off, in groups of two or three to try to make it to Thất Khê. Needing no further encouragement, off they went, through wooded ravines, heading southeast, tripping, stumbling, aiming for a hill mass named "608." A covering force of legionnaires would remain behind. All to no avail. Việt Minh pursued like stalking, ravenous beasts. By the morning of October 9 virtually everyone was dead or captured. In that clearing where the end came a witness recalled the scene:

> There was a silence…and a smell…that smell of bodies which comes when there has been a great slaughter. Viet medical orderlies with a cotton mask over their mouths sorted out the heaps of dead and wounded lying on top of one another…the dead were piled up. The wounded were tied

to bamboos and carried by coolies…It was all done without savagery, without brutality.[29]

Brave *Commandant* Segrétain was among the victims. Shot twice in the abdomen, he quickly sank from loss of blood. Ordering his men on, he and two other casualties crawled from the path into underbrush. The Viets found him there, and carried him to their hospital near Đông Khê. He died the night of 7 October.

And with all this bedlam and killing and shame Colonel Constans never left his villa. Not even one fly over. He remained oblivious to the fortunes of his dismantled forces, issuing stupid orders that directed troops into the hells they found themselves, all within the gilded walls of his Lạng Sơn mansion.

And still this massacre would continue.

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Henri Esteve had a proud heritage. His father was a military physician and served with distinction in the Great War. Similarly motivated, Henri qualified for the Naval and Colonial School at Bordeaux in 1943, graduating in 1949. For him it would be colonial service, a member of the *Service de Sante des Troupes Colonial.* As a young *Médecin-lieutenant*, Esteve shipped off for Indochina aboard the *SS La Marseillais* on 24 July 1950. Hardly rugged duty, Henri traveled first-class—private veranda, wood paneling and all—dining on grilled salmon, duck, and beef Cumberland. "The rice will come soon enough," he was warned. Disembarking in Saigon on August 11, he felt that the war "was very close." Indeed, lavish living was over. His assignment would be with the Foreign Legion infantry, the Second Battalion, Third Regiment (II/3e REI). His new duty station: the northern frontiers of Tonkin. Next stop was Gia Lâm airfield, Hà Nội.

Hà Nội was an urban cornucopia of sights and smells, "the city of thirty-six streets." The old *quartier*: stalls peddling cotton, silk, hemp, paper, bamboo, poultry, and jewelry. Innumerable *nhà ông* (tube houses) separated by alleyways, linking neighborhoods. And colonial majesty, the Governor's Palace, the Municipal Theater, the Cathedral of Saint Joseph. But an opulent lifestyle not for long. He was soon whisked off to Lào Cai, near the Chinese border, replacing a fellow doctor by the name of Faugeras. Pays T'ai, a region of rolling hills and terraced emerald rice fields. Meos and Hmongs, "white" T'ais and "black" T'ais inhabited the area, opium more lucrative than rice. Their dress, he observed, was distinctive. Women wore a long skirt that covered the knees, dyed with indigo blue; the richly

seamed bodice was embroidered in different colors according to the tribes. Everyone was barefoot. On the head, a blue turban as well. Some silver jewels. In the T'ai women, the usual attire consisted of a black sarong skirt and a short black or white jacket stapled on the front with distinctive silver, flower or butterfly patterns. That short trip to Lào Cai may have saved Henri's life. He should have been sent to Đông Khê with his legionnaires, but *Docteur* Faugeras needed evacuation from Lào Cai, one of those debilitating tropical diseases, it seemed. Instead, *Docteur* Jean Loup was sent to Đông Khê. The Việt Minh assault beginning on September 16 would bag the lame Loup as a prisoner of war, to later die in captivity.

Back in Hà Nội by 19 September, Esteve was ordered out to Thất Khê to rejoin his legionnaires. An old German Junker 52 took him to Lạng Sơn a few days later and by 3 October, Henri Esteve, after only two months in-country, was at Thất Khê, on the verge of catastrophe. It was at the surgical *antenne* in Thất Khê that he met *Medecin-commandant* Rouchette and *infirmieres* (nurses) Madeleine Henry and Mauricette Lastecoueres. The next day casualties from RC4 between Thất Khê and Na Chăm trickled in.

With word that the columns of Colonels Le Page and Charton were in trouble, a relief force was hurriedly organized—*Groupement* ROSE—two companies of legionnaires. Esteve would go as battalion surgeon. Find the stragglers. Rescue what was left. Two-hundred and seventy men of the *Troisième Bataillon Colonial de Commandos Parachutistes*—3eme BCCP (Parachute Colonial Commando Battalion) were dropped into Thất Khê along with a replacement company of Legion paratroopers, swelling the ranks of *Groupement* ROSE. They left Thất Khê heading north on *Route Coloniale* 4 on October 6. The trek was exhausting, hampered by stifling, humid weather and poor pavement. In the evening Esteve could hear "a ceaseless rumbling of bombs bursting to the north." On a hill rise designated Hill 703 he met the remnants of the 11th Tabor, gaunt survivors, filthy, torn, bandages and medicine almost gone. They had dug fighting holes and trenches, earthen barriers against phantom Việt Minh troops. A new order was issued. All were to pull back to Hill 608, two kilometers away. A consolidation of forces, perhaps, Esteve thought. Then they entered the jungle. "We plunged into a cathedral of luxuriant vegetation." Reaching Hill 608 he set up his aid station alongside the command post, the air musty, thick. And then escapees from BAYARD arrived, "some bearded beings, badly shaved, shaggy, with camouflaged garments in tatters."[30] Goums of the First, Third, and 11th Tabors, some legionnaires of the First BEP, Moroccans. Scattered clumps of men, more refugees than jungle fighters.

Capitaine Pierre Jeanpierre of the paratroop battalion stumbled in, having eluded Việt Minh by wandering through knee-deep streams, his feet and legs now massively swollen. Others followed. Throughout the night Esteve saw them appear, hardly soldiers anymore, simply haggard, bruised, wounded apparitions. "There's so much to do for those guys who are coming back from hell," he wrote.[31] By the next morning Việt Minh had cut them off from *Route Coloniale* 4. They would have to find a way back to Thất Khê through jungle—before being trapped and wiped out. Việt Minh hounded them at every step. For Esteve it became his baptism of fire. The climate, the terrain once again worked its misery. Men stumbled along in the dark, following a creek which should lead to the Sông Kỳ Cùng and on back to Thất Khê. It would become a creek of deliverance. Esteve watched this sorry crowd:

> The thirsty men drink the creek water, contaminated with amoeba. Leeches cling to legs. Wounded, sick, able-bodied all struggle in fits and starts along the water. The forest is dense, tangled, massive bamboo thickets, creepers, enormous leaves, thorny branches. . . Night falls, I stagger . . . but we must grit our teeth. We shall see the end of it, if God and the Viets are willing.[32]

Lining the route from *Pont* Bascou to Thất Khê were airborne troops of the Third BCCP. Việt Minh, by now battalions strong, combed the jungle and cut groups of disoriented paratroopers to pieces. In twos and threes, the remnants of *Groupement* ROSE staggered back to Thất Khê, legionnaires now at wit's end, Esteve and his medical team among them. At Thất Khê the tired *medecin-lieutenant* lent a hand in the surgical *antenne* sorting through the sorry lot of beaten, bludgeoned troops, finding those bad enough to need urgent evacuation. There were so many sick and wounded that the entire post became a hospital. He remembered sending fifteen casualties out but there were probably many more. Most injuries seemed relatively minor. All serious wounds—the kind that drops men to the earth—never made it back, dead or finished off in the bush. By the evening of October 11 everyone was to leave Thất Khê for Lạng Sơn. Shaken commanders feared Việt Minh would break through and overrun the village. "*l'ambiance est detestable*" (the mood is detestable), he wrote[33]. Female nurses Madeleine Henry and Mauricette Lastecoueres had been offered a ride out by plane the day before but staunchly refused, never thinking of abandoning their patients. Without sleep for at least 48 hours, Esteve left with other members of the medical team, including the two *antenne* nurses. He watched them. They were amazing. Never a complaint.

Not a hint of fatigue. Wading through creeks, stumbling down narrow footpaths, they only stopped to give aid to their patients, most of whom were in feeble shape. And all this in absolute blackness. It was galvanizing for others. Brave women. Who knew if, in the next moment, Việt Minh would dart from the bush, weapons at the ready. Had they been captured, Henry and Lastecoueres certainly would have been brutalized and then killed. Esteve was not sure they carried them, but It was not unheard of for female nurses to be given capsules of cyanide to bite into should they be taken captive.

On 12 October, this mangy group of desperados arrived at the next village, Na Chăm. That evening all piled into trucks for Lạng Sơn. In Lạng Sơn Esteve's friend Pierre-Marie Niaussat was appalled at what he saw. Casualties simply slumped where they could—his hospital was now full of them. Most were dazed, broken, mumbling about an ordeal which they still could not comprehend. Esteve was a wreck too, feet inflamed, blistered, and bleeding, the result of 70 kilometers of foot travel in streams up to his thighs, thrashing through teeming vegetation, stooping under branches and over roots. He was wasted. A blank stare told of sleepless nights and fears of a butchered death.

Indeed, others were not so lucky. The Third BCCP would be wiped out. Ambush after ambush, sudden vicious firefights, encirclements, snipers, grenades, were simply too much. The Việt Minh fighters seemed everywhere—in front, in back, to the sides. It was as if they arose from the jungle floor itself. More frustrating was the fact that they could never be *seen*. Burst of submachine gun fire, the crack of a sniper's rifle, the sudden detonation of a grenade were the only evidence of their presence. How could they be so adept at camouflage? Frantic attempts to reach Lạng Sơn would be for naught. Few would make it. By October 14 it was over. This group of elite commandos had all but disappeared. Only nine French and five Indochinese of the original 268 men returned. By October 18, sensing a looming Việt Minh presence outside of Lạng Sơn (actually, the Việt Minh would have no interest in extending their victory), in one of his so-called "ridiculous concerns," Colonel Constans, the impetuous, ill-informed recluse, announced that this major fortress—this anchor in defense of the northeast frontier—was to be evacuated. And, what was more astounding, he ordered enough equipment, ammunition, and supplies left behind *undisturbed*—including 125 mortars, almost 2,000 machine guns, 8,000 rifles, and almost 12,000 tons of ammunition—to equip a full Việt Minh division (which, on entering Lạng Sơn, they promptly did).

The ordeals of those October days in 1950 were some of the worst in all of French military history. Let alone the numbers of dead, the failure to rescue those pitiable victims of battle, those prostrate forms lining roadsides and carpeting jungle floors, this would be the legacy of Le Page's expedition. The quiet *adieus*, an unspoken awareness of their fate—almost a guaranteed death sentence in captivity if they were not executed on the spot—this would haunt many a survivor. It had been a grim task indeed walking away from the damned.

Giáp had paid, too. His victory came at a cost. The French had been tenacious fighters. Many *bộ đội* lay lifeless on the same ground as legionnaires. And the wounded were now at the mercy of his doctors and his hospitals. Hồ Chí Minh had insisted his soldiers be given the finest care available. "Civil servants" were recruited for stretcher-bearers. Aid stations—makeshift shelters—had been set up close to *Route Coloniale* 4. Wounded were collected here, examined, and prepared for further transport. Surgical field hospitals were located, first, near the Chinese border, but had been uprooted and moved west to follow Giáp's regiments towards Thất Khê and Lạng Sơn. The surgical station for the 209th Regiment relocated near Đông Khê, while the station for the 174th Regiment moved all the way west and south to near Na Sầm, just off the highway. But they were still dozens of kilometers away from the front lines. Việt reports spoke of bitterly long transport times. In the hilly terrain bordering *Route Coloniale* 4 transfer times were outrageous, often hours of tedious travel on foot if they were able, or by bamboo stretcher carry. Some had to cover eight to ten kilometers before seeing a physician. Even with the assigned 40 stretcher-bearers per battalion, there were not nearly enough for all the badly wounded. Some injured were hoisted over mules and donkeys, strapped in, and endured a perilous, wobbly ride kilometers up and down hills, across streams and through clinging vegetation. And always, always leeches, ants, mosquitoes, heat, and pain.

With such obstacles only 10 percent of wounded arrived before six hours. The vast majority, 70 percent, took more than 12 hours. Most wounds, over 80 percent, were to arms and legs—fractures, torn muscle and skin—fragmentation wounds they were called. Grenades or bullets were a common source: survivable, even with several hours delay in treating. Cleansing and debriding had to be thorough, though, infection in dead and damaged muscle always a threat.[34] But their numbers were enormous, many more than Giáp and his officers had anticipated. Field hospitals received more than 1,500 wounded each, literally overwhelming surgical staffs. Only a fraction of that had been expected, maybe 2,000 or 2,500

casualties *in total*. These small jungle hospitals overflowed. And for the critically ill, those who actually survived the trip, selection for surgery had to be prioritized. There were simply too few surgeons. Fatality rates soared, said to reach 30 percent. Travel was too difficult, time too long, their numbers too great.[35]

Giáp learned a lesson here. His hospitals must be closer. The moans of the dying lent a tragic requiem along footpaths back from his stunning victory. Hồ Chí Minh had stressed medical care for his wounded soldiers. Would there be enough surgeons, water, and medicines? He would demand much of his legions of young men, even martyrdom. The daring human wave attacks that would prove so intimidating were expensive tactics. The human carnage would be appalling. Those who survived these onslaughts and were pulled free needed the best of care—in his mind they were heroes of the revolution. For this "Uncle Hồ" would count on tireless service of his faithful doctors. Move them up, he would admonish, follow the troops, share the jungles and ravines and hills. Shoulder the bombs, the heat, the ravenous appetites of Tonkin's wilderness. Deliver miraculous cures.

As for the stretcher bearers—these civil servants—they were actually members of the new *Thanh Niên Xung Phong*, the so-called youth volunteer "shock" brigades. Mostly teenagers, they enlisted with the dreamy desire to devote "body and soul" to Hồ Chí Minh's revolutionary government. Over half were women and the majority from urban areas around Hà Nội. At first, they were sent to the northeastern frontier, near the Chinese border, to keep roads open and transport weapons and food. This was an onerous task. All provisions were hand-carried over barely passable trails. For the tonnage required thousands of people were needed. And in September and October 1950 some had fallen victim to French air strikes and mortars.[36] But even outside of combat wilderness life could be brutal. Female volunteers in particular, many of whom had never been away from home, faced a stark existence braving downpours, hunger, lice, leeches, meager rations and bad water. Lack of bathing and effects of dysentery affected all aspects of hygiene—hardly tales of heroism or glamour. "Malaria, hair loss, eating raw, forest vegetables, many of my friends have fled. We had to hew a bloody path [into a village] just to have people cook rice porridge for us," former youth brigade member Lê Anh Tòng remembered decades later.[37] Surgeon Lê Cao Đài, who at times accompanied these youths, would report afterwards "we counted thirty-two ways to die: by bombs, drowning, snake bites, mushroom poisoning, trampling by an elephant, being hit by a stray bullet."[38]

Make no mistake. The unquestioned losers were the French formations. The catastrophe on *Route Coloniale* 4 was unparalleled and marked a turning point in the Indochina war. No longer were the Việt Minh a ragtag group of guerrilla fighters. They had demonstrated tactical savvy and formidable firepower. Leadership had switched from small group to battalion-size maneuvers. Above all, the Vietnamese soldier was a determined, resilient warrior. He knew his country and had no compunction throwing himself at the enemy in whatever role his commanding officers determined, even if it meant almost certain death. There was no individuality in this communist army. For the French there would be no return to the frontiers. These lands were now firmly in the hands of Hồ Chí Minh, and his access to the Chinese borders was unrestricted. Training, supply, and advisory leadership from Mao Zedong's Chinese troops were mere kilometers away.

Once again, infantry was sent on a mission without adequate support or means of reinforcement or resupply. The wilds of northern Tonkin were notorious for isolation, confusion, and disorientation by those unfamiliar with the terrain. The absence of adequate medical support was catastrophic. Men needlessly died because they lacked adequate resuscitative care and no way to evacuate. For tactical units deployed deep into enemy territory, as the Indochina War demonstrated time and again, medical assets were key to life-saving interventions and would immensely help morale. The absence of this asset along Route Coloniale 4 must have proved disheartening for trapped soldiers.

Notes

1. Hubert Lyautey, *Lettres du Tonkin et de Madagascar (1894-1899)*, Volume 1 (Paris: A. Colin, 1920), 90. Lyautrey was Général Joseph Gallieni's right-hand man in Indochina, traveling the country widely with him. See Barnett Singer and John W. Langdon, *Cultured Force: Makers and Defenders of the French Colonial Empire* (Madison: University of Wisconsin Press, 2004), 186-191.

2. Charles-Édouard Hocquard: *Une Campagne au Tonkin* (Paris: Hachette et Cie, 1892), 400.

3. Édouard Diguet, *Les Montagnards du Tonkin* (Paris: Augustin Challamel, 1908), 1-11.

4. Lyautey, *Lettres du Tonkin*, 138.

5. Charles-Henry de Pirey, *La Route Morte: Indochine RC 4—1950 (Paris: Indo Éditions, 2010),* 75.

6. Shrader, *War of Logistics*, 208.

7. "Témoignage de Madame Talon, Infirmière" in Maurice Poitevin, *Quelques Témoignages sur la Guerre d'Indochine de 1946 à 1954*, Chapter IV (Toulouse: Société d'Histoire de Revel Saint-Ferréol, 2011).

8. Bodin, M. "L'engagement des Femmes Durant la Guerre d'Indochine 1945-1954" *Guerres Mondiales et Conflits Contemporains* 198 (2000): 137-147. French *chasseurs* were light infantry who often traveled in armored vehicles—so-called "mounted" or mechanized infantry.

9. Văn Việt Đặng, *De la RC4 à la N4: la Campagnes des Frontières* (Rouen: Bibliothèque du Capucin, 2000), 29.

10. Lucien Bodard, *The Quicksand War: Prelude to Vietnam* (Boston: Little, Brown and Company, 1953), 57-58 including quotes (Bodard, 1953)

11. Mandaley Perkins, *Hanoi, Adieu*, (Sidney: Fourth Estate, 2005), 54.

12. Graham Greene, *The Quiet American* (New York: Penguin Books, 1955, 2004), 57.

13. Pierre Guidicelli, *Médecin de Bataillon en Indochine, 1947-1951*, (Paris: Éditions Albatros, 1991), 107.

14. Henry Distinguin, *Une autre Indochine: Mémoires Retrouvées* (Paris: La Pensée Universelle, 1992), 30.

15. Distinguin, *Une autre Indochine*, 31.

16. See Jian, C. "China and the First Indo-China War, 1950-54" *China Quarterly* 133 (1993): 85-110.

17. *Lịch Sử Đảng Cộng Sản Việt Nam: Trích Văn Kiện Đảng, 1920-1954* (Hanoi: Truth Publishing House, 1984), 602.

18. With French colonial expansion into North Africa in the 19th Century, the French Army relied heavily on native troops to augment forces from the Metropole in policing their far-ranging colonies. *Goums*, fierce tribal warriors predominately from the Chaouia region of coastal Morocco, were created in 1908. Their policing function gradually morphed into a role as a recognized

fighting force. The word "goumier" apparently comes from the Arabic word "qum," an order to stand up. *Tirailleurs* were Moroccans tribes from inland, areas like Fez, El Hajeb, and Arbaoua. Like Goumiers, Tirailleurs were organized for Moroccan pacification purposes, but, by the 1930s became recognized combat units in the French Army. See Maghraoui, D "Moroccan Colonial Soldiers: Between Selective Memory and Collective Memory" *Arab Studies Quarterly* 20 (1998): 21-41.

19. Marcel Le Page, *Cao Bang: La Tragique Épopée de la Colonne Le Page* (Paris: Nouvelles Éditions Latines, 1981), 140.

20. Le Page, 128.

21. Le Page, 139.

22. Pierre Pédoussaut "Témoignage du Médecin-Capitaine Pedoussaut" *Trait d'Union* (Numéro Spécial Commémoration) (2000): 1-14, quote 13.

23. From: *A History of the Cryptographic Branch of the People's Army of Viet-Nam 1945-1975*, National Security Agency, 1994, p. 46.

24. de Pirey, *La Route Morte*, 151-156 .

25. Louis Stein, *Les Soldats Oubliés: De Cao Bang aux Camps de R*éeducation du Viêt-minh (Paris: Albin Michel, 1993), 58-62.

26. Mémoires du Colonel Jacques JAUBERT http://jaubert.chez.com/indchine.htm, accessed November 12, 2017.

27. From Marc Dupont, *Roger Faulques: L'Homme aux Mille Vies* (Paris: Indo Éditions, 2017) including quote. Faulques was eventually taken by the Việt Minh to That Khé and, fearing that he would die, released him to the French. Faulques recovered, attributing his survival to the maggots which ate the dead flesh from his wounds.

28. Le Page, *Cao-Bang*, 183-184.

29. Bodard, *The Quicksand War*, 307-308.

30. Henri Esteve, *Médecin Sur la RC4* (Paris: Indo Éditions, 2003), 64-67.

31. Esteve, 65.

32. Esteve, 67.

33. Esteve, 71.

34. Although not certain. High velocity firearms shattered extremity bones—humerus, femur, tibia—along with nerves and arteries. Putting all this back together was time-consuming and demanded expertise—and luck. Even then limb survival was not assured. Some broken and insensate extremities in due course fell victim to the amputation knife.

35. Phạm Văn Hựu [Ed], *Lịch sử quân y Quân Đội Nhân Dân Việt Nam* (Hà Nội: People's Army Publishing House, 1991), 228-230

36. Guillemot, F. "Death and Suffering at First Hand: Youth Shock Brigades During the Vietnam War (1950-1975)" *J Viet Studies* 4 (2009): 17-60.

37. Kim Anh: *Nước mắt ngày hội ngộ tuổi trẻ* :TNXP; https://tnxp.wordpress.com/tag/nuoc-mat-ngay-hoi-ngo/ accessed 3/2/2018.

38. Lê Cao Đài, Ç›était a*u Tay Nguyen: Journal de Guerre d'un Chirurgien Nord-Vietnamien, 1965-1973* (Hanoi: Thế Giới, 2006), 143.

Chapter 5

Chirurgiens à l'avant

Surgeons at the Front: Autochirs and Antennes[1]

France's Indochinese War would serve to cement the importance of forward surgical care in battlefield conditions, a no more striking of a demonstration than in the wildernesses of Tonkin. It was not a new concept. Surgery near the frontlines had come of age during the Great War of 1914-1918. Gone were the days of simple wound cleansing and bandaging. Weapons of modern war had seen to that. The high velocity rounds of machine guns and rapid-fire small arms tore into bodies with a violence never before witnessed. Muscles tore, bones shattered, and guts disintegrated. The effects of high explosives, sending shards of metal at supersonic speeds slicing into men were even more mangling. Limbs tore off or were left dangling, holes were gouged in chests, abdomens, and skulls. If not promptly trimmed away, washed out, and irrigated with antiseptics, ugly, dangerous gangrene was almost sure to set in, and the patient would have little chance of survival.

Hemorrhage and gut wounds were the nemesis of combat injuries. Yes, there were more lethal ones, those that exploded head, skull, and brains or those that tore through windpipe, or those high-energy blasts that ripped off legs and arms with almost immediate exsanguination. They were unsalvageable, laying as heaps of meat beyond recognition or hope. But men who had injuries to limbs or torso that slowly bled and bled or leisurely leaked intestinal juices, those were the reparable. But only if quick action was taken. Shock was the consequence of hemorrhage. Shock emptied blood vessels of their vital liquid and depleted the heart. And the vigorous heart muscle as the supreme pump soon had nothing to pump. Blood flow ebbed to heart and head and both those critical organs failed. Life receded. Of the gut, those feculent juices of bowel and colon spilled toxic bacteria around the abdomen cavity. Inflammation and infection roared. Sepsis spread by bloodstream and prevailed. The body would not soon cope and there life, too, would recede. These were the conditions treatable. Stop the bleeding and control bowel spillage. Surgeons could do this. Forward surgical units could handle this. Two World Wars had shown it. Even in the mountains and jungles of Indochina, this could happen. And by 1950 both French and Việt Minh surgeons knew it.

Such aggressive surgery could not wait. Hours of delay would be equally dangerous as no surgery at all. Time was of the essence in ridding

wounds of those deadly bacteria that gave rise to gas gangrene. Early in the Great War, injured men received the most perfunctory of attention at *postes de secours*—first aid posts—where the first doctors were stationed. With a simple, and usually quick, examination the casualty was tagged for the rear and might wait hours before transportation could be arranged. This is on top of hours he may have lain in trenches or "no-man's land" before he was rescued. At the first surgical posts, some kilometers to the rear, young, often inexperienced surgeons would remove bandages, look again at the wounds, stop any bleeding, re-dress the injuries and, if more surgery was needed, package and send the sorry soul further to the rear. It would not be until they reached urban hospitals that any meaningful surgery—cleaning, paring away, cutting, sewing, repairing—was done. By this time the critical casualty was often *in extremis*, in shock, infected, and close to death.

After countless deaths from shock and gas gangrene in the opening months of the war doctors soon realized the futility of orthodox doctrine in wound care. Those clean gunshot wounds of the previous Century were gone. New weaponry would force a change in ideology. Surgery had to be radical in these men, now, and had to be done at the first opportunity. Moreover, experienced surgeons were needed, not those fresh out of training or with no training at all. Surgeons needed to be near the front lines, almost within range of artillery, to begin their knife-wielding cleansing, a process called *débridement*, the opening of skin and exposure of deeper tissues to determine the extent of injury. All dead, bruised muscle and bone must be carved away; dirt, vegetation, clothing, and metallic fragments removed. The wound was washed with antiseptic solution, and frequently, for a few days, left open, the skin gaping apart. The Belgian surgeon Antoine Depage and French surgeon Rene Lemaitre popularized this, which drastically reduced the rate of gas gangrene.[2]

The Great War had provided the first inkling of potential. French *médecin inspecteur général* Alfred Mignon brought his surgeons to the front—surgeons adept at swift operations and skillful with devastating injuries. He quickly endorsed the mobile surgical teams proposed by the little-known Parisian doctor Maurice Marcille and the renowned surgeon Antonin Gosset and brought them to the Verdun front as an experiment in early surgical care. With the calm thoroughness that Gosset provided, the surgical unit, called *automobiles chirurgicales*, or *auto-chirs* for short, performed flawlessly. Numbers of gravely wounded men were cared for quickly and efficiently. The proper surgical methods were applied, and many were saved.[3]

Forward surgery now had its believers. The Marcille-Gosset *auto-chir* mobile surgical unit was workable and effective. Gosset continued to modify these mobile teams, his most familiar form was called the *Ambulances chiurugicale automobile*, (ACA). While each differed in size and complexity, their basic principle was a self-contained surgical formation with surgeons, assistants, nurses, and workers to maintain the equipment. Twenty-one were in service by September 1915. However, they were so cumbersome that mobility suffered. Some Army commanders referred to the ambulances as "eight-ton monoliths." Further refinements were done to streamline efficiency. By the end of the war in 1918 a modular *auto-chir* concept seemed to work best. Surgeons, staff, and equipment could be added or subtracted depending on the mission.[4] Specialized teams of surgeons, *groupe complémentaire de chirurgie*, could move forward on short notice to provide surgical services in times of heavy casualties. In fact, smaller sections of *Auto-Chirs* the *ambulance chirurgicale légère*—the "light" surgical units –would detach and go farther forward, even as far as some *postes de secours*—first aid posts—and provide immediate care They would acquire a different name: "*antennes*," the mobile medical "tip of the spear" for battlefield care. They would become literal surgical outposts Surgeons of these teams were expected to be not only *actifs et vigeurex*—active and vigorous—but skilled in their own right. Young University surgeons were particularly sought after. All in all, *Auto-Chirs* of whatever configuration now provided that essential early surgical care. Admitted patients were examined, and if surgery was needed, they were sent straightaway to the *auto-chir*.[5] For those with grave wounds it could be life-saving. *Médecin-Colonel* Joseph Maisonnet expressed it almost poetically: "Surgery at the front is the spontaneous *élan* of the surgeon towards the wound."[6] And none other than that staunch icon of Nineteenth Century French surgery, Edmond Delorme, was now a fierce proponent:

> These "operational field hospitals…"receive almost exclusively our serious wounded, and especially those whose injuries require surgery…to operate our serious wounds at the very beginning. Here is the hallmark of our organization [autochirs]: to bring the injured as quickly as possible to the hands of a trained surgeon installed with all the resources…to operate as soon as possible, as close as possible to the front.[7]

The system was in place 20 years later when the German *Blitzkrieg* stormed through the Ardennes Forest and rolled over French defenses. Division ambulances were supposed to provide triage and emergency care, sending more serious wounds to first tier evacuation hospital that now

contained surgical teams akin to *Auto-Chirs*. Further to the rear were the second-tier evacuation hospitals, housing up to 3,000 beds and containing almost all medical and surgical specialties. The aim, of course, was to keep lightly wounded nearer the front where they could be quickly returned to duty and prepare more serious casualties for evacuation. A continuous flow towards the rear would theoretically prevent clogging of forward ambulances. The lightening advance of German armor, though, sent the system spinning. "This ideal scheme would not work. Because of rapid troop movements, those evacuated to the rear overloaded the system and jeopardized their withdrawal. Complete confusion followed."[8] The French army was burdened by ponderous, immobile surgical hospitals not designed for the mobility of modern warfare and based on experiences during the last war. The pitiful retreat from Sedan was one of complete disorganization.

With the fall of Tunisia and capitulation of *Vichy* French forces in North Africa in 1943, a major reorganization of the (Free) French Army occurred, including evolution of the French Air arm. In October 1943, a medical-surgical *ambulance de l'air* was conceived and implemented for the expressed purpose of "[meeting] the particular needs of formations, units, and services of the air force in operations." Included in this mission, of course, was support for ground forces as well. The first such unit, *l'Ambulance medico-chirurgicale de l'air* (AMCA) 401 was able to transport 100 beds, seven physicians, and 76 support staff. The entire unit could be deployed within hours under its own tentage or using pre-existing buildings. The usual location was close to landing fields in order to provide medical support in military operations far from other hospital facilities receiving casualties fresh from the battlefield. The *ambulance* landed with the Allied invasion of southern France in August 1944 and set up in the town of Meximieux to support the French First Army. In December 1944, a forward surgical *antenne* composed of two physicians, a pharmacist, a dentist, and five nurses was detached from the *ambulance* and accompanied ground troops in their push into Alsace. The *antenne* packed into five trucks, two cars, and one jeep for their journey, setting up in Strasbourg, using an already furnished children's clinic. In two weeks the *antenne* processed almost 500 casualties, stabilizing and evacuating 240 to rear hospitals and sending the balance back to their front-line units. The German Ardennes offensive in late December drove the *antenna* in retreat back to its base in Meximieux. After the German drive was stopped and Allied armies resumed their offensive, the entire AMCA 401 accompanied French forces across the Rhine into Germany. Foretelling a role in Indochina, the unit was ready for the sickest, where zealous infusions

of plasma and blood were hung and clipped invectives colored the urgent pursuits of doctors intent on reversing lethal spirals of deepening shock.[9]

"The war in Indochina was essentially a war of infantry," so commented *Médecin-General* Regis Forissier.[10] Over 50 percent of troops of the expeditionary forces were foot soldiers. For the French it would be a war of wildernesses—mountains, hills, and rivers—and few roads worthy of the name to traverse. So medical care would largely be "on foot." The battalion was the tactical unit of choice. Infrequent were entire regiments deployed as a group. Each combat battalion was assigned one physician and some (male) nurses—*infirmiers*—with a modicum of first aid training but, in many cases, unaccustomed and unfamiliar with the "urgency of the battlefield." The battalion-level physicians were generally eager and well-motivated. In the wilds of Indochina, they were crucial in maintaining health standards and hygiene but were selfless in their determination to provide what battlefield care they could to casualties. Triage, the prioritizing of injuries, was probably the most critical factor for any physician in the field. Identifying the case that needed urgent care weighed most heavily. Ignore subtle signs and findings, and condemn a soldier to inevitable demise. Remove too many from combat, and risk impairing the fighting ability of the unit, imperiling everyone.

For the CEFEO there would be three types of fixed health facilities. Base hospitals—Lanessan in Hà Nội; Ciais in Hải Phòng; Grall, Le Flem, Coste, and Roques in Sài Gòn—would provide all types of specialty care and would be the final destination in Indochina for seriously wounded men. The *hôpitaux chirurgicale*, located in Nam Định, Huế, Tourane, Đồng Hới, Nha Trang, Dalat, Mỹ Tho, Vĩnh Long, Cần Thơ, Cap Saint Jacques (Vũng Tàu), Biên Hòa, Phnom Penh, and Vientiane, although light on equipment, allowed sufficient emergency interventions for stabilization and transfer to base hospitals. Thirdly, were the *infirmiers hôpitaux* (nurses' hospitals), responding to medical emergencies and located in Quảng Trị, Phên Thiết, Phan Rang, Pleiku, Paksé, Savannekhet, and Thakhek.[11]

Pressure would be eased—and morale substantially improved—with the presence of field surgical teams configured to deliver quick and decisive resuscitative care. Each would be staffed from the base hospitals. *Médecin-Commandant* Claude Chippaux immediately recognized the advantages. Fortified posts littered the landscape. These were those tenuous French ventures at pacification and intimidation miles from civilization. Encampments could be battalion-size or larger, like the fortified *base aéroterrestre* at Nà Sản. No surprise, they inevitably became prime targets for the Việt Minh. Vicious firefights would erupt, defenders often outnumbered and surround-

ed. Wounded had no recourse but settle for emergency aid and hope. To address this eventuality weighty *groupes chirurgicaux mobiles* (mobile surgical groups) were attached, to move with expeditionary forces on their field campaigns, better suited for flat delta areas. Three were formed, each with nurses and surgeons. With loads of equipment, they simply proved too ponderous for mountainous forays. A slimmed-down version, a compact surgical outpost—a small *antenne*—seemed an ideal solution, Chippaux thought. Two varieties were designed: the *antenne chirurgicale avancée* (abbreviated ACA) for land-based maneuvers, and the *antenne chirurgicale parachutistes* (ACP) for airborne campaigns. They would be based at one of the main military hospitals, either in Sài Gòn, Hà Nội, or Hải Phòng, rotating every three months in the field and then back to "civilization" and hospital duty.

The ACAs and ACPs were staffed by young assistant surgeons—those with some surgical experience but not fully trained—of the rank of lieutenant or *capitaine*. There were two nurses to assist him; one acting as an anesthetist and the other as a surgical technician. A chief nurse, a sterilizing technician, and five other nurses rounded out the clinical team. By truck, amphibious craft, or Dakota aircraft the *antennes* carried enough equipment to handle up to 100 casualties. Twenty could even be hospitalized on portable folding cots. Tents, instruments, cots, stretchers, operating tables, sterilizer, medicines, and dressings totaled 3,500 kg (almost four tons) for ACAs and slightly more than two tons for ACPs. Five functions were essential: first aid to patients brought in directly or through the battalion aid station; prophylaxis against infection with antibiotics and anti-tetanus toxoid; combating shock; performing necessary interventions for surgical crises; identification of patients in need of evacuation. Surgeons would condense this into three maxims: *trier, réanimer, évacuer*—evaluate (triage), resuscitate, evacuate, and, if absolutely necessary, operate. Those with bleeding vessels needing quick ligation, urgent tracheostomies to restore airways, open chest wounds, and amputations for those in whom a tourniquet was not controlling hemorrhage.[12] Physicians selected for these units needed to be very familiar with those kinds of procedures, as they were likely to be called upon to perform them under battlefield conditions. raining in the larger urban hospitals in France or Indochina would provide those skills. Only the hardiest of physicians were selected. As *Medecin-Colonel* Boron summarized:

> It is scarcely necessary to insist on choosing those personnel who must be in full physical integrity, fatigue being cruelly and quickly felt. Moral qualities also play a prominent role. It is necessary that this small number of human beings can,

> whatever the circumstances, be able to do as much as possible for the best outcome of the wounded.[13]

Parachutists of the ACPs were particularly motivated. Doctors of the "high plateaus" were a different breed, it was said, than their counterparts in the flatlands. Apart from the danger of enemy encounters, the mountain *médecins* walked the hills to meet burley oxen and tigers—and rice fields, rivers, forests, floods, limestones, and caves. "You will return a doctor, a soldier, a man, or you will return disillusioned, embittered, and branded," the saying went.[14] These were unique individuals, part doctor and part soldier. They were not afraid of the rigors of the field nor of the prowling presence of an enemy intent on killing them.

The key, of course, to the entire concept of early care was stabilization and evacuation. No intricate surgical repair would be done in these sandbagged enclaves; resuscitation, yes, but this was usually a far cry from salvation. The idea of opening a chest or abdomen—thoracotomy or laparotomy—was ludicrous under combat circumstances: bone-jarring explosions, no suitable general anesthesia, poor lighting, filth, inexperienced help, and the nervousness of battle itself.[15] More practical were delivery of blood and fluids, control of external bleeding and evacuation. Hà Nội—Lanessan Hospital—was the ultimate destination. But in the far mountainous reaches of Tonkin, removal of wounded by ground conveyance was distinctly unpleasant, time-consuming, and hazardous. Dodge ambulances traveled at a snail's pace up and down precipitous roads, often stopping for sabotaged cratering or simple wash-outs from monsoon rains. Hours, if not days, would be consumed in the effort. Air evacuation held the only reasonable option. Chief surgeon Chippaux succinctly expressed this reality of the Indochina War and hinted at the fragile liaison of these aircraft to deliverance of the wounded:

> The experience lived in Indochina from 1945 until the end of hostilities in July 1954 underlined the paramount importance of aerial evacuations…The type of combat supported this point: scattered, sporadic actions over vast hilly, mountainous, or delta spaces, with few and militarily uncertain roads.[16]

At the beginning of the War, aerial transport assets were meager. The term *squelettiques*—scrawny—was used by Chippaux. Basically, it was non-existent. Sporadically, use was made of single engine Morane-Saulnier 500 aircraft flying one casualty at a time from remote dirt airstrips. Soon Dakota C-47s arrived and became the workhorse of the aerial logistical arm capable of carrying eighteen stretcher patients at a time. A

medical assistant, called by the French a *convoyeur*, even rode along. In 1950 two flimsy Hiller Model 360 helicopters with their bubble plexiglass cabin were brought in. The Hiller had first been flown in 1948 and jokingly came to be called the "Hiller killer" by trainees. In April of that year Lieutenant Alexis Santini, after a mere 28 hours of flying time, took two injured paratroopers to Saigon in his Hiller, each litter strapped precariously to either side of the cockpit. The second would be flown by neurosurgeon-turned-aviator *Capitaine* Valérie André who took to the air in October, 1950. She became famous for her mercy flights to the fringe of the battlefield, cooly landing under fire to retrieve critically wounded. She would log 129 missions into combat, sometimes flying without fighter escort, and, on occasion, actually stopping in "hot" landing zones to put her surgical skills to work on wounded she was tasked to evacuate. "Shooting broke out everywhere" she remembered on one particular occasion, landing near near Thái Bình. She figured enemy guns were no more than 100 meters away. André, soon to be called "*Madame Ventilateur*," would be credited with saving the lives of 170 injured men.[17]

Yet, the smallish Hillers lacked the power to operate except in the flat delta regions and around Saigon. And little could be done for the defenseless injured hanging outside the cockpit. Stability was a must, and chest injuries were prohibited from traveling. Nor were those in shock or with tourniquets allowed.

In October 1953, 18 larger, sturdier Sikorsky S55s were delivered, able to transport six litter cases. Their reach included all of Tonkin, powered by a 700hp engine good for four hours of flight time and a 500 km range. Notably, in the fuselage of these helicopters a *convoyeur* could accompany, capable of some in-flight aid. By the end of the conflict in 1954 11,193 wounded had been evacuated by helicopter in almost 10,000 hours of flight time. Indeed, for a time, they would be used at Điện Biên Phủ, before Giáp's antiaircraft gunners had ringed the valley fortress. These ungainly beasts of mercy would descend in a benevolent fury, giant rotors beating the air as if in a triumphant arrival to whisk away those already defiled by the awfulness of this ugly war.

While accomplishing singular achievements in the emergency care of combat wounded, *antennes*—ACAs and ACPs—would only work in Indochina if the air-link remained unbroken. Otherwise, they could become lurid places of misery and suffering, soon exhausting medicines, dressings, and space. Both early surgical care and quick evacuation of wounded to more robust echelons of medical care were equally vital to survival. If not removed, the sight of grievously wounded men, pitiful in their moans

and flailing physiology would tax the equanimity of even the stoutest of doctors. Not lost on the fighting man, the sagging resources of medical care spoke of an inevitability that dampened *esprit* and tested the resolve to resist. And the geography of Indochina provided obstacles to any type of evacuation. Roads were of poor construct and bordered by thick jungle perfect for ambushes and air evacuation depended on adequate landing zones—even by helicopter—and absence of enemy antiaircraft capabilities. It was a precarious adventure and could prove deadly to ambulance crews and already injured patients.

Notes

1. See also Thomas S. Helling and W. Sanders Marble, "Surgeons to the Front: Twentieth-Century Warfare and the Metamorphosis of Battlefield Surgery" in Paul E. Berg [Ed] *The Last 100 Yards* (Leavenworth: Army University Press, 2019), 191-209.

2. For further discussion see Helling, T.S., Daon, E. "In Flanders Fields: The Great War, Antoine Depage, and the Resurgence of Débridement" *Ann Surg* 228 (1998): 173-181.

3. For a more extensive discussion of Mignon's role in forward surgery, see Thomas Helling, *The Great War and the Birth of Modern Medicine* (New York: Pegasus, 2022), Chapter Two.

4. Plisson, M. *"*Un Groupe Chirurgical Mobile*" Bulletin de l'Académie Nationale de Médecine*, 78 (1917): 362-366.

5. Syrmen, E. "L'organisation Actuelle du Service de Santé en Campagne, *Mercure de France*, 132 (1919): 639-640.

6. Maisonnet: École d'*Application du Service de Santé Militaire: Cours de chirurgie de guerre*: 4eme Lecon—Principes directeurs de l'organisation chirurgicale.

7. Delorme, *Les Enseignements Chirurgicaux*, 201.

8. Lefebvre, P., Giudicelli, C., Didelot, F. "Le Service de Santé Militaire à la Veille de la Campagne de France en 1940,» *Hist Sci Med* 24 (1990): 173-178.

9. Timbal, J. "L'ambulance Medico Chirurgical de l'Air 401 d'Alger à Mengen, Octobre 1943-Juillet 1945" *Med Aero et Spatiale* 46 (2005): 9-13 ; and Timbal, J. "Le Service de Santé de l'Armée de l'Air Pendant la Deuxième Guerre Mondiale,» *Rev Hist des Armées* 250 (2008): 108-119.

10. Forissier, R. "Le Service de Santé en Indochine," *Rev Hist des Armées* 4 (1989): 3-16.

11. Extrait du Rapport no. 1006/C.C. du 20 Mars 1953 sur le fonctionnement des Service Chirurgicaux des F.A.E.O. pour l' année 1952, fonds 10H 2002, SHD, Paris.

12. Extrait du Rapport no. 1006/ C.C. du 20 Mars 1953 sur le Fonctionnement des Services Chirurgicaux des F.A.E.O. pour l'Année 1952, Fonds 10H 2002, SHD, Paris.

13. Boron, M., Valnet, M. "Les Antennes Chirurgicales en Indochine" *Rev Corps Santé Mil* 10 (1954): 79-88.

14. Petchot-Bacque, A., Lemoine, R. "Quelque Réflexions sur la Médecine de l'Avant aux T.F.E.-O. " *Rev Corps Santé Mil* 9 (1953): 79-87.

15. In truth, of all the impediments to successful abdominal or chest surgery (or any surgery, for that matter), lack of proper lighting is most critical. "One cannot fix what one cannot see," as the axiom went.

16. Chippaux, C., Salvagniac, A., Lapalle, R. "De l'Évacuation des Blessés par Voie Aérienne au Cours de la Campagne d'Indochine," *Médecine Aéronautique* 11 (1956): 227-239

17. Valerie Andre, *Ici Ventilateur* (Paris: Calmann-Levy, 1954), 63. In French parlance, helicopters were loosely referred to as *ventilateurs*—ventilateur usually means "fan," pertaining to the rotary blades, of course, of helicopters. She later married her co-conspirator, Alexis Santini.

Chapter 6

Nà Sản, *base aéroterrestre*

"T'ai country is not always the sweetest of life."
—Lieutenant Francis de Wilde

It was still called *pays T'ai*, T'ai country, that vast hinterland of *Haut* Tonkin, the northern extension of the meandering Annam Cordillera. Three rivers etched out landmarks in this mountainous region, the Red River (Sông Hồng), Black River (Sông Đà), and Clear River (Sông Lô). This was the disputed region of Vietnam's northern uplands, gateway to China and Laos—and the lucrative opium trade, populated by mountain minorities steeped in feudal societies and allegiances. T'ai tribes or *châu* still dominated, although a number of ethnic minorities inhabited this region. It was a land of clashes spilling from the 19th Century into the 20th Century, internecine as well as foreign marauders. And the terrain itself as primitive and savage as French claimed the ethnic tribes to be. "A vast forest clinging on to rocks," as one 19th Century French officer claimed. Accessible for westerners only by precipitous land routes up, over, and down mountains heavily wooded and uninviting. Jean Michaud commented on these transportation "links"—often little more than footpaths—for French colonials: "[w]hen one strays from the roads reaching the French posts…it is necessary to have a guide to move from one point to another."[1]

Only "coolies," indigenous *montagnards*, were sure-footed enough to traverse the innumerable hills on these paths. That until, they could be paved at which time pack animals were used. Not a problem for local inhabitants, it seemed, capable of the most difficult terrain in all types of weather and carrying heavy loads.

From the times of Đèo Văn Trị and his *Sip Song Chau Tai*, alliance with the dominant White T'ai had been a constancy in French relationships with this region, although it seems their basic approach was that of "divide and rule" depending on *ad hoc* considerations—more of a "divide and conquer mentality, intent on fragmenting sympathetic tendencies for lowland *Kinh*, and particularly the communist movement.[2] In fact, in 1948 the *Fédération Thaï* (T'ai Federation) within the *Fédération indochinoise* (Indochinese Federation) was created, and placed under the hereditary rulers of the Đèo family, now Đèo Văn Long. This would be dangled as an opportunity for an independent, autonomous state, separate from the counter-revolutionary Vietnamese movement under French puppet Bảo

Đại. The T'ai Federation would incorporate three upland provinces of Lai Châu, Sơn La and Phong Thổ, and include, not only White T'ai but also other montagnards of the Hmong, Yao, Khmu, and Lolo ethnicities. Of course, rivalries would soon develop. All "subminorities" would be treated by White T'ai and Đèo Văn Long as inferior and subservient, exploited to even greater degrees and excluded from much of the moneys allocated for education and health. And, of course, deprived of much of the opium profits. There would have even more ominous implications when White T'ai chieftain Đèo Văn Long removed the Black T'ai ruler of Điện Biên Phủ, Lò Văn Hặc, and replaced him with his son, thus alienating the Black T'ai clans which inhabited the region, fomenting dissent and eventual support for Giáp's legions as they encircled the hapless French expeditionary forces[3]. Indeed, a fatal ignorance would prevail among French leadership, assuming, once again, that dominance implied submission, that these mountainous peoples were inherently backwards, and irrelevant. Unaware and uninterested were the colonials, as hundreds of Black T'ai "coolies" hefted Giáp's big guns over mountains and through jungles to the Valley of the Thèng.

Hồ Chí Minh had different ideas of *Haut* Tonkin. His Việt Minh understood the importance of tribal cultures, rivalries, and sensitivities. Total immersion in local culture by Việt Minh fighters was thought essential for good working relations: learning the language, dressing in local garments, marrying local women—all meant to profess respect and admiration for ethnic groups. But he dearly wanted unbridled access to Laos. No doubt the primary purpose of the Việt Minh was to win independence for Vietnam, but a strong Laotian revolutionary movement—communist oriented—could be supportive to their struggle. There might even be a more formal linkage of Pathet Lao (as the revolutionaries were called) and Vietnamese base into the future:

> The people of Vietnam must unite closely with the peoples of the Pathet Lao and Khmer country [Cambodian revolutionaries] and give their very assistance in the common struggle against imperialist aggression, for the complete liberation of Indochina.[4]

So read the official manifesto of the 1951 Congress of Vietnamese, Laotian, and Cambodian leaders in the Việt Bắc.[5]

Thus, in the fall of 1952 Việt Minh commander Giáp would send three veteran divisions into *Haut* Tonkin with the expressed purpose of wiping out French and partisan outposts and influence in T'ai country and es-

tablishing access routes into Laos. Giáp dearly wanted to wrest this area of northwest Tonkin from French influence. Many tribes there, the former White T'ai nation of *Sip Song Chau Tai*, had been faithful vassals of French domination for over 70 years. If there was to be unification of purpose these *montagnards* would have to switch allegiance to Hồ Chí Minh's cadres.

It could be a lonely war for the foot soldier. Mile after mile of endless trampling through grasses and bush so thick one had to hack a path with machete. And who knew what waited beyond. The Việts were masters of camouflage and so quiet. One was almost face-to-face before they realized. Then all fury and racket until one or the other fell. As trooper Hélie de Saint Marc tells it:

> An operation in the jungle was a shock for a European. We advanced in a crush of grass, without a radio, with the impression that the slightest noise was reverberating for miles. And yet a thousand things around us gasped, shook, blew. Crunches, stomps on the ground, animal attacks, yelps. An invisible mysterious and anxious life surrounded us…Suddenly, in the darker light that precedes dawn, a silhouette appeared, then a few others joined it. I shot, hesitating between two shadows… Four or five men fall. Shouts, bursts, a runaway. We prodded the bodies…Maybe their families would come and get them back.[6]

No, Europeans were not like the Việt Minh—partisans, friendly Vietnamese were called. The Việts watched everything, crouching low on a path, they remained motionless seemingly forever, listening for that subtle sound unlike the animals and birds and insects. They seemed, after a while, to melt into the underbrush. And one would think that perhaps meters away were other Vietnamese of a different persuasion, waiting, fingers on their triggers, for you to raise up, and step forward. To reveal yourself. To stand out like the stranger you were in this foreign country.

"The T'ai country is not always the sweetest of life," so commented Lieutenant Francis de Wilde of the 6*eme* BPC just before its ill-fated insertion into the fortified post near Tú Lệ in October 1952.

Giáp's strategy in T'ai country was simple. He had two objectives in the fall of 1952. Using three of his seasoned divisions, one arm would sweep through Nghĩa Lộ, the major French garrisoned fortress between the Black and Red Rivers, towards a line of French strongholds from Lai Chau in the northwest to Mộc Châu in the southeast, and even drive onward through

Điện Biên Phủ and into Laos. Any T'ai partisans in the area were sure to crumble, Giáp assumed, or try to flee into Laos. A second arm would occupy territory between Vân Yên and Mộc Châu to hold a slot and cut off any French reinforcements sent from the Red River Delta. On October 15, the "Iron Division," Division 312 struck the outposts along the Nghĩa Lộ ridge. Amid the din of mortar barrages, the garrison was quickly overrun.

General Salan viewed the lightening attack on Nghĩa Lộ the afternoon of October 15 as a threat to all French outposts between the Red and Black Rivers. If these were not safely evacuated, any numbers of colonial troops and partisans could be swept up by Việt Minh and either butchered or captured. Drastic action had to be taken. Salan decided to parachute a lone battalion of troops—667 men of the 6*eme* BPC, *Bataillon de Parachutistes Coloniaux*, most tough young Vietnamese—into and around the hamlet of Tú Lệ the night of October 15 to reinforce partisan units and aid in their safe evacuation. *Chef de bataillon* Marcel Bigeard was their commander. His defense a series of heavily entrenched hill positions around Tú Lệ. Bigeard and his men suspected this would be a suicide mission, that few of them would live to tell. Each was aware of the fate of their compatriots along *Route Coloniale* 4 two years earlier.

And they would be right. Giáp's divisions 308 and 312 would almost trap this elite battalion of parachutists at Tú Lệ. His attacks began in earnest on October 19. The early morning of October 20 was particularly brutal. Wave after wave of helmeted *bộ đội* tried to sweep over the defenders, cut down by automatic fire and tangled in barbed wire, but replaced as quickly by a new surge, as if their numbers were infinite. Some launched at paratroopers in deadly hand-to-hand fighting, clubbed, bludgeoned, and sliced at arm's length. At dawn paratroopers counted 96 cadavers on the wire. No enemy passed. Yet several wounded colonials lingered, some in serious condition. Weather closed in preventing evacuation Moranes from landing. And then word came. Leave Tú Lệ, take the partisan garrisons along the way, and head towards the Black River—40 miles distant—and Sơn La. It would be only a matter of time that his battalion, now invested by thousands of Việt Minh troops, would be overrun. The wounded, those on stretchers, would have to be carried. A tormenting task, four men to a litter, straight up and down mountainous jungle paths barely visible. Việt Minh stalked them, to the rear and both flanks, picking off men by the dozens. Sometimes enemy fire was so intense it was one continuous roar. By the time the lead elements reached Khau Phạ pass, 1,500 meters elevation, 85 of Bigeard's paratroopers were down—killed or wounded. Bigeard remembered the ordeal:

> A terrible march. A torment. One hundred miles through the jungle, passes over 1,500 meters, four days without sleep. It is raining. The conditions are appalling. We slide on the slopes. Our material is too heavy, many are beyond exhaustion…The injured must have been abandoned. We can take a little rest. I give three hours for recovery. The guys are at the end of the line and cannot move anymore.[7]

Strung along miles of hilly terrain, the column moved at an anguishing pace, men barely able to put one foot in front of another, hounded by a seemingly energized enemy. Giáp's Việt Minh were everywhere, slowly slaughtering the rear platoons. It would be impossible to bring along all the injured, particularly those confined to stretchers, too crippled to walk. Already the path behind was littered with dead and more wounded. Litter-bearers would not keep up the pace, totally exhausted by their burdens. Bigeard had to make a decision—save the remaining uninjured troops and put down the wounded, or sacrifice his entire battalion to annihilation or captivity. Stretchers and their occupants were shed. Bigeard had made his call. The badly wounded—at least 10 in number—were placed in a small clearing.

It was then that paratroopers saw a lone figure retracing his steps. *Père* Paul Jeandel, 31-year-old chaplain for the 6*eme* BPC, quietly had said "I cannot abandon all those wounded!" He became a nurse, redoing bandages, comforting the dying, and encouraging any who could walk to push on. The Viêts would catch him there, killing one soldier Jeandel had hefted onto his back. The priest would spend the next twenty-two months in captivity in political re-education but his work had been done: the wounded were not left behind. Bigeard's exhausted troopers, those still walking, cross the Black River on October 23 and were trucked to safety. Ninety-one of the 666 paratroopers would not be counted among them—listed as dead or missing

Oh, but their fate was a frightful one. There would be no redemption for those left by the wayside at Tú Lệ and along the trek to Sơn La. Laid side by side, they would linger and suffer from their ghastly injuries. Even leg wounds had turned putrid, blue, swollen. Some developed gangrene, that purplish, marble discoloration, giant blisters oozing *Clostridia* rich serum. No treatment given, only Jeandel's kind ministrations to a lucky few. For many now the rats and vultures and insects and bacteria would play havoc, slowly devouring any viable tissue, moans of the neglected were etching reminders of a fouled, dwindling life. The dying lay among the dead, all in various stages of rotting.[8] Sometime later, pro-French parti-

sans, gingerly following the paratroopers and their pursuers, found it lined with the severed heads of colonial troopers impaled on bamboo stakes.[9]

Indeed, a delaying tactic it had been, but woefully short of what was needed to retain possession of the Tonkin highlands.

Along the string of fortifications from Lai Châu to Mộc Châu was a remote French outpost near the hamlet of Nà Sản, right on *Route Coloniale* 41 that led directly into Laos. By the end of October, Việt Minh units infiltrating T'ai country had saturated the area and encircled Nà Sản. Fearing it might be overrun, the base was hastily reinforced and entrenched. In fact, Operation LORRAINE, a stab against Việt Minh lines of communication along the Red River corridors northwest of Hà Nội, was launched to divert attention from T'ai country. Việt presence was threatening to roll in all those upland tribes that had historically been French allies. At least it could buy time to strengthen defenses along the Lai Châu—Nà Sản strip. LORRAINE was a massive logistical effort involving some 30,000 colonial troops. But all for naught. Giáp did not take the bait. He managed to stymie French troops, bogged down by poor roads and innumerable ambushes. Nor did he flinch in his effort to occupy the highlands.

As far as Nà Sản, the tiny village was 90 kilometers from the Laotian border and 20 kilometers southeast of Sơn La, the small provincial capital of Sơn La Province. Sơn La held little value in General Salan's defensive strategy. Its peculiar pink brick fort, an emblem of French presence, sat in the middle of a plateau, perfect for pasting by Việt Minh artillery. Sơn La had to be abandoned. In contrast, Nà Sản seemed ideal, the area around was mountainous terrain surrounding a small valley, six kilometers long and two kilometers wide, big enough for a 1,100-meter airstrip able to land twin-engine C-47 "Dakotas." Air travel from Hà Nội, 200 kilometers distant was only forty minutes. Around the airfield were summits high enough to furnish surveillance of any approach. Beyond was a barren plateau perfect for line-of-sight firing of automatic weapons, artillery, and aviation strafing.

Groupement Operationnel de la Moyenne Riviere Noire (GOMRN) moved in late October under command of Col. Jean Gilles, who was to command the Nà Sản fortress. At first General Salan staffed the small garrison at Nà Sản strictly for intelligence gathering but soon figured that Nà Sản could be developed as a major air-land base. Its purpose as Salan figured was to interdict and harass Việt Minh forces in T'ai country. Giáp was eager to secure the highlands and grease access to Laos. French troops at Nà Sản could be a thorn in his side. But he was also isolated here, exposed.

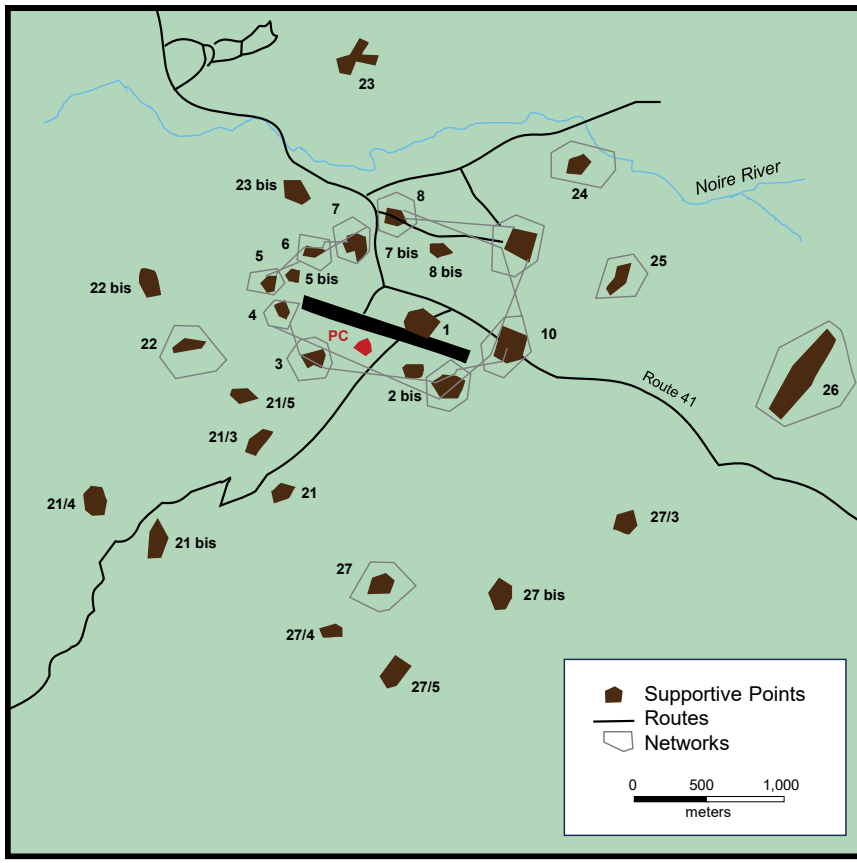

Figure 6.1. Na San, November to December 1952. Map courtesy of author.

For that, his defensive perimeter needed to be "air tight." This would become Gilles' signature *hérisson* or hedgehog concept, a network of fully manned outposts located on surrounding peaks, his so-called *points d'appui* (support points, PA), positioned to allow mutually supportive fire support and air strikes. At Nà Sản there were two belts of fortifications. An outer belt of seven support points was chosen to control high ground around the encampment. It would be from here that any enemy preparations could be detected and thwarted. They would also keep Giáp's artillery far enough away to prevent shelling of the inner camp. Closer in was the interior belt of 11 support points connected to each other by a continuous chain of obstacles: double grids of barbed wire and mine fields. These inner *points d'appui* bristled with 81mm mortars and .50 caliber machine guns. At all fortifications troops dug in with mazes of zig-zag trenches and rows upon rows of barbed wire entanglements. Gilles knew his base had to be impenetrable. Key was the heart of his operation: the airstrip, command

and control center, fire support, supply depot, and medical unit where the surgical *antenne*—a unit designated *antenne chirurgicale avancée* (ACA) 901– had dug in with over 100 beds ready for Nà Sản's wounded.[10] Not far from the *antenne* was the tarmac where Dakotas could feather over and on load casualties for the twenty-minute flight to Hà Nội. By November 23 the garrison had swelled to almost 15,000 troops: battalions of Foreign Legion, colonial paratroopers, T'ai and Vietnamese partisans, North African light infantry, and batteries of artillery.

Médecin-lieutenant Jean Thuries stepped down from his *Air France* constellation onto the tarmac of Tân Sơn Nhất airfield on 9 November 1952 fully expecting assignment to an elite *antenne chirurgicale* somewhere in the wilds of Indochina. Once he arrived at the Lanessan Hospital in Hà Nội, however, the stark truth was known. Despite assurances of an exciting surgical tour, he would be a lowly battalion physician. And his commander would hear nothing of his protests. "[I]f you are happy, so much the better. If you are not happy, too bad. I have had enough of you!" The Second Battalion *de march* of the First Regiment of Algerian *tirailleurs*, designated II/1 RTA would be his unit. Nà Sản would be their destination.

Thuries marveled at the *cuvette* of Nà Sản, an expansive "bowl" carved out of mountainous scenery in territory as distant from civilization as the moon. Steep wooded peaks covered with lush vegetation shouldered the basin, beyond which were uninterrupted heights of undulating tribal country. Some had described it as a verdant density of a stifling and threatening majesty. And, like a man-made gash, the dirt landing strip cut right through the center, holding at bay the brush from which it was hewn. Bordering the airstrip, he saw regimented tents and buried shelters that housed the command post, the *antenne chirurgicale*, and various technical services. His *tirailleurs* were put on PA 27, one of a group of hills along the southernmost perimeter. They promptly set about stripping the summit of vegetation, digging and scraping away bush and vines, felling trees. Activity was mindless but essential. "We must cut down timber and shrubs, sink my hut [the *poste de secours* or first aid post], burrow circular trenches, underground shelters, firing racks, connecting tunnels between the blockhouses with their machine guns, dig the mortar pits, develop the command center, the communication shelter, the mess." Care would be primitive on this hilltop. "Apart from scratches, I cannot treat on the spot: my role is essentially to direct the patients on to the *antenne* and to package the wounds for evacuation as comfortable as possible by fixing an order of urgency [triage]."[11]

Surgical *Antenne* 901, headed by Capitaine Brun-Buisson and located next to the command center, was the designated destination for all aid posts

on the surrounding *points d'appui*. Two Dodge ambulances and two modified Jeep ambulances were available for transport. At the *antenne* there was built a receiving and triage space and then an "operating room" where initial resuscitative and surgical measures could be performed. Capitaine Brun-Buisson was the sole physician. He had two nurses to help, one to aid in resuscitating casualties, the other as his anesthetist.[12] His role was clear: treat pain and shock, immobilize fractures, and, when safe, transport out. There would be a minimum of equipment. The remote outpost forbade it. "Collection and first aid" were the directives. Once resuscitated and stabilized patients would be sent on to Hà Nội via a Sikorsky helicopter or a modified Morane single engine plane. Command had projected casualties at a rate of two per 1,000 per day.[13]

Yet, from his perch Thuries took in the beauty of the place: views of ranging mountains and wild vegetation. On foot he saw wildlife of buffalo, snarling at anyone European, he felt. In fact, patrols had a point man at the ready. Buffalos were known to suddenly reel and charge, offended at the smelly intruders. Around the T'ai huts scattered in the valley there were farm animals, mostly hens and ducks. Fat black haired, pot-bellied pigs ran free, small horses the size of ponies. The T'ais seemed friendly, but who knew? *Montagnards* smiled out of one side and plotted out of the other.

On one occasion, Thuries was called to a T'ai village to treat a wounded *tirailleur* on patrol surprised by a Viet ambush. Kilometers away from the base, the trek back would be arduous. Thuries found the wounded man "in a sorry state." Blood had been lost, much too much. Morphine and bandages were all he had. Fortunately, a Dodge 6 x 6 was found and the poor creature loaded in. Back to the *antenne*. The situation was grim, though. So much time had been lost…Such was the life of a battalion surgeon in Indochina.

And now tranquil countryside it was not. French at Nà Sản were an obstacle for Giáp. A thorn in his side for future offensives through the T'ai region and into Laos, where he had hoped to foster revolution, It was all too tempting. His combat units had matured into seasoned fighting formations. Their march through T'ai country had so far been a smashing success. A steamroller, General Salan called them. Bursting through Nghĩa Lộ and Phú Yên, they controlled the entire region between the Red and Black Rivers.

As for the Việt Minh, one strike force even rolled on to Điện Biên Phủ, which they took on November 30. All the more important that Nà Sản

was the ideal *base aéroterrestre*. Easily supplied by air from Hà Nội, the encampment would bristle with French defenders in the surrounding hills. This could be a launching point for spoiling attacks in the countryside, designed to keep Giáp's units off balance. There were no delusions, though. Gilles knew the wiles and tenacity of the Viets. Swarms of *bộ đội* were expected in mass attacks supported by mortars and automatic weapons. Nà Sản's commander expected nothing less. He flaunted French presence, but dug and dug until firmly rooted troops, controlling the high ground around the airstrip and command post, bristled with weapons and artillery behind a shield of barbed wire, sandbags, and mine fields. High command wanted contact. They wanted their pitched battles and to systematically destroy Hồ Chí Minh's legions. This would not be a repeat of the disaster on *Route Coloniale* 4. The fight would be on French terms, not Giáp's.

It was not long in coming. Giáp poured thousands of troops around Nà Sản, almost undetected. Eventually three of his divisions, the 308, the 312, and the 316 would ring the *camp retranché*. Giap was confident his well-armed troops could break the ring of French defenses, occupy strategic hills, and rain his artillery directly onto the airstrip, the lifeline of French presence in this remote countryside. It would be another Nghĩa Lộ, a total wipe-out. Probing attacks towards the end of November were meant to pick out susceptible approaches to French support points for major assaults. Then, during the night of November 23 one of his battalions launched a violent attack against the 110 legionnaires of the 11th Company, Third Battalion, Fifth Foreign Infantry Regiment (III/5 REI) manning PA 8 on the inner belt of Nà Sản's defenses. The fighting was vicious and before long cries went up that the Việt Minh were in the trenches. The struggle deteriorated to a *mêlée* of point-blank automatic fire, hand-to-hand combat, and grenade tosses until the earthen canals were clogged with dismembered human corpses and the earthworks slippery with blood. The battalion surgeon, Thomas, hearing the wild explosions and firing from PA 8 did not wait for instructions from his commander. He grabbed his emergency kit and his chief nurse, a former Italian doctor, and ran towards the support point, ducking under the barbed wire entanglements to reach his small infirmary, the *poste de secours*, where wounded had begun tricking in. The company commander, grateful for Thomas' appearance to look after wounded, wryly commented afterwards: "There are sometimes acts of extraordinary courage and devotion which rest, at the beginning, on a certain disobedience."[14] A second assault after midnight was stopped cold by a barrage of French mortars blowing apart almost suicidal rushes by enemy troops. With so much carnage the attackers lost heart and

dropped back. By daybreak all was quiet, the ground cluttered with 64 Việt dead.

Giáp tried again the night of 30 November 30, this time against PA 22bis and PA 24 on the outer ring of fortifications. PA 22bis, one kilometer from the airstrip and 1,200 meters from the artillery and mortar pits, was manned by just one company of the Second Battalion Thai infantry. Blanketing Việt artillery fire from huge 120 mm mortars tore up the hilltop, crushing defenders, and driving survivors back towards the airstrip. Gilles quickly ordered his ready reserve, paratroopers of the Second BEP on PA 4 to the counterattack. "Get over there" he shouted into his radio. He then aimed his mortars for the hilltop, knowing the only occupants by this time were enemy infantry. The mortar barrage erased most of the assailants. Bludgeoned by mortar fire any remaining Viets scrambled off the hill, having had enough. Paratroopers reach the top to find it unoccupied. Clumps of human flesh, bones, and innards greeted them, littering the summit in an obscene array of pulverized mankind, the work of high explosives on troops clustered for a premature victory celebration. Across the valley, one company of Moroccan *tirailleurs* with the II/6e RTM defended PA 24. Việt Minh had already probed their fortifications with skirmishers earlier.

Now, around three o'clock in the morning, hell broke loose. Việt Minh rushed the perimeter. The *tirailleurs* held for a moment then broke, unable to stem the tide of helmeted enemy firing automatic weapons, exploding Bangalore torpedoes, and tossing scores of grenades. With daylight, colonial paratroopers of the Third BPC were quickly mobilized, aided by artillery and air support, and counterattacked. By then Việt Minh had dug in and routing them out would become an all-day affair of attacks, retreats, and attacks again. Even then progress was at a grind. Lieutenant Andre Bertrand witnessed a company of paratroopers struggle up the hill in the midst of volleys of Viet fire. He was impressed by the fervor of Việt Minh infantry. "*Le Việt est un sacré soldat*" he wrote in his journal (roughly translated: "the Việt is a hell of a soldier").[15] Perhaps Bertrand thought, the best infantry in the world. Men advanced, stumbled, recovered, and crept on. Some were hit, slumped, and fell flat to the ground. Camera man Pierre Schoendoerffer from the *Service cinématographique des armées* and photographers Paul Corcuff and Jean Péraud of the *Service presse information* were there in the thick of it catching on film the bent over paratroopers gingerly picking their way to the summit. By four in the afternoon PA 24 was retaken. Amazingly, a few *tirailleurs* were found who had survived the initial Việt attack and had been hiding amidst carnage during the day-long battle. "The day was only smashing and explosions,"

Thuries recalled, hearing muffled thunders and distant rattling of weapons. His sector remained quiet. Only some brief scuffles on patrols.

The next night, the night of December 1 was idyllic: clear skies full of stars. Those on PA 21bis, 900 meters in the air, had a splendid view of the entire camp. Legionnaires of the 10th Company, Third Regiment, Foreign Legion Infantry (III/5e REI) held the summit, peering over their trenches at meters of barbed wire entanglements laced with carefully buried mines. All had sighted in their automatic weapons; 60mm and 81mm mortars were positioned to saturate the barren slopes beyond. At about one o'clock in the morning defenders heard the valley erupt in fusillades of fire as another PA, PA 26 it would turn out, was attacked. Thirty minutes later it would be their turn. Shortly the entire hill raged with Việt mortars and recoilless cannon gradually shifting to the reinforced "blockhouse" and command post. Barbed wire flew into the air as Việts set off Bangalore torpedoes hoping to blow holes in the morass. And then they came, in waves of human sacrifice, French fire bit into them, spitting showers of volleys, as they hopelessly struggled around, over, through thickets of wire and bodies, some triggering mines and disintegrating. The *raz de marée*, the "tidal wave" as one legionnaire called it, faltered and stopped. How could it not? Few were left to advance, the rest to *schlepp* back down the hill, shadows of their former units.

Over on PA 26, called *le lézard* "the lizard," three companies—the 10th, 11th, and 12th—of the Third Battalion, Third Foreign Legion Regiment (III/3 REI) hunkered down for another long night of anticipation. PA 26, a broad summit, was only three kilometers east of the airstrip, a strategic location. Possession would allow artillery to train directly on the airfield. They were out there, everyone knew. It was a matter of when. A magnificent moonlight that night, 1 December, which turned the sky a Prussian blue. By sundown mortar rounds began to fall, here and there, sometimes a burst or two of automatic fire. The tempo picked up after midnight. Around two o'clock they came, rushing the barbed wire. Frenchmen waited until they could not miss and opened fire. Enemy troops clumsily climbing over, stooping, crawling were mercilessly cut down. It was a slaughter. During the next three hours three more assault waves tried, batches of men—boys really—struggled up, stopped, fumbled, and fell. On PA 27 Thuries followed the combat by radio, minute to minute. *Bộ đội* were "falling like flies on the barbed wire" he recalled.[16] The tangle of men and pieces of bodies amidst the stakes and coiled, spiked fencing were appalling, turning the stomachs of even hardened veterans. French artillery finished them off on the slopes, called in to range to within 20 me-

ters or so of legionnaires. Commandant Favreau of the III/3 REI would say "I had my revenge that night…A terrific gallant fight."[17] At daybreak the bloodbath was revealed. Perhaps 500 bodies—it was difficult to tell, most were in pieces—were strewn about the barbed wire, slopes, and ravines. "A frightful heap of flesh," Thuries recalled. The smell of death, that stale odor preceding decomposition, filled the air. "Why this war and why all these dead," a question that haunted Thuries as he surveyed the battlefield later the next day. Why was it not his sector the Viets attacked? Unanswerable. No point perplexing. Save lives and relieve suffering, he concluded.

Attacks on PA 26 the night of 1 December were merciful for colonial troops: only six dead and 20 wounded. Việt Minh were no match for the well-armed and well-entrenched legionnaires. It was indeed a splendid performance. But the surgical *antenne* buzzed with activity. Wounded filled the underground corridors, Thuries found, on a visit afterwards. Plenty for the surgeon *Capitaine* Brun-Buisson to do, yet materiel was limited. The entire focus was stabilization and evacuation. ACM 28 would be lightly supplied and completely dependent on aerial conveyance. Shock, fractures, and soft tissue wounds were the priorities. For his part, Thuries fitted splints, slapped on plaster, and readied his patients for shipment out. Those in shock presented unique challenges. Brun-Buisson was brought a young Việt prisoner shot by rifle fire on one of the *points d'appui*. The bullet had traversed his abdomen, no doubt damaging a number of organs in the process. His blood pressure was dangerously low, 50/30. With little else to offer except plasma, Brun-Buisson delivered a cocktail developed by fellow surgeon Henri Laborit and distributed by his chief, Claude Chippaux to Indochina *antennes* for that expressed purpose—to stabilize men in hemorrhagic shock. For eight hours, until he could be evacuated to Hà Nội, the soldier's blood pressure stabilized. By the time he reached Lanessan Hospital he had improved and, after surgery, eventually survived.[18]

And what of Giáp's wounded? Oh, there would be plenty: massed frontal assaults were costly. His cadres had established three medical treatment teams to accompany his three divisions in the *chiến dịch tây bắc*, the Northwest Campaign. These were stationed in the rear of the division trains, mostly east of the River *Noire* (Sông Đà). The northwest campaign into T'ai country would be challenging. The mountainous, forested land, sparsely populated with ethnic groups, was remote, few roads led in or out, and these would be under surveillance by French aircraft. The three treatment stations would be kilometers from the moving front as soldiers advanced beyond the River *Noire* towards Điện Biên Phủ and

the Laotian border. It would take a herculean effort and thousands of porters and support cadres to carry litter patients along mountain roads. Treatment team 5 would be deployed north, near Nậm Mười, supporting Division 312, Treatment Team 1 behind Division 308 attacking towards Nghĩa Lộ, and Treatment Team 2 in the Ba Khe area just to the south. Each would function as a military hospital, allotted 300 beds each but the flood of seriously wounded would require much more. These became far removed from the front lines as the Việt Minh advanced towards and then across the River Noire to face the French garrison at Nà Sản, Nghĩa Lộ alone was over 70 kilometers to the rear—as the crow flies. Advanced aid posts were eventually set up within kilometers of the front west of the River *Noire* to the east and south of Nà Sản. An advanced medical post was set up in a small hamlet just north of Mộc Châu, near *Route* 41. Space for 300 casualties was made, but the number of wounded skyrocketed, quickly overwhelming their resources—and many had suffered horrible, complex wounds. For the Viets automatic rifle fire had felled numbers. Some had been left draped across barbed wire, buried under piles of their comrades to slowly bleed to death. Yawing, spinning, high velocity bullets that tore up muscle, shattered bone, ripped apart arteries. Any shot to the torso—head, neck, chest, or abdomen—was likely quickly fatal. Such energy puréed tissue—liver, spleen, kidneys, bowel. And in the way were the great vessels—aorta, vena cava, pulmonary arteries and veins, the heart itself. Almost certain to suffer from the ballistic path. Exsanguination within minutes.

But, for the survivors, transport back was logistically a nightmare. Some thirty ambulances and 2,300 civilians were recruited for evacuation of wounded. Various waystations were set up to rest and feed not only the wounded but the transport people as well. French overflights kept watch on all visible roads, bombing at will any that looked occupied or were undergoing repair. Some casualties were not moved for 48 hours. Foodstuffs for forward medical units arrived sporadically, depending on road conditions, weather, and enemy air activity. Fortunately, ethnic mountain groups, while ostensibly pro-French were willing to feed and house Việt Minh, although some of this may have been accomplished by intimidation or even violence. Delays were disastrous for the wounded. Infections occurred in as many as 50 percent of the injured. “Another comrade sacrificed his life. The wound went all the way through his abdomen. His condition was not good after the operation, and worsened over time…in the end he died,” so wrote a young Vietnamese surgeon, torn by her inadequacies and indecisiveness but likely simply another victim of time and circumstances.[19]

By 14 December, Giáp knew Nà Sản would not be breached. There would be no safe advance beyond *Route* 41. The "Northwest Campaign" had run its course.

Yet, French patrols would still be sent into the countryside and skirmishes and ambushes would still occur. Doctors like Jacques Thuries would go out as well, setting up their aid station at a safe distance. Even friendly fire took its toll. An explosion from a 105mm shell gravely wounded a chief warrant officer, a man named Merimeche, an acquaintance of Thuries. A horrible wound, blood flowing from pulp that once was a leg. "He was in a terrible state, conscious but already ice-cold," Thuries remembered. Down a remote ravine—It was a lousy place to deal with such trauma. A tourniquet was tightened. Too loose. Bleeding still. Tighten it more, until bleeding stops. The wounded Merimeche was slipping. His face "pale, pallid, cold, sweaty." Thuries found. "The pulse is very fast." No capillary refill (a sign of severe shock). Thuries commandeered a jeep and took the poor man to the surgical *antenne*. Resuscitation commenced—blood, fluids. Blood pressure dropped anyway. It was too late. Irreversible shock. Merimeche was lost. Such were the fortunes of wilderness medicine.

Giáp's assaults of November and December caused a brisk business at ACM 901. Brun-Buisson and his team had seen 862 admissions, one out of five so gravely wounded that they needed urgent intervention and quick evacuation.[20] *Capitaine* Brun-Buisson would see more casualties grievously wounded who, in deep shock would not have likely survived until evacuation had it not, in his estimation, been for the *mélange* of drugs Dr. Chippaux had advised. Still of those with such devastating injuries, almost one in three would not survive.[21]

Médecin-lieutenant Jacques Thuries had already departed Nà Sản on 18 January 1953. His next duty station would be the Lanessan Hospital in Hà Nội. It had been a hard, sobering tour. War was now squarely in his face. For the garrison at Nà Sản life would go on, although Giáp would never try large-scale assaults again. Sniping, small ambushes, and countless patrols would typify life at the *base aeroterrestre*.

As for the garrison at Nà Sản, the Việt attacks of November and December caused a tightening of defensive works and reinforcements. Offensive operations were conducted, patrols that radiated from the base into the surrounding *Pays T'ai.* General Salan felt it imperative to firmly establish a French presence and to interdict Việt Minh travel to and from Laos. Yet the drizzly, fogged weather of January and February hampered air

re-supply and casualty evacuation. Few helicopters were found available to evacuate wounded. And there had been a change in strategy. The new head of the CEFEO, Gen. Henri Navarre, had another destination in mind for a *base aéroterrestre*, the sprawling valley of the Thèng plateau, and a village known to the French as Điện Biên Phủ.

In a Top-Secret message dated 31 July 1953 General Navarre ordered General Cogny to abandon Nà Sản. The base was becoming indefensible with just four battalions, and resources there would be needed for the upcoming offensive to the west at Điện Biên Phủ. In essence, departure from Nà Sản would relinquish control over the highlands and signal the impending loss of Lai Châu, now defended by only one battalion and no longer supported by the garrison at nearby Nà Sản. All eggs would now be put in the Điện Biên Phủ basket. By 12 August the small hamlet of Nà Sản and its dirt airstrip were stripped of military hardware and left to native T'ai villagers. The war was moving west.

But, officially, medical care on the *points d'appui* "were perfect in every way." The wounded did not suffer, the reports read. First aid was kept at a minimum. Evacuations were carried out smoothly, stretcher bearers often using the "native" conveyance of hammocks rather than the heavy, unwieldy traditional litters. The peaks of Nà Sản were ideal for this form of transportation. In everyone's mind it had all been a grand operation, just the kind that would win the war and cripple Giáp's Việt Minh effort to occupy and influence the highlands and metastasize into Laos.

For the doctors, in their personal memories, it was not quite that clear. Harrowing treatments for ghastly wounds taxed the most resourceful. Official reports did not convey the anxieties of provider and patient. Nor did those reports contain the moans and pitiful whimpers of men jostled and in electric pain. And of those who bled and bled like poor Merimeche, *m*édecins did what they could. Sometimes it was near miraculous. Doing nothing would have spelled slowly unwinding doom. Yes, in the overall sense, medical care had been exemplary. Combat surgical stations saved lives. In private, Jean Thuries and his companions might have wondered a trail of "what ifs."

Notes

1. Michaud, J., Turner, S. "Tonkin's Uplands at the Turn of the 20th Century: Colonial Military Enclosure and Local Livelihood Effects" *Asia Pacific Viewpoint* 57 (2016): 154-167.

2. Oscar Salemink "Primitive Partisans: French Strategy and the Construction of a Montagnard Ethnic Identity in Indochina," in Hans Anlov [Ed], *Imperial Policy and Southeast Asian Nationalism, 1930-1957* (Richmond: Curzon Press, 1995), 262.

3. Jean Michaud, *Historical Dictionary of the Peoples of the Southeast Asian Massif* (Lanham: Scarecrow Press, 2006), 228.

4. Source: Langer, P.F., Zasloft, J.J. "Revolution in Laos: The North Vietnamese and the Pathet Lao." Memorandum RM-5935—ARPA, (Santa Monica: The RAND Corporation, 1969), 64.

5. Vietnam Central Information Service: *Manifesto and Platforms of the Vietnam Lao Động Party*, April 1952.

6. Hélie de Saint Marc, *Mémoires les Champs de Braises* (Paris: Perrin, 1995), 112-113.

7. See Marcel Bigeard, *Ma Vie Pour la France*, (Monaco: Éditions du Rocher, 2010), 138.

8. From Bernard Fall, *Street Without Joy* (Mechanicsburg: Stackpole, 1961), 71.

9. Martin Windrow, *The Last Valley: Dien Bien Phu and the French Defeat in Vietnam* (Cambridge: Da Capo Press, 2004), 121.

10. This forward surgical unit, formed in 1949, would stay at Nà Sản until July, 1953. It would be re-named ACM 28.

11. Thuries, *Merci Toubib*, 20-21.

12. The *antenne chirurgicale avancée* (ACA) 901 designation would change in May, 1953 to *Antenne Chirurgicale Mobile* (ACM) 28 to standardize the numbering system for ACMs and ACPs (Letter from *médecin général inspecteur* Jeansotte, May 16, 1953, SHD, Paris).

13. Extract of Report no. 1006/ C.C. of 20 March 1953 "Sur le Fonctionnement des Services Chirurgicaux des F.A.E.O. Pour l'Année 1952" fonds 10H 2002, SHD, Paris.

14. Jacques Favreau and Nicolas Dufour, *Nasan: La Victoire Oubliée* (Paris: Economica, 1999), 133.

15. Thuries, *Merci Toubib*, 20.

16. Thuries, 29-30.

17. Favreau, *Nasan*, 152.

18. Chippaux, C. "Hibernation Artificielle et Déconnection Neurovégétative: II, l'Hibernation Artificielle en Chirurgie de Guerre aux Divers Échelons de Combat" *Anesth Analg* 15 (1958): 193-205

19. Đặng Thùy Trâm, *Nhật Ký Đặng Thùy Trâm (The Diaries of* Đặng Thùy Trâm) (New York: Nhà Xuất Bản Hội Nhà Văn, [Harmony Books], 2007), 99.

20. Figures from Favreau, *Nasan*, 196.

21. Nicol, M., Brun-Buisson, F., Jaffrey, L. "Introduction des Méthodes de Laborit dans le Traitement des Chocs de Guerre en Indochine" *Mem Acad Chir* (Paris) 79 (1953): 392-398.

Chapter 7

The Valley with Sweet Perfume

"Everything breathed life there."
—Auguste Pavie

This would be his first combat jump. *Médecin-Capitaine* Jean Raymond sat in the cramped belly of a C-47 "Dakota" with his fellow paratroopers, air commandos of legendary warrior *Commandant* Marcel "Bruno" Bigeard's Sixth Colonial Parachute Battalion (6e *bataillon de parachutists coloniaux*—6e BPC). These were the finest troops groomed from the colonies, almost a third young Vietnamese. Highly trained, they had proved fearless in apocalyptic attacks from the air on unsuspecting Việt Minh guerillas. And the young *Capitaine* was a rising star among ranks of *médecin militaires*—military physicians. A graduate of *l'École de santé des armées* at Lyon, he had served his internship at the Vale-de-Grace military hospital in Paris. His energy had been impressive and infectious. Medics and fellow doctors drilled and matured under his tutelage. Raymond would go over it again and again: the fine aspects of field care—pressure points, tourniquets, splinting, bandaging, even tracheostomies. They rehearsed and practiced. He was maddening in his perfectionism; every detail had to be precise, flawless. And it was all for right now. This would be no drill. There could be no mistakes. Life and death hung in the balance.

But there was more to him. Raymond had generated a genuine affection for his troops. Away from the field, on post he had delivered their babies, vaccinated their children, set their bones, soothed their fevers. He was a Father Damien to them, an arbiter of disputes, an ear for the disgruntled, a shoulder for the disconsolate, a confessor, a teacher, a healer. They listened, they obeyed, they adored.

Did he worry about his own mortality? Jumping from 3,000 feet wouldn't anyone? Dangling helpless from a parachute in thin air for endless moments was more than unsettling when the expressed purpose of your mission was to land right in the middle of unfriendlies, people intent on doing you harm. That was when the mouth filled with cotton, the heart raced, the breathing quickened.

Operation CASTOR it had been called. The briefing outlined a two battalion drop—roughly 1,200 men –into some remote valley on the Lao-

tian border. The place a far-off outpost named Điện Biên Phủ; the date 20 November 1953. Scattered resistance, they had been assured, but from poorly disciplined guerrillas, no match for Bigeard's sky troops.

Jean Raymond, like the other 24 paratroopers crammed shoulder to shoulder in his plane, sat in silence; all conversation drowned out by the steady undulating roar of the Dakota's twin rotary engines. Each held in his lap his reserve chute, the bulky main chute wedged between their back and the plane's fuselage. Thirty-nine-year-old Raymond was indistinguishable from any other paratrooper: web belt, helmet, sidearm. His medical kit was strapped below the reserve chute. Over and over in his head he might have recited the jump sequence, stand up, attach static line, waddle along, fall out the door, fetal position—tight—wait for the yank of the static line as it pulls open the main pack tray and then count to four and look up. And hope your chute is deploying.

They had left Bạch Mai Airport outside Hà Nội at 0730, circled in formation until all aircraft were in the air, and then headed northwest towards Điện Biên Phủ. His plane arrived over the valley at close to 1030, on course 170, almost due south. He could feel the sudden deceleration as flaps were lowered to slow to 95 knots. Within minutes the jump buzzer went off, the jumpmaster stood up, cargo doors opened, and everyone was ordered up. Attach static lines, went the call. They were at 2,900 feet approaching their drop zone named NATASHA. Sun now broke through clouds in brilliant rays as if spotlights illuminating dark green fields below. Just as he had rehearsed, Raymond reached to hook his line to the overhead wire, and inched forward. On cue paratroopers piled out of the plane, each on the heels of the man in front of them. Within seconds Raymond was at the door, tucked position, hands over reserve chute on his chest, almost falling out the wide opening, he hunched over, a swift yank told him his static line had torn the cover off his "pack tray." "*Un, Deux, Trois, Quatre*," and then a sudden jerk upwards. He looked skyward to see his large white canopy fully opened. And now there was nothing but the whistling of wind as he floated, seemingly weightless, slowing drifting down.

From far below so many floating figures unfolded from fuselages like strings of paper dolls. Paratroopers were elite soldiers, fearless, hardened, unshakable. But this was where they were least invincible. Perched on currents of air, they swung at the mercy of the elements. It was an agonizing period, much too long to be hanging, swaying, cocooned in gear and packs and weapons, but certainly not immortal.

Sure enough, on the ground a soldier of Battalion 910 of the *Trung đoàn độc lập* (the Việt Minh 148th Independent Regiment) watched the falling paratroopers. Before he scooted for cover, the boy—he was likely just a teenager, maybe a member of the Black T'ai mountain tribes—raised his bolt action French-made MAS-36 rifle, aimed at a paratrooper almost directly overhead, and squeezed off three rounds, working the bolt in practiced rapid sequence. The French he had learned to hate, his people marginalized by favoritism to White T'ai rivals. But this was his ancestral land—his homeland. And now French were desecrating sacred ground—the revered earth of the spirits of his forefathers.

There would have been soft hisses passing close. Raymond may have stared down and heard the pops. In almost disbelief he suddenly comprehended people were shooting at *him*! Defenseless, all he knew to do was pull on his risers to fall faster. With his arms raised grabbing the thick canvas straps the bullet must have entered the fleshy armpit. He might have felt a sharp sting, possibly a quick smack– or maybe nothing at all. In microseconds the missile tore through soft fatty tissue and just between clavicle and ribs found subclavian artery and vein—both the size of fat fountain pens. At that velocity, 2,000 feet per second, jacketed lead would have literally exploded both structures. With blood jetting from the artery, pumped out at five quarts per minute, it would have been only seconds before Raymond felt dizzy. Then, just like fainting, all vision would quickly condense around a narrow tunnel and finally blackness as his brain starved for the blood now pouring into his chest. A few more seconds and his heart would have nothing to pump. By the time *médecin-Capitaine* Jean Raymond's limp body struck the ground, he was long dead, the first casualty of that place called Điện Biên Phủ.

Điện Biên Phủ: a valley inhabited by spirits capricious and ill-tempered; *Kinh*, lowland Vietnamese, called them *mà koui*, the evil spirits. Jealously protective of the exquisite beauty of the place, they angered quickly at the wrath invoked on their birthright by those who held in small esteem holy dwelling grounds. Here in the basin called by the ancient T'ai shamans as Thèng and by the *Kinh*, as Điện Biên, revenge would fall on soldiers from the sky who violated a sacred fertility, a sacred purpose. Death would come easily. Indeed, it had always been so. Hordes of bandits, hoodlums, and foreigners would meet similar fates, crushed by the sheer command of the country. For them it would be their Valley of Tears.

The Thèng plateau was in fact a broad valley basin bordered by towering hills. Here T'ais had migrated from southern China at least by the 14th Century, perhaps as early as the 10th Century, collectively housing

a community—a *mường*—and eventually part of the vast Lan Xang kingdom, even an anchor in defense against roaming Việt *Kinh* close to the east. In the 19th Century T'ai chieftains called it Thèng, and it became known to French explorers as the Thèng basin, a recessed expanse in the far northwest corner of what was then part of a nether region claimed by Annamese and Laotians as theirs. Thèng ranged 13 miles long and three miles wide. Not nearly as broad as the Plain of Jars directly south, Thèng still held a place of prominence in T'ai settlements. Lush ground bordered by verdant mountainous terrain climbing to over 2000 meters made for bountiful harvests. In fact, in the early fall ripening rice fields gave a yellow hue to the place if viewed from looming *Núi Pu Hồng Mèo* (Pu Hong Meo mountain). Some say at that time of the year it is the valley with the sweet perfume. Coursing through the center of the valley was a stream, the Năm Yum, which, as it tracked northwest, joined the Năm Hou that in turn emptied into the Năm Ngoua as it coursed its way to the Mekong and on to Luang Prabang in Laos. Mythology dominated the T'ai culture. It had been claimed that in this valley at the dawn of creation Praya Then, King of the Sky, sent his son Khun Borom to earth. Khun Borom was accompanied by two wives who bore him seven sons. He assigned each son territories that gave rise to the seven T'ai Kingdoms, including the Kingdom of Luang Prabang, the Land of the *Ho* (*Sip Song Pan Na*, Yunnan Province, China), and the *Sip Song Chau Tai* in Tonkin, and Kingdoms in present day Thailand. According to legend, then, the Thèng Valley was the center of dispersion of the T'ai people throughout Southeast Asia. More likely T'ai were driven from their homes in southern China by the Mongol invasions of the 13th Century (although, no doubt, some had settled here centuries before), inhabiting the valleys of the Black River. One Black T'ai tribe apparently remained in the Thèng valley, and, thus, the probable origin of the legend. Bountiful ground it was, this vast mesa perfect for the growing of wet rice. Over one hundred square kilometers could be farmed, the most productive land of all highland areas. Placid though it might seem, minorities fleeing southern China in the face of the suppressed Taiping Rebellion and other persecutions populated the highlands looking for refuge and security in remote lands sparsely populated.[1]

To clash with lowland farmers was inevitable. It was contested property. This vast hinterland would fall prey to a feudal society that fueled wanton conflict, invasion, and slaughter. Around the 17th Century a rather loose confederation of chiefdoms banded together in these northwestern highlands, and were named the *Sip Song Chau Tai* (the Twelve T'ai Cantons), mostly "white" T'ai but also containing elements of all T'ai subcul-

tures. The T'ai Dam people, the "Black T'ai" tribe settled in the Thèng valley, soon a congregation of farms, villages, and hamlets they referred to as Mương Thèng. This encampment of the Black T'ai would become a central point of contention as the valley would attain strategic importance, not only because of its fertility, but also its location on the journey across Laos and Tonkin. Burmese, Siamese, Laotians, and Chinese all vied for control, the dominate *Sip Song Chau Tai* beholden to one and then the other as the winds of fate shifted.[2] Often powerless to stop them, the kingdom of Laos in Luang Prabang, not all that far away, in all its riches, proved an irresistible temptation for neighboring rulers.

It became a no-man's land. These upland peoples led a harsh existence. And it would be opium that fanned the feudal fires. Brought into China in response to the immense wealth generated by this crop from India, opium would provide an economic boon to the ethnic mountain tribes populating *pays T'ai*, "T'ai country" from the Thèng valley to the Black River. Opium poppies need rich, alkaline soil and grew best above 3,000 feet. Hmong tribesmen—the Chinese called them *Meo*, they likely came from southern China, driven south by constant warring in the 18th Century—cultivated the crop that flourished best at high altitudes. According to Governor General Jean-Louis de Lanessan, opium could bring in millions of francs if China would modify conditions of commerce between Tonkin and its southern provinces.[3] Hmong were also known as "wild cats." These people could be found in small hamlets high in the mountains of northwestern Tonkin, two or three huts hooked to fingers of rocky crevasses, dwellers known for agile climbing abilities like cats scurrying up and down the heights, living above the clouds.[4] Opium would be sent to the valleys below where T'ai chieftains brokered the crops and where constant strife among natives and roving bands of renegade bandits plagued the countryside.

Relative newcomers to the region, the family led by Cam Seng—"Cam" was a T'ai title bestowed on feudal nobility—originally from Guangxi Province in China, had migrated into the highland areas of Tonkin in the early 19th Century where they assimilated with other White T'ai tribes of the *Sip Song Chau Tai*. Soon this family would gain prominence among other *Chau* of the Twelve Cantons in northwestern Tonkin. Cam Seng himself would rule from the *mường* of Seng, in the Valley of the Gods. While loyalties would shift, they were generally beholden to the Court at Hue and fought for the Annamese in efforts to clean the Tonkin highlands of foreign invasion. Cam Seng had been named by the Annamese emperor as *Quận fou de Thèng* (regent of Thèng). But Siamese had

other plans. Sensing little resistance from the Laotian court at Luang Prabang (Laos was essentially a Siamese vassal state) and disorder in Hue, Siamese sought to expand their conquests into Laos, even intruding on border regions of Tonkin.

Cam Seng's forceful son would ally with fierce Chinese bandits of the Black Flags and drive out Siamese intruders. Chinese rebels had poured across the southern borders of China into areas far from Hue's control, lured by lucrative opium trafficking and the lawlessness that characterized this region in the 19th Century. Tacitly encouraged by Hue as a means of protecting and policing the region, these "pirates" provided neither comfort nor security for Tonkinese inhabitants, looting and plundering at their whim and pleasure. In similar fashion Cam Houm—Cam Houm, his T'ai name, would soon be known by his Chinese name of Đèo Văn Trị—now assuming supremacy among the *Sip Song Chau Tai*, latched onto Black Flag rebels –Laotians called them "*Ho*"—to strengthen his forces in ousting Siamese invaders. In fact, spurred on by the kidnapping of three of his brothers by Siamese soldiers, Cam Houm, with his T'ai and Ho forces, stormed across western Tonkin, laid waste to the Thèng Valley, then occupied by Siamese troops, drove peaceful Black T'ai inhabitants there into the mountains, and pushed on to Luang Prabang where he sacked the city in 1887. The Thèng Valley soon became like a desert, inhabitants fearing terrorism and violence should they return. Although Black T'ais had populated villages in the valley Cam Seng and his White T'ais would rule, his son even hand-picking his father's successor in 1885. Black Tais were despised by White Tais, considered backwards and stupid. Yet they were industrious farmers and would transform the Thèng Valley into a rich agricultural breadbasket for these mountainous regions. Still, peace would not come easily. Laos, including T'ai country continued to be battlegrounds for warring neighbors, the Laotians themselves powerless to stop the marauding. So much so that French consul and explorer Auguste Pavie, when he made the trek from Luang Prabang into Tonkin in 1888 found the devastation sweeping:

> When I had traveled the Nam-Hou the previous year, everything breathed life there; the pretty huts spread out on the slopes, the people were active in the fields and fishing; today the desolation was everywhere; the villages on both banks had been burnt from one end of the river to the other. Abandoned fisheries, half-built, clogged the river. The inhabitants living in the woods…were extremely grateful for the little rice that was given.[5]

This Tonkin frontier was a lawless, primal land. The new Governor General de Lanessan soon grasped the anarchy of the border regions. Isolated outposts of French troops hardly able to communicate with one another were subject to brutal ambushes. Chinese pirates, slipping back and forth across the border attacked posts, harassed convoys, and extorted villagers. France would enter on bitter wars of pacification of the border regions, at first with the Chinese and then with insurgents. French soldiers would fall at alarming rates along provinces of Lạng Sơn, Cao Bằng, Lào Cai, and Lai Châu as Chinese pirates slipped back and forth across the borders to their sanctuaries in Yunnan and Quangxi Provinces. By 1888, Haut Tonkin boiled with rebellion. Ambushes, terrorizing raids on local villages and French posts characterized life here. Confined to secluded roadways with their columns of infantry and artillery, the French were no match for marauding guerrilla bands darting in and out of roadside jungles. Local mandarins and scholars tacitly supported insurgents as they longed to throw off the French yoke. Some French troops were convinced that the Chinese pirates were the undisputed masters.

French infantry in those places would suffer mightily. During the Tonkin campaigns of 1883–1885 thousands would fall before Chinese long rifles. Thousands would endure jarring caravans on a winding horse trail soon to be known as *Route Coloniale* 4 across valleys, over mountain passes, and around stone eruptions projecting upwards like mammoth mammary glands. Thousands of men nursed arms and legs drilled by bullets that smacked through muscle, nerves, and bone or felt the putrid fevers incited by punctured bowel and colon. Leave well enough alone, doctors were advised. After all, Val-de-Grace surgery guru Edmond Delorme had assured them that:

> The opening of a modern bullet wound is so small that if the surgeon adopts strict antiseptic or aseptic dressings and refrains from probing the wound or making a systematic search for benign foreign bodies arrested in its track, it is possible to give the most favorable prognosis for wounds of this class.

And, by all means, refrain from heroic efforts to right mischief inside the abdomen. Let nature settle the score. Horrific were the exploits of surgeons foolish enough to intervene. Those men and their tender, peritonitic bellies must simply suffer:

> In war, the surgeons must lay aside any idea of opening the abdomen. the experience of all recent wars is against such means…It was found that those who were operated on yielded

a smaller percentage of recoveries than the cases which were not subjected to operation.[6]

For the most part, Delorme was right, at least in the 1890s. All in all, one out of ten would not survive. And, indeed, surgery was often more intrusive than therapeutic. But for belly wounds it was much worse, almost half died, taken by a raging sepsis from blood fouled by fecal microbes. Delorme described their plight: syncope, cold sweats covering forehead and temples, slowing of the heartbeat, pulse, and respirations. *C'est l'image de la mort* (this is the image of death) he counseled.[7] And on that journey to the citadel at Lạng Sơn or on to Hà Nội not a few perished. *Medecin chef* de Fornel bemoaned the lack of humane conveyance. He had pleaded "What needs to be sought are faster and more comfortable means of transport for the wounded, and we must not forget that the speed of evacuation does a lot for healing." But the frontiers of Tonkin were worlds away from civilization. And in March 1885 Chinese brigades threatened to overrun Lạng Sơn, spooking an inexperienced Lieutenant-Colonel Herbinger. Lạng Sơn was abandoned with an inglorious French retreat, producing a stalemate on Tonkin's frontiers.

Finally, in 1891, a frustrated de Lanessan organized four military territories along the frontiers. Districts would now encompass the soon to be familiar hamlets of Lạng Sơn, Cao Bằng, Đông Khê, Lào Cai, Lai Châu, and what would eventually be called Điện Biên Phủ. Each quarter would be parceled into *cercles* or fortified districts which would have the dual mission of policing and pacification. The Second military district of Cao Bằng, Đông Khê, and Lạng Sơn would be a hotbed of insurgent activity and consumed the most in French military resources. However, under Col. Joseph Gallieni remarkable progress was made. Routine military patrolling and humanitarian aid to local populations, particularly the ethnic groups inhabiting the area, seemed to beef security and gain trust of the settlements. By 1894 Gallieni had completely suppressed pirate activity. "Pacification" worked: humane efforts of compassion, assistance, and protection. Militia (partisans, they were called) were recruited and trained for local defense. Farther to the west, in land even less populous, was created the Fourth District, commanded by Lieutenant Colonel Theophile Pennequin. Pennequin had trialed the program in the upper Red River Valley. He had overseen both his military and civilian pacification and included local Vietnamese officials in the administration—and beheld a smashing success. Now he was put in charge of settlements in the Thèng Valley, the valley of Diễn Biến in *Kinh* language, meaning "Big Frontier."[8] The collective hamlets of Mương Thèng—the "arena of the

gods"—would become part of the Fourth Military Territory. Pennequin knew the area well. His alliance with the *Sip Song Chau Tai*, had allowed the first steps in pacification and confederation with his government. By 1889, Black Flag Chinese had left the area and the Chieftain Đèo Văn Trị had pledged, before the altar of his ancestors on the banks of the Năm Youm, loyalty to France. In this mountainous region Pennequin was now able to mollify the Muong clans, historically sympathetic to Chinese pirates, so that more and more, tribal chiefs became aligned with the French and began cooperating in bringing peace, supplying emissaries and partisan fighters.

Indeed, the French diplomat Auguste Pavie would play an instrumental role in T'ai country. Pavie had been appointed vice-consul in Luang Prabang under an agreement reluctantly signed by Siam. Yet it would be his various lengthy expeditions in Cambodia, Laos, and northern Tonkin that brought into focus French designs on Laos. Pavie charted previously unknown territory and, simultaneously, gained favor amongst ethnic minorities in the region, seemingly engendering support for French aggression and colonization. His trips back and forth through the Thèng Valley recorded the devastation wrought by internecine warfare and resiliency of mountain groups in re-populating the plateau and resurrecting its glorious potential. Through negotiations he obtained the release from Siam of Đèo Văn Trị's three brothers taken hostage thereby winning the confidence of this T'ai confederation to aid the French in their attempts to pacify unruly border regions of Tonkin. *La conquête des coeurs*, Pavie would say, "the conquest of hearts." Once peace had been made with France in 1888, Đèo Văn Trị was anointed by the colonizers as *Quận fou* (regent) of Mương Thèng (in reality "Master" of the upper Black River). Lieutenant Colonel Theophile Pennequin, commmander of forces of *Haut* Tonkin and T'ai country had worked out the peaceful surrender of Siamese Gen. Phya Surrisak who withdrew from Mương Thèng in December of 1888. On 17 December, the Siamese gave their fortress over to Pennequin, camped on the opposite banks of the Năm Yum, who entered the village and its citadel a few days later. Despite exodus of Siamese, Pennequin ordered the plateau of Thèng occupied by one company of colonial troops (about seventy men) to ward off brigands and encourage repopulation of the expanse by leery villagers hiding in the mountains. Đèo Văn Trị's White T'ai and his Black Flag bandits still struck fear in their hearts.[9] Thèng would now become a French military post. It would no longer be known by the name of Mương Thèng. French would call it by its Vietnamese title Điện Biên Phủ, an administrative title for the new Phủ, or "capital," of the "Big Frontier," the border region with Laos. Đèo Văn Trị continued to reign as a

dreaded and powerful feudal chief, trafficking in opium but forbidding his family from using it.[10]

Yet harmony in this area was elusive. By 1891 bandits once again roamed—outlaws preying on fragile settlements. Pennequin trained his partisans, local militia, to infiltrate, ambush, and assassinate. Slowly troublemakers disappeared. Tranquility returned. All without spilling French blood. At the same time, with an eye to French exploitation, he fostered economic policies and granted amnesty to select insurgents that solidified support for the colonial effort. Improved roads, relief of an onerous tax burden, building of schools, and condoning the trade of opium all earned high marks from Paris.[11]

By 1894 the French post in the Thèng Valley had been moved to the hillock called Xiềng-Kiane, the mythical birthplace of Khun Borom. It had formerly been located on the plain near a place called Xiềng-Kiane ("Xiềng" simply means "fortified")—perhaps along the northern approaches into the valley—surrounded by earthen ramparts. The move must have been made for a better commanding view, Xiềng-Kiane may have been 150-200 feet above the valley floor. On this hill, near the banks of the Năm Yum, a palisaded fortress was built and, shortly, villagers and refugees congregated until there were over fifty huts raised housing almost three-hundred families. One of Pavie's fellow explorers, Pierre Lefevre-Pontalis, visited the valley in October of 1894 and stayed inside the fort. His previous experiences in dismal mountain outposts were in direct contrast to this rather pleasant stay:

> For a fortnight I enjoyed the hospitality of Lieutenant Noire. My men had settled in Xieng Kiane's pine woods. As for me, I lived in one of the huts of this very palisaded post, from which one could see a superb view over the whole extent of the plain.[12]

The French would come to know this hillock well. It would comprise the ELIANE complex, an anchor in the defense of Điện Biên Phủ 50 years later.[13] For now, the Thèng Valley would slip into obscurity. The Fourth Military Territory would, in the words of Jean-Loiuis de Lanessan, "have little interest."

At the close of the 19th Century Governor General Paul Doumer found a different, pacified Tonkin. Opium trade was booming, bringing in almost 900,000 piasters from Tonkin alone (well over five million piasters for the entire of Indochina) due to the monopoly on manufacture, purchase, and sale of opium by the colonial administration. The T'ai regions, the "*pays*

mường" were among the most stable then. Đèo Văn Trị and his *Sip Song Chau Tai* were no longer a troublesome crowd and had acquiesced wholly to French domination. Doumer wrote:

> Security has never inspired the slightest anxiety. The Quandao of Lai Chau, Deo Van Tri, whose authority is great throughout the country, always has a correct and submissive attitude towards the Government, and has repeatedly demonstrated its commitment to the French administration.[14]

And as for the great plateau of Mương Thèng, now called Điện Biên Phủ, Auguste Pavie prophesized well when he foretold, in 1890:

> [O]ne could not hide the immense interest attached to Điện Biên Phủ, soon received with all its development. Placed between two poorly cultivated and poorly exploited countries, this great plain could become, as in the past, the granary of all Upper Laos, the center of attraction of the traders of the region, the principal seat of our political and economic action, and if it was necessary, the main point of concentration of all our efforts in this part of Indo-China.[15]

Indeed, the broad farmlands of Thèng were the strategic pathway to the Năm Hou River and straight on to the Laotian capital of Luang Prabang, thus a pivotal waystation for linkage of Laotian and Vietnamese economies. This was the key to northwestern Indochina—for the French and for Hồ Chi Minh's Việt Minh.

Notes

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1. See J.T. McAlister “Mountain Minorities and the Viet Minh: A Key to the Indochina War,” in Peter Kunstadter [Ed], *Southeast Asian Tribes, Minorities, and Nations* (Princeton: Princeton University Press, 1966), 771-844.
2. See Sams, B.F. “Black Tai and Lao Song Dam,” *J Siam Society* 76 (1988): 11-120.
3. See Jean-Louis de Lanessan, *La Colonisation Française en Indo-Chine* (Paris: F. Alcan, 1895).
4. Bryan K. Wong “The Hmong Diaspora and the Struggle for an Identify,” Air Command and Staff College, Maxwell Air Force Base, AL, December, 2012.
5. Auguste Pavie, *Mission Pavie: Indochine 1879-1895, G*éographie *et Voyages*, Volume I, (Paris: Ernest Leroux, 1901), 234-235.
6. Both quotes from Edmond Delorme, “Blessures de Guerre, Conseils aux Chirurgiens“ *Comptes Rendus Des Séances de Académie* 159 (1914): 394-395
7. Edmond Delorme, *Manuel Technique du Brancardier* (Paris: Librairie Militaire, 1880), 37.
8. Jules Roy, *The Battle of Dienbienphu* (New York: Carroll & Graf, 1963), 36
9. Guy Clech, *Le Siam et ses Relations avec la France* (Paris: Saint-Pierre & Miquelon, 1947), 52-79.
10. Auguste Pavie, *A la Conquête des C*œurs: le *Pays des Millions d’*Éléphants *et du Parasol Blanc, les Pavillons Noirs, Deo-van-tri*, (Paris: Bossard, 1921).
11. *Histoire Militaire de l’Indochine Française des Débuts à nos Jours (Juillet 1930)*, (Hanoi-Haiphong: Imprimerie d’Extrême-Orient, 1930), 207-230; Emmanuel Pierre Cabriel Charbrol, *Operations Militaires au Tonkin* (Paris: Henri Charles-Lavauzelle, 1897).
12. Pierre Lefèvre-Pontalis, Mission *Pavie Indo-Chine, 1879-1895, G*éographie *et Voyages*, Volume V (Paris: Ernest Leroux, 1902), 180.
13. Although there is no certainty about the location of this hillock, the fact that a small community arose around it and it was in proximity to the Nam Youm stream would make the future “ELIANE” a logical location, as opposed to the hill stronghold of “GABRIELLE” further to the north and away from the Nam Youm.
14. Doumer, *Situation de l’Indochine*, 403.
15. Auguste Pavie, *Mission Pavie: Indochine 1879-1895, Géographie et Voyages*, Volume IV (Paris: Ernest Leroux, 1901), 183.

Chapter 8

Death Comes to Mương Thèng

Croire et Oser (Believe and Dare)
—Motto of the Sixth Colonial Parachute Battalion

These were the badlands, sure enough, and the air cavalry that dropped in would be no match for the desperadoes who came to inhabit them. It was truly to become "hell in a very small place."[1] For the French their decision to stand at Điện Biên Phủ was like a locomotive derailing in slow motion; the colonial empire careening out of control on a collision course with the simmering energy of a new Asia. A remote location in the northwest corner of Tonkin, almost on the Laotian border would be France's humiliation, France's penance. This piece of Indochina was *Haut Tonkin*, "the high country," mountainous terrain with only a few scattered valleys. In a broad basin of the Năm Yum River as it meandered its way to the Mekong, was the settlement of Mương Thèng, by legend thought to be the original home of the Black T'ai.[2] The French would call it Điện Biên Phủ, the administrative center of the "Big Frontier."[3] But in the surrounding jungled hills the Hmong and Black T'ai tribes still dominated. It was they, near the Laotian border, who grew the poppies for opium sale by White T'ai middlemen in the valley. This remained a lucrative business poorly regulated by the lone French administrator but adding millions to French coffers—some estimated revenue of ten million piasters (almost one million 1954 dollars). The Việt Minh, in the late 1940s and early 1950s would find these poppies a ready source of cash for their revolutionary engine, anxious to wrestle proceeds from the French. Beyond that, rice grew with exuberance, producing two thousand tons per year, a sizable contribution to the insurgency. The French, realizing the area of northwest Tonkin was desirable territory for the Việt Minh as a cash cow, breadbasket, and gateway to Laos, attempted to occupy the region at the end of World War II. It had not been an easy task. French legionnaires were tossed out of the valley of Điện Biên Phủ in 1952, evacuated for fear of annihilation. Điện Biên Phủ "is not a strategic sector," was the official stance, calling it a "hole-in-the-ground."[4] Hồ Chí Minh felt different. The valley of the Thèng led straight into Laos, a country in which he was deeply interested, a link with Pathet Lao allies. The Năm Hou River lay just beyond, and from there an easy journey to Luang Prabang. So, in November of 1953, French would come back,

eager to insert a regain control to deprive the Việt Minh of this strategic bread basket and marshaling stronghold on the border of Laos, and of enlistment of the ubiquitous tribal peoples who were liable to support the communist cause. But there was little sympathy for the French in this Black T'ai region. French-backed White T'ai chieftain Đèo Văn Long, son of strongman Đèo Văn Trị, had ousted local Black T'ai chief Lò Văn Hặc and installed his own son as overlord of the Thèng plateau. Such internecine politics had angered Black T'ai settlers who populated these mountains and farmed this plateau. Not only Black T'ai but also other tribes of the *Sip Song Chau Tai* Federation—the Hmong and Yao and Khmu who lived above the clouds—resented White T'ai dominance and would soon lend their loyalty to the liberating Việt Minh.

French high command was oblivious. Đèo Văn Long was a stabilizing force in T'ai country. These seemingly lawless and militant mountain tribes had been united under a "federation" that reaped lucrative benefits from French alliance. The region had been pacified. Now they assumed their friendly T'ai Federation would assist in routing out Việt partisans and fighting side-by-side colonials if necessary. French presence on the broad Thèng plateau was sure to disrupt flow of materiel and troops to and from Laos and could entice Giáp into a set-piece battle he was sure to lose. Was it not at Nà Sản just one year earlier that thousands of young Việt Minh were slaughtered by superior French firepower? The new French commander Henri Navarre had pledged a certain victory, a fresh determination:

> I speak directly to you…Logically victory is certain. But victory is a woman. She does not give herself except to those who know how to take her. One cannot win without attacking…We must attack wherever we find them [Viet Minh].[5]

Navarre was quite the professional soldier, aloof, cool, he struck an aristocratic pose despite his bourgeois underpinnings. "A man of courage, energy, and imagination," so thought his boss, Marshal Alphonse Juin. But through the prism of Nà Sản, Navarre was as myopic as most. Stupendous achievements can do that to the unwary. "A year ago, none of us could see victor. There wasn't a prayer. Now we can see it clearly—like light at the end of a tunnel."[6]

General René Cogny, new head of French forces in Tonkin, considering it a likely "mooring point" for activities in northwest Tonkin and an iron grip on poppy trade and rice harvests. Still Cogny had his reservations and other subordinates cringed. Isolation of French forces could spell disaster. Some even foretold it a potential "battalion meat-grinder."[7]

Setbacks and misunderstandings were penalizing French strategy. As is often the case when grand undertakings cannot be coronated with success, generals resort to the childish pursuits of blind punishment, a ruination as destructive to themselves as to their sworn enemies, a sordid picking away at a mounting cost of self-mutilation until one cannot distinguish victor from vanquished. Grind away at Hồ Chí Minh and his rebel army—entice him to fight and then mow down his ranks—and, sooner or later, his back will be broken. Nà Sản was a prime example, Điện Biên Phủ would be the next.

But heading north on *Route Provinciale* 41 in early 1953 flanking the Năm Yum as it opened into the valley of the Thèng showed a placid assembly of thriving communities. Around 10,000 inhabited any number of small villages and hamlets scattered throughout. Rice paddies abounded in the flat northern and western sectors of the valley. Centrally located and hugging the Năm Yum on both banks was the largest village of around 100 thatched, stilted huts called Mương Thèng. Dirt paths lead between vegetable plots and private stocks of chickens and pot-bellied pigs. Parallel to *Route Provinciale* 41 was a farm trail heading more northerly, an old horse path called the Pavie track. It was Auguste Pavie's old road, the one he took from Lai Châu into Laos. Bordering the valley were looming hunter-green mountains and, even closer, modest eastern hillocks that gave a commanding view of the plateau and its bucolic beauty. Now, though, intermingled with industrious farmers shielded by their *nón lá* and domestic caretakers were cadres of Việt Minh, many of whom were ethnic T'ais who had enrolled in Việt ranks. And more were filtering in. It had, in fact, become training ground for armed units. This was the time and the place General Cogny would intervene. Descend on this plateau called Điện Biên Phủ, drive out the scattered guerilla forces, and set up a sturdy *base aéro-terrestre*, an interlocking land fortress with aerial superiority, a fortress whose garrison would patrol and police this fertile entrance to Laos and whose fighters and bombers would rule the air and seek out troublesome Việt bandits. And just maybe Giap would be foolish enough to challenge, much as he had at Nà Sản—Nà Sản, the name conjured up images of total destruction of rebel bands and dominance of colonial forces. It was a pleasing memory to high command.

Cogny was worried. Geographically Điện Biên Phủ was no Nà Sản. Yes, it was one of the few valleys in T'ai country large enough to accommodate an airstrip and bordered—at least to the east and north—by hills that gave a strategic command of the plateau, but it was much too far from Hà Nội, and unless the French controlled the ringing mountains, it could

be a fishbowl for Giáp'a artillery. But Gen. Henri Navarre, commander of all colonial troops in Indochina, was convinced. He carried delusions of French superiority and élan. In fact, though—and largely ignored by Navarre—intelligence had confirmed that the Việt Minh were reinforcing their garrison in and around the Thèng plateau. Word had it that local T'ai highlanders were beginning to swell Việt ranks. Navarre would mastermind Operation CASTOR, the insertion of nine battalions of colonial soldiers—a minority French nationals—into the valley of the Thèng, drive off scattered pockets of Việt resistance, and establish their powerful air-land bastion of troops, artillery, and aircraft. The ground commander would be a seasoned veteran of World War II and the Indochina campaign, aristocratic *Général* Christian Marie Ferdinand de la Croix de Castries. At his disposal was the *Corps Expéditionnaire Français en Extrême-Orient* (CEFEO) the Far East Expeditionary Corps. On the eve of Operation CASTOR it comprised a total of 182,424 troops, over 50 percent stationed in northern Vietnam (Tonkin). Of this number, not quite 30 percent were French nationals, 10 percent *Légion étrangère* (Legionnaires), 20 percent North Africans, 10 percent Africans, and 30 percent Vietnamese or Indochinese. Over half of these troops were listed as infantry and six percent "parachutists," or airborne infantry.[8]

The *Service de santé*, the medical arm for the CEFEO, was woefully understaffed, employed 4,434 personnel including 384 physicians, of whom there were only 70 surgeons for all of Indochina. A large number of members were civilians, particularly women, who served as nurses, ambulance drivers, and administrative assistants. "The dirty war" as it was called by some in France had discouraged widespread support and volunteerism on the part of health care workers. *Médecin-colonel* Claude Chippaux was to head medical support for the operation. Chippaux was a 43-year-old consultant in surgery and head of surgical services at the Lanessan Hospital in Hà Nội. He had graduated from the l' École du Service de Santé de Bordeaux in 1935, and did his surgical training in Marseille at the "Pharo." His involvement in the Resistance as a clandestine surgeon during World War II was legendary. Those he saved would claim he had "fingers of gold," and was considered to be one of the most skillful operators of his time. Never shy of danger he was wounded by an explosion in September 1944. Only quick action by his physician wife to stem the bleeding had saved him. Blinded by the blast he was led to American lines, thinking his medical career was over. Indeed, the injury had cost him an eye. With determination he made one eye enough. In 1948, he was in Indochina and doing reparative surgery in the highland resort town of

Dalat. Soon his dazzling *finesse* earned him a chief spot at the Lanessan Hospital. Madam Chippaux-Mathis, a surgeon herself at the nearby Calbairac military hospital, would at times assist him, an extra two eyes for complex cases.

Despite Cogny's anxieties, he would give Chippaux only one surgical *antenne* for on-site triage and care of casualties at Điện Biên Phủ. After all, even at worst he insisted, 100 casualties a day would be easily managed. But Chippaux remembered Nà Sản. Yes, that glorious victory had generated almost 200 casualties, many almost dead by the time they arrived. Even with three full surgical teams at the Lanessan work was ceaseless. He personally had operated on 57 patients in the span of eighteen hours without a break. And they were complex wounds, many the result of Việt mortars, grenades, and bazookas. Could Operation CASTOR be worse? Điện Biên Phủ was 185 miles from air bases around Hà Nội. Could a sudden deluge of wounded be handled by one on site surgical team and evacuated timely? He doubted.

Still, on 20 November 1953, CASTOR unfolded. Airborne units of the French began their descent into the valley that was Điện Biên Phủ in three rectangular drop zones named NATASHA, SIMONE, and OCTAVIE. The first drop of paratroopers from the Sixth *Bataillon de Parachutistes Coloniaux*, an elite unit of well-trained commando-style troops, their motto *Croire et Oser*, "Believe and Dare," was over NATASHA, centered on the former cratered airstrip. It was on this day that *Médecin-Capitaine* Jean Raymond's lifeless body drifted to earth, the first casualty. By Sunday morning, November 22, there were a total of 4,560 troops on the ground. Việt Minh resistance had been minimal, scattering for the hills just as predicted—but perhaps too easy, as if drawing colonials into a trap. Of course, some Việt Minh stayed and fought. Unbeknownst to the French, a cadre of Việt Minh regulars were directly underneath, undergoing field exercises. As sticks of men left the C-47 Dakotas the Việt Minh opened fire riddling a number of paratroopers dangling from their canopies as they floated to earth. Not a few paratroopers hit the ground lifeless, including the fateful jump of *Capitaine-médecin* Jean Raymond. In all that day 11 paratroopers were killed and 52 wounded. The following day, 21 November, the First *Antenne Chirurgical Parachutiste* (ACP) under *Lieutenant-médecin* Rougerie parachuted in with their supplies. Chippaux would depend on them to patch the boys up and get them out.

Now two worlds collided in the Valley of the Thèng. Black blouses of traditional T'ai dress contrasted with the brown-green striped camouflage of the paratroopers. And, on the dikes, the returning patrols of sweaty,

bush-hatted troopers crossed paths with strings of tribal girls in black bouffant headdress, the colorful and embroidered *pieu shaw*, and tube skirts giggling their way to the rice granaries, no doubt in flirtatious gestures for the handsome infantrymen.

Yet the hills around would hold host to swarms of the enemy. On 7 December, General de Castries arrived and assumed command of what now would be called *Groupement Opérationnel Nord-Ouest* ("Operational Group Northwest," referred to by the French acronym "GONO"). This was a combination of two *Groupes Mobile* (GMs), GM-6 and GM-9, brigade-like combinations of infantry, armor, artillery, and airborne troops, both legionnaires, Vietnamese, and native French troops[9]. He would be surrounded and soon cut off by land—*Route Provinciale* 41 the only ingress and egress—although patrols he sent out to flush out the Việt Minh often returned empty-handed. From this point forward any further troops or supplies would need to arrive by air, using the rutted airstrip developed by the French years before. Attempts to establish a land route of resupply along *Route Provinciale* 41, certainly useable from Điện Biên Phủ to Hà Nội, was fraught with Việt ambushes and eventual control. To the west, through Laos, the roadway became little more than a footpath and totally unsuitable for motorized traffic. Overland passages through impassable jungle were soon abandoned. Men of Điện Biên Phủ would either have to be evacuated or sufficiently reinforced and re-supplied if they were to survive, a strategy that was not followed on either count. The author Graham Greene had visited the camp early in 1954. He wrote of the scene: "[w]ith rapidity and energy the French in a matter of weeks leveled a forest, erased a village, erected the great fortified camp…the achievement was magnificent."[10]

Both Việt Minh and French methodically destroyed the quaint native village of Mường Thèng. Vacated huts were first used as bunkers but had been systematically destroyed by artillery fire or burnt to the ground. Their inhabitants had long since fled to the hills, taking their squealing pigs with them. Skirmishing rebel troops were slowly enucleated from the area and themselves retreated into the vast hinterlands around Điện Biên Phủ. In rather typical French fashion, never wanting to be far from certain hedonistic tendencies, *bordels mobiles de campagne* (mobile field brothels) were brought in, supplied with 18 Algerian and Vietnamese women.[11] Housed in trailers or tents, each was affectionately referred to as "*la boite a bonbons*" (the candy box). The girls would soon become indispensable, not for pleasure but for pain. They would aid the casualties after the start of hostilities. Of course, also in French fashion, across the expanse of reworked landscape were distributed 48,000 bottles of fine wine.[12]

Giáp would not repeat his costly mistakes at Nà Sản where blind, frontal assaults had racked up horrible casualties. There would be no assault at Điện Biên Phủ until he was certain of superiority in troops and artillery. Preparations would last from December to mid-March. Only when he was "100 percent assured of success" would he begin his assault.[13] And then it could be in phases, a piecemeal dismantling of French fortifications from the outside inward until nothing remained but a small pocket of desperate, haggard defenders.

De Castries sprinkled his fortifications the length of the valley floor. It was impossible to have a continuous perimeter of troops, 50 battalions would be needed for that. He had twelve. Like Nà Sản, he concentrated his troops in a number of strongpoints, *points d'appuis* or *centres de résistance*. He designated 30 such strongpoints, each manned by garrisons of company to battalion size. Each was bolstered by trenches and wire entanglements, sometimes concentric circles of these, with bunkers at strategic locations housing automatic weapons and mortars. All to protect the command and medical-aid posts centered where the village of Mường Thèng itself had stood. They took women's names—who knew why? BEATRICE and GABRIELLE, the ELIANEs and DOMINIQUEs, the CLAUDINEs and ANN-MARIEs, the HUGUETTEs and lonely ISABELLE to the south; on some troops roosted hundreds of meters high, on those panoramic hillocks of Pavie, others were mere encampments carved into the flatness of farm fields. Lovely Mương Thèng was now a wasteland of sand-bagged dugouts, zig-zagging trenches, and corrugated metal confines. Berms and the paraphernalia of modern technology—power generators, water purification structures, and dozens of vehicles all made it a scene of military-industrial ugliness.

In the assessment of historians Kevin Boylan and Luc Olivier, it was all a house of cards. Labor from local peasants to dig trenches and firing pits was unskilled and unmotivated. Construction material lagged. Of the estimated 36,000 tons of engineering supplies needed for all the strongpoints, only 4,000 tons were eventually airlifted, including vital materials to reinforce bunkers and pillboxes. Even sandbags and lumber imports fell short, and local timber, besides being hazardous to cut down, was difficult to transport across the valley floor. Importantly, stone and consequently concrete was scarce, so the all-important "bursting layer" of thick impenetrable material had to be improvised. If not detonated by this first layer, shells the size of 105mm could penetrate the roofs of bunkers before exploding. Even infantry lacked the proper small arms and automatic weapons normally carried. Expeditionary forces like GONO often left their full complement of weapons behind for the sake of mobility. The entire effort

seemed to rely on superiority of artillery and strong air support. The airstrip able to accommodate Dakotas for resupply and fighter aircraft for close support was another indispensable component of combat efficiency. Yet, the runway was pocketed with holes and the pierced steel plate matting used to resurface was susceptible to artillery shelling and hard to replace. It was all a precarious situation.[14]

The fortifications built around the command–and–control centers—soil that formerly hosted vegetable gardens, pig pens, and chicken coops—would assume the codename CLAUDINE. Legionnaires and coolies cleared the terrain around for a distance for wide fields of fire and to observe enemy movements. The valley would be stripped of vegetation, particularly the hillocks surrounding the main French command center. The whole panorama began to resemble a moonscape, an alien world inhabited by subterranean beings burrowing into their whittled-out lodgings and watch-stations peering into the distance with binoculars at an enemy more clandestine than they. But there were gaps in the perimeter, in some instances, by thousands of meters. For example, sector ISABELLE, to the south, was over five miles from the central defensive positions and was effectively isolated during the battle. Over 1,500 men populated its interior, only 750 meters in width. Two batteries of 105mm howitzers covered the eastern strongpoints and three tanks sat poised for counterattacks. A definite siege mentality permeated the camp, yet it was felt important to guard the southern approaches to the valley and to provide an ancillary airstrip for resupply. These gaps would turn into a veritable "no man's land" of roaming French and enemy patrols intent on raiding and pillaging outposts and trench lines, sometimes meeting in short, violent clashes. In that compound, close to the command post would be the first aid station commanded by *Capitaine-médecin* Guy Calvet and two battalion surgeons, Gerard Aynie and Emile Pons. Until 13 March their work would strictly be first aid. Anything more serious was shipped back to Hà Nội along treacherous *Route Provinciale* 41.

Even though some troop concentrations were placed on hillocks of 500 meters elevation as defensive redoubts, positions were not well protected or camouflaged and were dwarfed by the surrounding massifs held by the Việt Minh. The main airstrip was located in the center of these positions but clearly visible and easily targeted from the neighboring highlands. To the northeast, guarding access to the valley from northern hills would be the hillock named BEATRICE. To the north another 180-foot rise over a mile from the end of the airstrip was named GABRIELLE. Farther to the west and northwest would be a series of defenses, more of a tripwire, this area was ANN-MARIE. The central compound includ-

ing the command center, hospital, and various communication networks would be surrounded by a series of fortifications. Sectors DOMINIQUE and ELIANE guarded the eastern perimeter, across the Năm Yum River in a series of rises up to seventy meters. To the west, flatter, more barren, would be the HUGUETTEs and CLAUDINEs. It would be a wonder to the French garrison that the Việt Minh would be able to amass such an array of artillery. These would be hauled into place largely by human labor over matted forests, across swollen streams, and rough ground that required back-breaking effort for thousands of "coolies," civilian volunteers. Preparations would take months, but General Giáp knew that rash, human wave assaults alone would not succeed without careful preparation, including amassing enough artillery to sodden French fortifications. There would be no assault until all was perfect, until the French were hopelessly entrapped. His plan: advancement of trenches almost to the brink of French fortifications—death by strangulation.

As Giáp and his Việt Minh slowly and methodically placed their noose around Điện Biên Phủ in the early months of 1954, a makeshift hospital was dug out in the center, the "heart and soul" of Điện Biên Phủ, near the command center and the banks of the Năm Yum River. De Castries and his tacticians estimated a rate of casualties at three percent per combat day. As a result, 424 beds were set aside, 44 bunks were located in a subterranean hospital, an area surrounded by the CLAUDINEs (south), the HUGUETTEs (west), and the DOMINIQUEs (northeast). The underground infirmary was the brainchild of 28-year-old *Medecin Lieutenant* Jean Thuries of *Antenne Chirurgicale Mobile* (ACM) 29. The old terminology of *antenne chirurgicale avancée* had been replaced by "*mobile*" in May, 1953 to standardize nomenclature, but the composition and materiel were unchanged. Thuries' team had been brought in on December 16 to relieve the First *Antenne Chirurgicale Parachutistes* which had dropped into Điện Biên Phủ in November. ACP Chief Surgeon Lieutenant Rougerie had already treated 207 combat casualties from November 20 to December 3. He had not lost a man.[15]

Thuries had been given command of ACM 29 in July. The unit had a distinguished field record and was well equipped, the envy of many junior surgeons.[16] He knew field medicine, cutting his teeth as a lowly battalion surgeon at Nà Sản—an eerily similar scenario to the one he now faced. But there was concern about Điện Biên Phủ. When he flew in he was surprised by the size of the valley, another *cuvette*—"the bowl," similar to Nà Sản, but the peculiar beauty that he took in at Nà Sản was not here. Instead:

> Viewed from above, the bowl resembled a huge construction site, with canvas tents set up and many thatched roofs. The

> soil was ripped by trenches that radiate from the center …The whole site gave the impression of a bubbling volcano, with its craters, its cracks, its plumes of steam, and excavations that contrasted with the green of the surrounding hills.[17]

This "bowl" he now found himself in worried Thuries. Movement of casualties out meant complete control of the air, which had been the case at Nà Sản. Flights to and from the combat base must be unimpeded to evacuate the badly injured and open space for new wounded. His ACM was strictly a stopgap. Emergency measures only. Evacuation was paramount. Stop that and casualties would pile up. Men would suffer. More than a few would die. At Nà Sản the system had worked because French troops maintained a grip on the highlands. Those hazy velvet mountains ringing Điện Biên Phủ would be contested ground, he knew. Lose them and they all would be sitting ducks. For that reason—and expecting a good deal more wounded than figures allowed—Thuries planned to disperse his patients. There would be satellite locations to house casualties. One hundred fifty spaces for stretcher cots were found near the hospital, and another 60 were located at ISABELLE far to the south. More spaces were found in all the strongpoints near the battalion aid posts. As for the main hospital, Thuries partitioned his "hole" into separate dugouts for surgery, recovery, and radiology. Finally, there was enough space to put almost 50 wounded, a subterranean hospital ward. Just beyond would be the graveyard, leading down to the Năm Yum River. One wondered just how big it would become.

Vital to his medical system were the *postes de secours*—battalion-level aid stations. They were part of the defense network on each *point d'appui*, de Castries' strongpoints. Usually next to the command bunker they were still chillingly close to front line trenches and firing pits. But it was here that wounded would first be taken, at least according to plans. Battalion physicians—few had much surgical training—were to assess, treat minor cuts and scrapes, stop bleeding, splint arms or legs, apply tourniquest, give plasma, and inject morphine. Their directive, just like at Nà Sản: treat pain and shock, immobilize, transport. Badly injured would be sent to the *antenne*, but nobody left until fighting stopped. Until then, the bloodied and maimed hunkered down in dingy, sandbagged dugouts and listened to the cacophony of death outside. Everyone said little prayers that a stray mortar round did not land squarely on top. The more able-bodied limped back to their trenches, feeling safer there. At the main hospital two ground ambulances, three jeeps, and even a Sikorsky helicopter—one of those new S55s that could haul several wounded at a time, even litter

cases—were poised to evacuate. Angels of mercy they might be but those big, ungainly Sikorskys were noisy, beating the air in rhythmic concussive thumps that echoed back and forth over the valley. And settling to earth, they hovered for agonizing moments as if inviting potshots from curious *bộ binh*—riflemen—in the distant hills. For a while a lone C-47 Dakota was parked on the ramp to shuttle patients to Mường Sài, a small settlement southwest of Điện Biên Phủ in Laos, about 150 km away to another ACM and from there to Hà Nội. Võ Nguyên Giáp knew all about that airstrip, though. It was a seductive tease for him. His big cannons would soon range in and have it in their sights.

No, it was no secret on either side that the key to success at Điện Biên Phủ was re-supply. Proof of concept was Nà Sản just two years ago. The *Base Aeroterretre* provided a mobile platform for French influence and pacification of northwest Tonkin and Laos and had the enthusiasm of High Command. But Điện Biên Phủ was no Nà Sản. Not by a long shot. By land, only one road provided access, Route 41—and it was a tortuous, hilly highway, miles from civilization—and soon to be cut by the Việt Minh. Two airstrips in the valley were certainly usable. They had been smoothed, lengthened, and reinforced by French engineers. The main strip, near the former village of Mương Thèng, could accommodate heavy C-47s and C-119s—65 tons a day of supplies had been promised—as well as fighter and bomber aircraft, but the weather in the valley was capricious. Thick fog, low ceilings, and monsoon rains would limit predictable supply runs and the surrounding hills in this nightmarish amphitheater would soon house over 80 Soviet-style 37 mm and 100 12.7 mm (.50 caliber) antiaircraft weapons cleverly hidden and supplied with tens of thousands of rounds of ammunition.[18] Their aim was deadly accurate. Giáp's artillerymen had taken on camouflaged planes on the runway and tarmac destroying one C-119 "Flying Boxcar" and a little Morane scout plane in early March. And on that fateful day of 13 March, two C-47 Dakotas parked at the edge of the strip were taken out, reduced to rubble. Giáp knew his major adversary was not the French infantryman but the French flyer. Stop supply and strangle the garrison. Anyway, the reality was there were simply not enough planes in the French air force to maintain a logistical supply line to Điện Biên Phủ and never could be. By March, 1953 three transport groups could muster a total of 79 C-47s and during the siege of Điện Biên Phủ itself around 100 C-47 and 24 C-119 aircraft were available for the entire Indochina peninsula.[19] General Giáp had little worry. He understood far better than the French that wars are not won by destroying infantry but by destroying logistics.

Back at ACM 29 February 1954 found Jean Thuries a sick man. The curse of Indochina had struck. A second bout of dysentery laid him low, now barely able to rise from his bunk. Cramps, diarrhea, and a feeling of malaise clung to him, worsened by his clammy, claustrophobic surroundings. He had endured much longer than reasonable. It was time for a relief.

Thirty-nine-year-old *Commandant-médecin* Paul Henri Grauwin was languishing at Haiphong in February, 1954, just completing his tour of duty in Indochina and sad to leave his favorite post, Nam Định, in the fertile Red River Delta. An ancient Vietnamese woman there had given him an orangewood statue of an old peasant, slightly bent. *Bác Sĩ Kim*, they called him—doctor—"the one who stitches." She had walked 10 miles to put it in his hands. His large, European "paws" engulfed hers, but her grip was the grip of a life of labor: firm, insistent. On the other hand, Haiphong had done nothing for him. *La petite Venise du Tonkin*, the little Venice of Tonkin, was an impersonal town, too busy. It had become a city of refugees, delta villagers driven from their homes that war had burnt to the ground. Blame was on the "liberating" colonials. A bitterness pervaded the population. His charm had been ignored. So, it all bored him now, the quaint Cinéma Eden, the stately Municipal Theater held no more interest. His work was over. A boat would soon take him away from the heat and the languor. The 13th of March was only a few weeks away. There had been talk of Operation CASTOR at some faraway place called Điện Biên Phủ. He had even seen a few of its casualties at the Lanessan Hospital in Hà Nội. But it concerned him little now.

And then there was the phone call. His assistant was to be sent to this Điện Biên Phủ. The *antenne* surgeon there was sick, stricken with a vicious dysentery, it seemed. It was Jean Thuries. Grauwin knew him, of course. The medical community was small, faces familiar. No, this was a combat zone, Grauwin replied, his assistant was much too inexperienced. He would go in his place; it would be only a few weeks in any event. He would be back in Haiphong before his departure date. So, on February 18, instead of the packed, unfriendly throngs of Haiphong, he was standing on the roof of the mess hall surveying the low silhouettes of Điện Biên Phủ—mounds of dirt, sandbags, and convex corrugated steel. Thuries led him down to the heart of his submerged hospital: the emergency treatment room, six pints of blood and hundreds of flasks of dried plasma always available; the operating room, twelve by nine feet with one operating table and all the accouterments ("I have never seen an operating room so well equipped in an area where fighting was in progress," he wrote); the X-ray room; and finally, the morgue, a large hole without a roof leading down to

the Năm Yum River.[20] Three hundred thirteen men had been treated here. Only twelve had died, and those almost dead before they came. And then Thuries was off. Grauwin was now the ACM 29 chief.

Like Thuries, Grauwin knew the key in combat care were the *postes de secours*, the battalion aid stations around Điện Biên Phủ. In short order Grauwin had visited them all. Critical were the battalion doctors who manned these posts. Face-to-face discussions were imperative to review first aid measures and communication with his hospital. He met *Capitaine* Pierre Le Damany, formerly stationed at ISABELLE but now, *Medecin-Chef*, whose charge it was to get patients out and keep beds open. All was in order. It would be a brief stay anyway. He was to be out of there before March 20, his new departure date from Indochina.

The following day more help arrived, the 44th *Antenne Chirurgicale Mobile*. Boyish-looking *Lieutenant médecin* Jacques Gindrey, just two years out of medical school led the group. But looks were deceptive. Jacques Gindrey was no stranger to war. *Docteur* Gindrey, then a seventeen-year-old teenager in 1944, was a member of a *maquis*, a rural guerrilla group of the French Resistance during World War II. This *maquis* formed from students and teachers from his secondary school, L'École militaire préparatoire d'Autun, the preparatory military school at Autun. In one particularly stunning act of sabotage, he and his *maquisards* blew up dozens of railroad cars and locomotives. Germans swiftly struck in retaliation, wounded him in the leg and, for a brief time, holding him prisoner. Somehow, he was released and proved far luckier than his comrades. Seven of his teachers were rounded up and summarily shot. In July, 1944, after the liberation, Gindrey was finally released from the hospital in Bourg and in February 1945 rejoined his *maquisards* at Autun, all reinstated by order of *Général* de Gaulle. From there ambitions took him to l'École du Service de Santé Militaire at Lyon and then an internship at l'École du Pharo in Marseille. He was headed for a medical career in the colonies. So now it would Grauwin and him in the buried confines of the former village of Mương Thèng, firmly linked with the destiny of de Castries' *Base Aeroterretre.*

By 13 March 1954, the French had inserted 10,813 troops into Điện Biên Phủ. Only a little over a quarter of them, almost 3,000 were highly trained and motivated French legionnaires. The rest were African and Indochinese irregulars.[21] De Castries' troops had already suffered 1,037 casualties, including 151 officers and men killed. These were mostly victims of random Việt Minh artillery barrages and probing attacks. Now, in March, they were surrounded by an estimated 49,500 combat troops and

another almost 50,000 support and logistical personnel around Điện Biên Phủ and strung out along their communication and transport lines. These were the *dân công* (civilian supply carriers). Việt Minh surgeon Tôn Thất Tùng remembered them:

> They were merry and carefree…Never shall I forget those men and women carrying supplies to the front plodding along … They pushed their heavily loaded pack bikes through mountain passes and across jungle streams, braving the cold and the drizzle.[22]

Like tiny ants with monster loads, they would provide a continuing stream of sustenance, mostly rice, and ammunition. Their pedestrian, camouflaged journeys made them almost impervious to air attack, the canopied vegetation providing a most effective barrier from aerial detection. At night the procession continued unabated, the way lit by torches of thousands of patriots. The trees and the jungle were on the side of the Việt Minh. In his memoirs entitled *Chiến tranh nhân dân quan đội nhân dân* ("People's War, People's Army"), General Giáp praised the toil of "hundreds of thousands" of porters and volunteers using bicycles, sampans, and pack horses during "scores of sleepless nights" bringing food and munitions to the front in spite of surprise raids by French aircraft. The contingent of so-called "pack-bicycles" could carry over 500 pounds of supplies each, supported by one or two accompanying porters. "Never had so large a number of Vietnamese gone to the front. Never had so many young Vietnamese travelled so far and become acquainted with so many distant regions of their country," he declared.[23] The musician Hoàng Văn, seeing the labor of his countrymen, composed a song, a military song called *Hò Kéo Pháo* ("Heave away the cannon") that was sung by thousands of workers as they made their way to the valley of Điện Biên Phủ:

> Now pulling the gun across the hill
>
> Now pulling the gun across the mountain
>
> The mountain is formidable, but our strength is more formidable
>
> The Ravine is deep, but our anger and resentment are deeper
>
> Getting the guns ready for the battlefield, where the enemy will soon be buried

It was a superhuman effort. Hauling heavy guns—105mm howitzers, 37mm antiaircraft guns, and 120mm mortars required grueling labor through mud, up and down slopes, hacking their way in thick foliage. Men used block and tackle, drag ropes and braking chocks to keep the guns

from careening down precipitous ravines, particularly for the enormous 105 mm howitzers. Branches, leaves, and grasses were weaved into latticework on helmets and shirts to carefully camouflage them from snooping French planes. The tiny road, hardly more than a goat path, from Sơn La through Tuần Giáo and over 1,650-meter Pha Đin Pass—"where heaven meets earth"—was slowly widened for truck traffic, but all, even routes carved into the sides of mountains, were kept from aerial surveillance by clever concealment.[24] Even the big gun carriages were undetectable from the air, adorned like their crews with tropical greenery. It would be those same antiaircraft guns, accurate to three thousand meters (10,000 feet), that most surprised the French as they riddled planes on approach to the airstrip at Mương Thèng.

The Việt Minh infantry—the *bộ đội*—endured as much. Three full divisions plus a number of artillery and heavy weapons regiments came to Điện Biên Phủ. Some had marched 500 kilometers. Former infantryman Cao Xuân Nghĩa told journalist Stanley Karnow that he had to travel forty-five days with his comrades from north of Hà Nội to the hills overlooking Điện Biên Phủ. They hiked at night and slept by day, in foxholes or just by the side of the road. Unlike colonials—and later Americans—Việt soldiers traveled light: a blanket, mosquito net, rifle, hand grenades, and ammunition. They had one change of clothes and one week's supply of rice. Anything else came from the graciousness (or intimidation) of local villagers along the way. He was accustomed to it. It was the way of life in Vietnam.[25]

Health care for the troops would be paramount for the Điện Biên Phủ campaign. With the distances to hospital centers in the Việt Bắc, it was imperative that medical and surgical issues be effectively dealt with or at least temporized locally and that an evacuation system be firmly in place to allow for the expeditious removal of stricken soldiers from the battlefield. But there would be no swift evacuation for Giáp's wounded: no helicopters or twin-engined *evasan*s or even enough trucks. His injured would be carried out along the same skimpy footpaths that brought them in; the luckier ones bouncing about in the back of Soviet-made Molotova deuce and a halfs. Brigade 99 was formed for the expressed purpose of transporting wounded soldiers to the rear. They would be stretched all along the route from Điện Biên Phủ to Sơn La and Yên Bái and on to Phú Thọ. In a series of relays, convoys would snake across miles of that same mountainous terrain, terrain seemingly undisturbed from the air but teeming with activity under triple-canopied forests. Some wounded were even taken by waterway on the Nậm Na to Lai Châu once the French had

abandoned this fortress in December 1953, and where generous quantities of medical supplies had been left.

Yet compared to previous campaigns medical care would be streamlined for the assault on Điện Biên Phủ. The distances involved, almost on the Laotian border, demanded it. Through his logistical and medical teams Giáp had implemented a plan of health care that began just behind the front lines. Đặng Kim Giang was the mastermind of logistical support, and had worked magic in coordinating delivery and storage of 27,000 tons of items from rice, salt sugar, and medicines. Giáp's intent was to keep as many minor wounds in the combat zone as possible. Loss of manpower was a distinct threat to the success of his campaign—which was sure to be bloody enough. To that purpose he staged treatment facilities beginning with aid stations just kilometers back, referred to as "Tier 1 posts," more for collecting and sorting than treating. From there casualties would be taken to field hospitals, called "Tier 2 units," usually one per division, where despite the pressing rawness of their surroundings, surgical teams would probe heads, drain chests of blood, and open torn bellies, all in efforts to bring the lifeless back alive.[26] And also, where those cut-up boys, many of them fragged by grenades, mines, and mortars, would have gouges and lacerations cleaned, sutured, and bandaged and given a few days of rest before thrown back into the cauldron that was consuming so many of their brethren. In front of Him Lam (BEATRICE) was Unit No. 2 supporting đoàn *Chiến Thắng* 312 ("Victory" division 312); behind Độc Lập (GABRIELLE) supporting đoàn *Quân Tiên Phong* 308 ("Pioneer" division 308) was Unit No. 3 headed by veteran surgeon Bửu Triều, and supporting regiments of đoàn *Vinh Quang* 304 ("Glory" division 304) arrayed around Hồng Cúm (ISABELLE) was the medical unit commanded by Đặng Văn An. Kilometers away were three additional units staffed by surgeons Bạch Quốc Tuyên, Đặng Đình Huân, and Đao Ba Khu. For those serious casualties in need of further recuperation "Tier 3 teams" would coordinate shipment from the battlefield through the relay stations at Sơn La, Yên Bái, and Phú Thọ to convalescent centers nearer the Việt Bắc.

Day-to-day health of the common soldier was equally paramount. Sickness, little food, and back-breaking labor would weaken and soon deplete the numberless cadres of fighting men and support civilians. One brigade endured 20 days straight of eating only dried food with packed rice and barely had enough drinking water. Another regiment could muster well under 90 percent of its strength. Giáp insisted that this change. Victory could not be achieved with an enfeebled fighting force. Preservation of health was a key element. Poor nutrition and poor hygiene were invi-

tations to paratyphoid, dysentery, malaria and the dozens of other tropical maladies. Eleven crucial healthcare regulations were put into effect prior to the campaign: religious use of antimalarial pills and mosquito netting, boiling all water, a minimum of six hours of sleep per night, regular showering, clean shaven and short hair, and cleaning up remains and corpses with proper burial. Underground hideouts were to have solid floors (from retrieved French bomb fragments) and separate latrines. Soldiers stationed in trenches were to be served regular hot meals. Giáp understood warfare. He knew the hardships these soldiers would endure, the brutality of combat they would face, the extraordinary demands he would make, and sacrifices he expected. Hygiene was a must. Food imperative. Rest essential. The road to liberation was through the common soldier.[27]

Notes

1. Actually, the term "hell in a very small place" came from a survivor of the remote stronghold in the valley of Điện Biên Phủ called by the Viêts Hồng Cúm and by the French ISABELLE. It came to represent the entire French perimeter, surrounded by throngs of Việt Minh. See Bernard B. Fall, *Hell in a Very Small Place: The Siege of Dien Bien Phu* (Cambridge: Da Capo Press, 1966), 292.

2. Often referred to in more modern times as Mường Thanh.

3. The name "Black T'ai" comes from the customary garments worn by members of this ethnic group, particularly the women.

4. Fall, *Hell*, 25.

5. "We Must Attack" interview with Henri Navarre, *Time* magazine, September 28, 1953; Henri Navarre was the cover story that week.

6. Interview with Navarre.

7. Fall, *Hell*, 36.

8. Figures from Michel Bodin: "Le Corps Expéditionnaire Français à la Veille de la Bataille de Dien Bien Phu,» *Guerres Mondiales et Conflits Contemporains* 211 (2003): 11-27.

9. *Groupes Mobile* were basically similar to a World War II era US combat command or a motorized brigade featuring all combat components: infantry, armor, artillery, engineers, signal, and medical, usually totaling 3,000-3,500 troops. Often there was an airborne component for rapid insertions. As the name implies, they were highly mobile, used for offensive and defensive actions, and well-suited to the remote locales of Indochina. The US would also use this configuration of combat arms in their Vietnam war.

10. Graham Greene "Is There a Way Out in Indo-China?" *New Republic*, April 5, 1954.

11. The Algerians usually were recruited from the nomadic *Ouled Nail* tribes of the Algerian highlands. The *Ouled* women were accustomed to leaving their homes and settling in the lowlands, working as "entertainers."

12. Information from James Pringle "Au Revoir, Dien Bien Phu" *New York Times*, April 1, 2004.

13."Interview with Vo Nguyen Giap," WGBH Media Library & Archives, http://openvault.wgbh.org/catalog/vietnam-b1661a-interview-with-vo-nguyen-giap, accessed September 6, 2016.

14. See Kevin Boylan and Luc Olivier*, Valley of the Shadow* (Oxford: Osprey Publishing, 2018), 55-75.

15. Francois Morin: "Évolution du Soutien Santé de la Légion Étranger Parachutiste de 1948 a Nos Jours" *Médecine Humaine et Pathologie*, Thesis for Doctor of Medicine, July 2, 2015, 65.

16. Extract of Report No. 1006/ C.C. of 20 March 1953 "Sur le Fonctionnement des Services Chirurgicaux des F.A.E.O" fonds 10H 3430, SHD, Paris.

17. Thuries, *Merci Toubib*, 113.

18. Charles R. Shrader, *A War of Logistics: Parachutes and Porters in Indochina 1945-1954* (Lexington: University Press of Kentucky, 2015), 318.

19. Figures from Shrader, *War of Logistics*, 297.

20. Paul Grauwin, *Doctor at Dienbienphu*, (New York: The John Day Company, 1955), 44.

21. Figures from Boylan, *Valley of the Shadow*, 61.

22. Tùng, *Vietnamese Surgeon*, 44. Kevin Boylan and Luc Olivier in *Valley of the Shadow*, place the figure at 58,830 Việt Minh (troops of the Vietnamese People's Army) and 33,300 dân công. (Boylan, *Valley of the Shadow,* 42).

23. Võ Nguyên Giáp, *People's War, People's Army* (Hanoi: Foreign Languages Publishing House, 1961), 92.

24. This picturesque route is now known as National Route 6.

25. Stanley Karnow, *Vietnam: A History*, (New York: Viking Press, 1983), 191.

26. By the decree of March 22, 1946 the number of officers and men allocated to each division was set at 7,155.

27. Measures contained in Hựu, *Lịch sử quân y*, 467. The general aim was to keep "sick call" well under 10 percent. In fact, Viêts were appalled at the hygiene of the battlefield. After one skirmish near the airstrip, French bodies were piled up in front of Việt hideouts and allowed to decompose. The odor was so rank that, after three days, a team of *bộ đội* was instructed to dig a 20-meter trench to bury them. (Hựu, 1991).

Chapter 9

Atonement

Slowly bleeding the dying elephant.

—Việt Minh Commander General Võ Nguyên Giáp

And on 13 March it all began in earnest. It was the beginning of the days of atonement for the French and all the injustices wrought on Indochina. It seems all great battles begin with a startling suddenness and catastrophic certainty. Giáp had perfected his slow, plodding preparations for the grand offensive. All those laboriously transported artillery pieces were now camouflaged in the hills around Điện Biên Phủ, calibrated and aimed under direct sight. Shelling of the airstrip picked up, blasts happening with more and more regularity. "I call on all the officers and men, all units, and all arms on the Điện Biên Phủ front to realize the honor of participating in his historic campaign," he cabled. That very afternoon of March 13 the full-scale assault on strongpoint BEATRICE commenced. Thunders of artillery, almost a continuous roar. Salvo after salvo landed on the hill, shaking the ground, splitting eardrums, and sending volumes of earth skyward to blot out the sun itself. Jacques Péricard, weathering the volleys of shells around Verdun in February 1916, described it well:

> [W]ho can imagine the fate of the unfortunates subjected to these bombings? Stunned by nois[e], drunk with smoke, suffocated by gas, they are hurled to the ground or thrown against each other…Steel flakes whistle in their ears, the stones, the beams of the shelters, the rifles, the equipment are torn loose and fall against them.

And then, through the dense black fog hordes of Việt Minh infantry appeared, pressing forward at a confident pace, their Shpagin submachine guns at the ready. On they came; enemy troops threw planks across the wire entanglements, or, more sanguinely, fell on the barbs themselves, their bodies bridges for oncoming comrades. Others hurled through doorways, suicidal vanguards, and were shredded by the bursts of automatic fire to allow others to rush close behind, shielded by still stumbling corpses, and storm the blockhouses. Legionnaires occupying BEATRICE had little time to respond. The din of artillery had stunned them and now Viêts were almost upon them, their trenches had been quietly dug to within fifty meters of Legionnaire positions. The brutal clash happened quick-

ly—hand-to-hand combat. Confused, individual battles, a chatter of gun bursts, explosions, cries of fury, and howls of fanatical assailants. BEATRICE commander Lt. Col. Jules Gaucher fell early. A well-placed shell detonated in the command bunker tearing off both his arms, splintering his legs, opening his chest. He watched his innards bubble air as medics carried him out. Two lieutenants lay around him, one bereft of his head, the other with a similar gaping chest wound and a partially eviscerated heart still quivering as his eyes glassed over.

Lieutenant médecin Jacques Leude, battalion surgeon for the *13e demi-brigade de la Légion étrangère* (13e DBLE) Third Battalion, on BEATRICE was beside himself. Swamped with casualties he could do nothing. In boluses of crumpled men, they clogged every trench and filled every dugout. Around him the air was filled with flying debris—bullets, shell fragments, and human remains. The hammer of close-range gunfire and grenade explosions made any conversation impossible. There was nothing to offer anyway at this point. The dying would have to die, the living hung on, soaked in their blood, wounds stained by dirt, pants soiled with urine and shit. Some groaned in disbelief at their fortune, fatal wounds all too apparent. Others hobbled around frantically trying to fend off the next assailant. Nor would anyone be leaving. Leude could evacuate no one. He had just discovered the carnage in the command bunker and knew, at that point, it was over for him. The 28-year-old Lieutenant was not yet a seasoned veteran but was too soon to become a prisoner of war. Viêts saw him standing, bewildered, among the dead and wounded. He, of course, offered no resistance. "I have just been taken prisoner," Leude would write his parents in Bordeaux, "and I thank God to be alive and without a scratch." "With a lot of patience just keep hoping that one day soon I can join you." And, he added, in a sympathetic tone engendered by the weight of a harsh captivity "Our adversaries have made us understand that they had no grievance against the French but only the hope that the government will restore to them the independence for which they are fighting."[3]

By midnight strongpoint BEATRICE was in enemy hands. Out of a garrison of 750 only 194 Legionnaires would survive.

And that next morning, Sunday, what was to be a gloomy overcast day, young *Lieutenant medecin* Jean-Louis Rondy, battalion surgeon for the elite *Ier Bataillon* Étranger *de Parachutiste*, the First Foreign Legion Parachute Battalion, saw, stumbling through the mist, the first "Ghosts of Điện Biên Phủ," the few haggard, bloodied legionnaires, plowed under by the barrages on BEATRICE, hiding out, almost buried, until two in the morning, then crawling off the hill and back to command bunkers

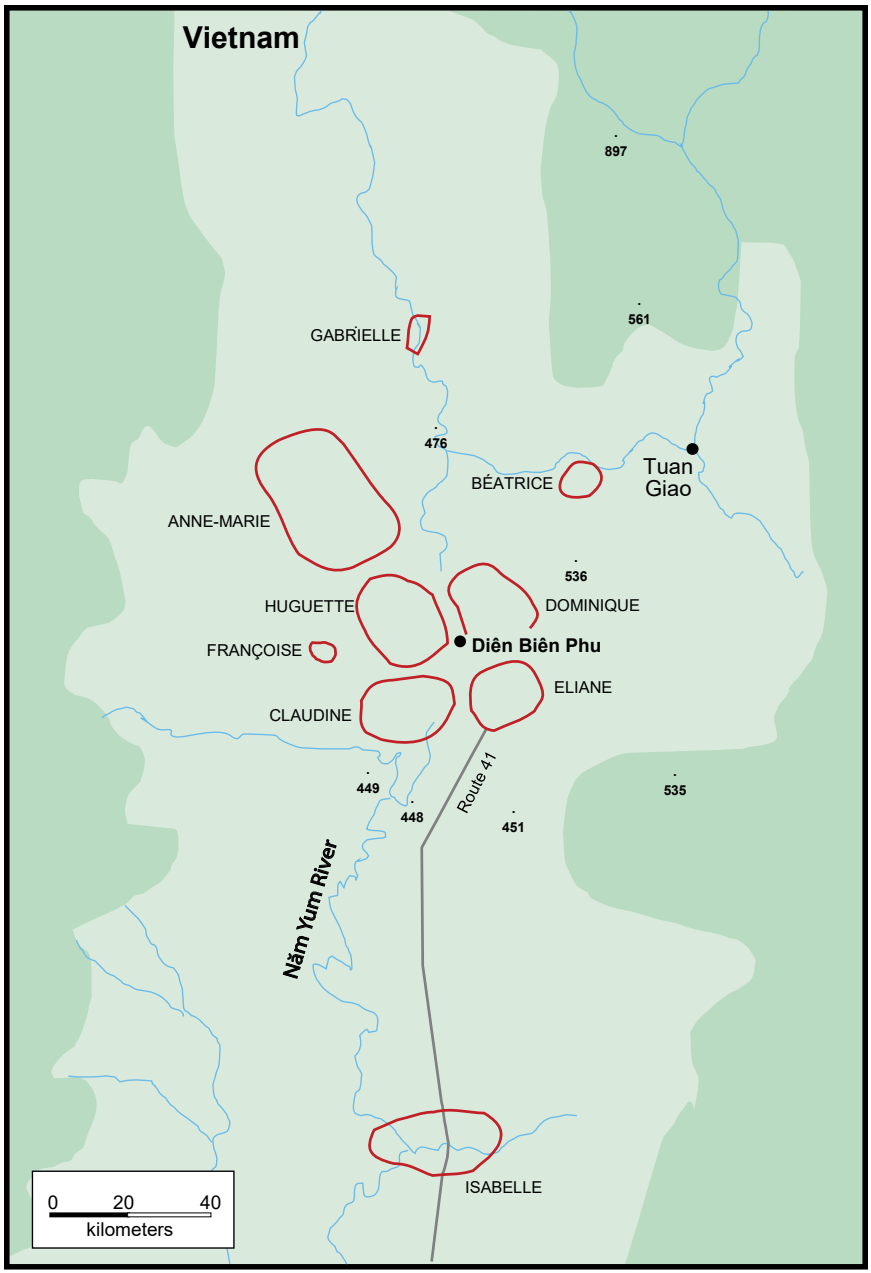

Figure 9.1. Dien Bien Valley. Map courtesy of the author.

after daylight, covered in filth as if blackened escapees from graves of the undead. It would be a scene repeated all too often at Điện Biên Phủ. *Médecin-chef* Sauveur Verdaguer of the Thaï Third Battalion remembered

these hapless men, luckier than most their comrades who lay dead on the slopes of BEATRICE, "they had suffered such mental trauma that they had serious behavioral problems, plagued with delirium and uncontrollable terrors." He tried to isolate them from the rest of the troops, fearing they would infect the others and jeopardize morale. By doing so, many eventually slipped away and deserted the compound.[4]

Viêts called BEATRICE Him Lam. It was a vicious fight for them, too. Brave soldiers they were but mass attacks—human waves—would take a terrible toll. Bodies toppled from volleys of French weaponry like so much scythed wheat; some almost cut in two by heavy machine gun fire, others dropped but still alive, disoriented, crawling aimlessly. Just behind were the Việt medics. "Nurse" Lê Văn Trọng was one. Trying to pull a wounded boy from the heap of corpses he himself was shot in the stomach. Unflinchingly, he saved the last of his gauze for a fellow soldier and not for himself. Then grabbing a gun and some grenades he destroyed a French sentinel dugout, killing one legionnaire and capturing three others.[5] Only then did he seek medical help.

Giáp was hardly finished. Next would be strongpoint GABRIELLE.

In their sunken hospital Grauwin and Gindrey had felt it that afternoon of 13 March, the tremors almost continuous and a low rumbling added as if the entire landscape were shifting. Dust sprinkled from the ceiling and walls. Overhead dangling lights jiggled. Within an hour ambulance had brought in fifteen wounded. More followed. Shortly Gindrey and his team identified 10 mangled limbs and three abdominal wounds, all needing surgery—limbs first, the abdomens could wait a few hours. Colonel Gaucher was brought in and died within minutes. There were so many wounded, a few laughing that their tour was finished—they had yet to see their wrecked arms and legs. By the next morning Grauwin counted 150 in his field hospital, the floors and hallways carpeted with moaning, filthy wounded. BEATRICE was lost, they heard. The fighting had shifted to GABRIELLE to the north. Expect more, many more. From there battalion surgeon, *Lieutenant médecin* Chauveau, was carried in, an open forearm fracture and superficial abdominal wounds. He was done and would be on the next flight out. By the morning of 14 March all pints of blood had been consumed. The smell of sweat and blood was everywhere. Grauwin described the scene:

> Screams, cries, groans, and the ringing of the phone, all mingled with the unholy din outside, filling my ears so that I could no longer even think. From that moment I was no longer aware whether it was day or night, whether I was hungry or

thirsty, whether I was a living human being or only a character in a nightmare.[6]

An urgent message was sent: FLY IN MORE BLOOD. Healthy soldiers were willing to lay down and give, but bleeding them would only sap their strength, sure to be needed in the upcoming days. That same evening a single engine de Havilland *Beaver*, piloted by Major Claude Devoucoux, managed to snake through antiaircraft fire, land, roll down the cratered runway, hand off the blood, pile in four serious casualties, and quickly taking off. Eight units would be used immediately, hardly enough. In their cramped quarters Grauwin and Gindrey looked over the wounded, so many almost at once that it seemed inconceivable there would ever be an end to the work. Where to put them all. Space was suddenly at a premium, Le Damany found two or three nooks here, a few there. "The main passage was nothing but a long line of poor wretches piled up behind one another," Grauwin observed.[7] Outside legionnaires brought in the corpses they had dug out, wrapped in ponchos, putting them in a makeshift morgue behind the hospital. It soon became an infirmary of the dead: plank coffins, shrouded stretchers, and others simply laid on the ground—their empty stares and expressionless faces a reminder to all passing by that death was much too final.

GABRIELLE was a repeat of BEATRICE. Việt Minh called it Độc Lập—"Independence Hill." And they pulverized it as thoroughly as Him Lam. Officers reported at least 15 to 20 shells a minute landed on the summit. Erwan Bergot remembered "It was terrible, exhausting for the nerves, subjected to an inhuman test. The explosions followed each other without stop, like a rolling torrent."[8] Then whistles blew and on cue green men rose from trenches only meters away with shrill cries of *tiện liên*. They were ten times more numerous than the defenders. Colonials peered through the smoke, leveled their guns and blazed away. Viêts countered with mortars and grenade tosses. That was when battalion surgeon Chauveau took his hits. A forearm crack—spiculed bone visible—and a grazing abdomen wound. Lucky. He was carted off to Grauwin. His replacement, *Lieutenant-médecin* Dechelotte stepped in to replace him but was wounded almost as quick. Really, it was almost impossible not to be with the amount of lead in the air. In he came to Grauwin, his head bloodied and wrapped in bandages from blast fragments. "You know," he told Grauwin, "it's not very funny up there; you just can't stick your nose out of doors."[9] *Sergeant-chef* Soldati, a former Czech medical student in Austria turned legionnaire—and an *infirmier*, a nurse—then took over the aid station. In short order his post was cluttered with 30 wounded. Barbed wire slowed

the Việt rush, their bodies draped over like macabre, tattered laundry. In fact, it seemed for a while the legionnaires would hold. Fighter bombers were able to saturate approaches to GABRIELLE and incinerated a good many enemy troops as they marshalled for their assault.

And what of their last moments, these Asian boys in oversized lantern helmets? Did pictures of Uncle Hồ and his great revolution flash before their eyes? Or did simple sadness prevail, the loss of all that was tangible, that gave joy to the senses? Did that erase any patriotic fantasies as darkness closed in? Only hours before they had crouched in their trenches, devouring rice balls, maybe, fingering pictures of their *người yêu*—their sweethearts—wondering if this would be their last day on earth. All glory now was gone in shredded flesh, all thoughts disintegrated, all existence terminated. For them all revolution—and all romance—was over.

At the foot of Độc Lập two French Hellcats screamed over and dropped their bombs right on top of Trần Quốc Chẩn's command post for Company 827 manning an antiaircraft battery. The bunker was obliterated, no more than a wide hole in the ground. All turned black, Chẩn remembered. He was completely buried under dirt and rubble. An eternity of black, silence and then suddenly hands grabbed him and pulled him free—who saved him he would never know. But the silence remained. For a while he was deaf as a stone. There were no other survivors. All with him had been killed. Hardly able to hear himself talk, he shouted for his crew to man the only antiaircraft gun still firing. They fired so much, he recalled, that the barrel almost melted. Six enemy planes were brought down, he later insisted.[10]

But the Viêts had taken a punishing. Commanders ordered a withdrawal. Regroup. Around two in the morning there was a sudden pause. All turned quiet. But only a pause. Within the hour a hailstorm of mortar and artillery fell, worse than the first barrage, and completely took down the trenches. Delayed fuses on Việt shells allowed deep penetration before detonating, caving in earth, timber, and sandbags. Việt Minh again assaulted, and this time barbed wire would not stop them. They were on the defenders in hand-to-hand fighting. No one was safe. Brave Sergeant Soldati was cut down at his post, now just one of the many bodies scattered about, his wounded patients finished off with bursts from drum-fed Shpagins.

Viêts steadily rolled over Algerian *tirailleurs* one company at a time. Daylight found them occupying the command bunker. Officers in the trenches were urged to hang on, that relief was on the way. But both commanders were wounded, one laying near death, his leg torn off; the other

crawled off but was soon captured. Relief would never come. Despite a horrendous slaughter of their own troops, Việt Minh kept coming, seemingly impervious to the sights in front of them, and overpowered men in the trenches until survivors either put down their rifles and surrendered or stampeded. GABRIELLE had been lost. The retreat south to the central complex for *tirailleurs* who escaped turned into a bloody affair. The road, the Pavie trail, was targeted by enemy artillery and in full view of their spotters hidden in the hamlet of Bản Khe Phải to the southwest. Open paddies. No cover. Troops were chased by salvos of mortar and artillery. At the central hospital Grauwin saw them arrive, those who made it out, not more than 40. It was then that one of those delayed-fuse shells penetrated his X-ray compartment and exploded, collapsing the beamed roof. Of the twelve men recovering there, fresh from operations, only three survived, the rest disassembled in a disgusting mess of meat, bone, and flesh. One of them was a man Grauwin had worked on, a head wound but certain to recover, a man from northern France, likeable. Grauwin had promised, after the war, to meet him in Lille, in a small café there. The soldier now lay dead. "I was forced to sit down," he later wrote, "for the simple reason that my legs gave way. I seemed to have reached the most acute point of a suffering greater than I had ever known before."[11]

In just two days BEATRICE and GABRIELLE had generated for Jacques Gindrey 23 amputations and seven laparotomies. Forty-eight hours and almost no sleep had brought him to the point of exhaustion. Grauwin and he were never going to keep pace with the injured. That was the reality. It would soon fall to battalion surgeons, those manning the scattered aid posts, to treat their own: "*Il ñ'y a pas lieu de séparer médecins des bataillons et médecin des antennes, tous dans le même mauvais bateau*," he said—"it is not necessary any longer to distinguish between doctors of the battalions (battalion surgeons) and doctors of the surgical teams, we are all in the same wretched boat."[12] In fact, many minor injuries could be kept there, close to the firing line. Evacuation would only consume more resources and deprive garrisons of one more rifleman. Battalion physicians could surely triage, bandage, inject penicillin and anti-toxin. And for the serous ones, give morphine and evacuate. But still, many found their way back to the hospital bunker, adding to the chaos and confusion within. The practiced system of field care was unraveling.

Battalion surgeon for the only Vietnamese airborne unit to serve at Điện Biên Phủ—Parisian *Lieutenant-medecin* Pierre Rouault, had made his second jump into the base on 14 March. Not long before he had celebrated his 27th birthday with champagne and a raucous party. This day

would hardly be the same. His elite unit, the Fifth BPVN (*5e Bataillon de Parachutistes Vietnamiens*)—they were nicknamed "*Bawouan*"—had been called up from Hà Nội to reinforce the struggling garrisons on BEATRICE and GABRIELLE. Rouault was a seasoned veteran. On his previous tour, in November and December, he had earned a reputation as "*l'homme des actes impossibles*" (a man of impossible deeds). Accompanying his paratroopers on a fateful patrol to try to open Route 41, he had apparently saved the life of an officer by doing an emergency tracheostomy in the field for a bullet wound to the throat. It was a sickening wound, hemorrhage and macerated tissue obstructing the airway. He was literally choking on his own blood. Without anesthesia, cutting straight into the trachea—the patient gurgling muffled screams throughout—Rouault pried open the airway with the handle of his knife and relieved the asphyxia.

Now four months later, in the late afternoon Rouault's paratroopers jumped into the old drop zones—the rice fields and brush of NATASHA, OCTAVIE, and SIMONE. In they came at 600 feet, barely enough time for chutes to open and, laden with equipment, a hard landing by any measure. But it would minimize time in the air when they would be at the mercy of Việt gunners. But the enemy would not be fooled. Drop zones, like every square meter of ground around, were already targeted. As if on cue Việt Minh unleased artillery on their countrymen. Some were blown out of the air, others as soon as they landed. Rouault counted a number killed and over thirty wounded. He managed to carry some injured to an aid post on HUGUETTE where he would work on them, through downpours, until midnight. Those who escaped uninjured shouldered their gear and slogged, in that same rain, thousands of meters to the main compound. Many stumbled across trenches and tripped over barbed wire, in the dark and utterly drenched. Hours later they re-grouped, somehow finding their way across the Năm Yum to the slopes of ELIANE 4. But in the middle of the night no bivouac had been prepared. No shelters. Each had to dig holes and try to sleep in the relentless showers. Lieutenant Rouault finally re-joined his men sometime before dawn on ELIANE 4 and, totally exhausted by a day's worth of operating, he collapsed in his shallow foxhole. He had been awake for 48 hours, his body spent, he slept *perinde ac cadaver*—a Latin phrase meaning "like the dead."

Not long after that the *Bawouans* with only a few hours' sleep were rousted out of their holes, geared up, and made their way back across the compound to the Pavie track, that same path Auguste Pavie had used for his sojourns in and out of Mương Thèng over a half century before. Their mission was to attack and retake GABRIELLE. The tired paratroopers,

unacquainted with the battlefield, made painfully slow progress, fumbling through wire entanglements, slipping into shell holes, and falling over sandbags along the way. By the time they caught up with the relief column heading for GABRIELLE they looked a pitiful bunch: soaked, drawn, beat. But worse was to come. As they prepared to ford a small creek that crossed the Pavie track Việt cannons cut loose. Bursts bracketed the column. There was nowhere to hide. It was then that the lead company froze on the spot and the two following companies did the same. Journalist Roger Bruge described the scene:

> The company of Lieutenant Phạm Văn Phú crossed the creek, but no one followed. Second lieutenant Tỷ and most of his men remained crouched, even reclining, in holes and crevasses; they refuse to advance.
>
> Fatigue, lack of sleep (it was their second sleepless night), unknown terrain in the rain, the bombardments, and finally fear prevent the Vietnamese paratroopers to put one foot in front of the other. As soon as he learned of it, *Capitaine* [Andre] Botella, joined by Lieutenant Atmandi and Lieutenant Phú, retraced their steps, and the commander himself began kicking and hitting his men to dislodge them, shouting with every profanity, even threatening to shoot them if they would not move down the track.[13]

To make matters worse, passing Chaffe tanks carrying wounded back, were coated with the blood of their cargo. Once the Vietnamese paratroopers saw this, there was no going forward. They quit and turned back. It infuriated *Capitaine* Botella. Lieutenant Phụ drew up the names of those who refused to go on, undecided whether to have them shot or simply relegated to the role of coolies assigned to pick up parachute packets fallen in no man's land—a fate almost as certain as execution. But Botella lashed out at them—cowards all, he screamed. It played to deaf ears. The *Bawouans* knew what awaited them on GABRIELLE. They knew the determination and ruthlessness of their countrymen. They had no stomach for an uphill battle.

Rouault missed the whole affair. Only awakened by the sound of a dud shell that landed within feet of his head, he scrambled away. There would be no leaving Điện Biên Phủ this time. He would spend the rest of the siege in an aid station on that same hill, ELIANE 4.

Indeed, the *Bawouans* were right. Legionnaires—crack troops of the First Foreign Legion Parachute Battalion—pressed on and were greeted by

a wall of automatic rifle fire. Some even reached the foot of GABRIELLE. But no further. The entrenched Viêts would not give an inch, and shell-fire was falling with disastrous consequences now. It was over. Slowly, carefully, troops picked their way back across the open spaces. Battalion surgeon Lieutenant Rondy was not far behind. He had put his aid station in the open, too. There was simply no cover. Wounded he saw had to disrobe then and there—pants down around the ankles while the enemy zeroed in.

On GABRIELLE the 5/7 *Régiment de Tirailleurs Algériens* left over 540 comrades, dead or captured—most the captured had been wounded. Survivors numbered just one hundred. These were hard men but it had been a desperate fight; a fight with fists and knives; a stabling, clubbing, choking fight. A fight that leaves men uncoupled, empty, ruined. Animal impulses. Nothing human remains. These beaten, vacant creatures would now be sent to far off ISABELLE.

The surge of casualties from BEATRICE and GABRIELLE spurred urgent messages to High Command in Hà Nội: more doctors were needed. All strongpoints were at risk, most notably lonely ISABELLE far to the south. Firebase ISABELLE, held by a battalion of legionnaires, a battalion of *tirailleurs*, cannoneers, and companies of T'ai infantry was horribly isolated, its thin lifeline merely a tenuous road too easily cut by Viêts. As for medical care, it now seemed imperative that ISABELLE should have its own surgical team. Transporting wounded across the five miles to the field hospital would be a decidedly perilous proposition. First priority became ISABELLE. Late in the day on March 15 the seven members of the Third ACP under *Lieutenant-médecin* Louis Rezillot, destined for the outpost, parachuted into the barbed wire entanglements of the main compound, slightly off target. Their equipment packaged in baskets and crates soon followed. After a few anxious moments of disentanglement, the men, now loaded in trucks, set off on the rugged journey south. They would never leave ISABELLE.

But trouble was brewing elsewhere. Northwest of the airstrip, on two of firebase ANNE MARIE's defensive mounds T'ai soldiers, hearing of the slaughters on BEATRICE and GABRIELLE, no longer had the will to fight. They were farmers and family men. Not particularly fond of the French anyway, this was no longer their war. The battalion surgeon *Lieutenant médecin* Sauveur Verdaguer saw it coming. "We are now the last battalion on the north [edge of the battlefield]. We are well aware that our Thai battalion is far from matching the elite units on BEATRICE and GABRIELLE."[14] Sure enough, quietly, in groups of two or three, they slipped from their posts and either went over to the enemy or simply melted into

the countryside and made their way home. Only a handful of French defenders were left, easy pickings for the Việt Minh. On 17 March, to avoid unnecessary bloodshed and a rout that was sure to come, defenders who remained pulled back and handed the ANNE-MARIEs, their coveted positions covering the northwestern parts of the valley, to the Viêts. The closer encampments were consolidated into the HUGUETTE network. So, Giáp's first phase offensive had already crippled his adversary. In two days, there had been capture and capitulation of three important "outworks." The inner perimeter of Điện Biên Phủ would now be within reach of Giáp's advancing tentacles; the airstrip directly in his sites.

And on 24 March, Lieutenant Verdaguer, despite the loss of the ANNE-MARIE redoubts, would cheerfully write his wife and children, describing, for their benefit, a rather monotonous existence at Điện Biên Phủ:

> *Ma petite Arlette chérie, mes chers tout petits* (My dear little Arlette and my dear little ones) I trust that my previous letters and telegram have arrived and they have reassured you…the weather is beautiful, neither too hot nor too cold. Just like the days of June back home. Here the calm continues. We continue to pass the time as best we can…Really, for a lot of reasons, it's time for it to stop![15]

It was the last letter he was able to send. With suspension of *evasan* flights at the end of March all mail out ceased.

Air evacuation, that Achilles heel of Điện Biên Phủ, faltered early. Việt Minh artillery and antiaircraft fire took aim and bracketed C-47 Dakotas, threatening to obliterate them and their occupants at any time. Many were driven off by near misses and sub-lethal hits. Some pilots considered flights to Điện Biên Phủ little more than suicide missions. Landing circuits from east to north, directly over BEATRICE and GABRIELLE brought planes right over antiaircraft emplacements. Viêts thought it great fun. A real turkey-shoot. Finally, on 17 March, one got through. But the panic of the wounded to get on board was terrifying, screams and crying were seen as they frantically tried to hang on as the plane, full to capacity, taxied to takeoff. As the aircraft lifted from the runway, those clinging to the undercarriage could be seen dropping off, skidding on the Marsden matting. The next day Commander Darde's C-47 *Zulu Tango* landed but had to take off immediately, empty, and even then, took 19 impacts to the cabin. On 19 March, one more landed managing to get 23 injured on board and take off chased by salvos of antiaircraft fire. A later night flights took out seventy-six more. The next day a squadron of five transports picked

up another 95.[16] Many times, though, casualties were taken close to the airstrip, placed in trenches and waited for the planes to land only to see Viêts drop mortar rounds with uncanny accuracy, sometimes thirty in just a half minute, to scare off pilots. Then the entire troupe gingerly hobbled back to the bunkers, aware that snipers could pick them off in an instant. In turn, pilots developed clever tactics to fool Việt gunners. Dakotas would approach the airstrip in pitch black in pairs, one noisily buzzing the area as if dropping supplies, the second, engines cut, would glide in, guided by masked beacons, land, and quickly load wounded—only a matter of minutes was allowed. It worked for a while; scores of patients made it out. But the odds for pilots and planes steadily worsened. One hundred eleven Dakotas would sustain flak damage during the siege, four would be shot down.[17] The situation with the wounded became so critical that even United States consul Paul Sturm in Hà Nội sent a secret cablegram on March 20 to Washington:

> Spokesman for General Cogny…said that advance planning had not taken adequate account of problem of evacuating wounded, and he fears that problem will become more serious still when attacks are resumed.[18]

On March 17 a second airborne surgical team parachuted in, the Sixth *Antenne Chirurgicale Parachutiste*—ACP 6—under a burley *Lieutenant médecin* Jean Vidal. The eight-man unit spilled from their Dakota at 600 feet, once again landing in the barbed wire entanglements. Viêts saw them and opened up, sending tracers right and left as the men darted to safety. Grauwin put Vidal's team across the Năm Yum on ELIANE 4. He had hoped they would lighten the load on his central hospital. The ELIANEs and DOMINIQUEs were tempting targets, all knew that. They were the gateway to victory. There was no doubt a Việt attack would be vicious—and costly. Vidal would not be sitting idle.

For one, Gindrey welcomed the help. By then, he had already performed 23 amputations and opened seven abdomens. But even with Vidal's crew there would be no let up. Gindrey would operate for 57 days and nights. At some point during the siege, he would exclaim "*Le solel brille…pour tout le monde sauf pour nous*" ("the sun shines for everyone except us").[19] Wounded appeared at all hours of the day and night. His team performed flawlessly. New arrivals would be undressed, washed, and vital signs recorded. Veins were found, IVs started, fluid pushed. *Infirmiers* examined, recorded, and even prioritized care. Surgeons were usually much too busy operating. They were called out only if a patient was crashing: for tracheostomies, chest tubes, artery bleeding. The number

of wounded did not allow dallying over non-critical injuries. Those were hastily bandaged and splinted. Nor was time spent on the unsalvageable. Wicked head trauma, the paralyzed, the moribund were all left to nature. For those unfortunates Father Heinrich, one of the four Roman Catholic chaplains, was just as busy. So far, he had administered last rites, *Extreme Unction*—the "Final Anointing"—to over 200 men.

For Gindrey his consuming chores would become a blessed distraction. In a letter from his wife Elisabeth, he discovered his newborn son did not survive. While Elisabeth had recovered, she endured this loss alone—as did he. His absence on this tragic occasion would gnaw at him for years to come. Added to the faces of youths whose life ebbed before him would be a tiny face of the son he never saw. These would be his ghosts of Điện Biên Phủ.

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Not far away, beyond GABRIELLE, beyond BEATRICE medical teams for the enemy quietly toiled. Nguyễn Thị Ngọc Bích, then a 25-year-old nurse, worked just behind the front lines. Artillery barrages, he knew, would bring a tide of casualties. His team looked after the badly wounded—those whose life or limb hung in the balance: torn up arms and legs, punctured chests and bellies, open skulls—these were their focus. So many arrived that names were irrelevant. Each was given a number. Bích would call out "Number 1 next," then "Number 2," and so on. His first action was to wash the wounds, often caked with mud, dirt, and grime. Nurses did all this. The only surgeon was too busy in the operating room, rarely leaving it. He and one other nurse ran the triage process, deciding the order of cases—who needed surgery the quickest, who had the best chance of survival. And there were the creature comforts, every nurse knows them—urinals, bed pans, bladder and bowel problems. Many soldiers were wrapped in bandages or plaster and simply could not manage without help. Young *cô gái* (girls) brought in to help—civic workers they were called—would blush at first but soon performed these intimate tasks without the slightest hesitation. After treatment patients would stay three or four days and then be moved to hospitals farther away, a journey few relished as it would be long, fly-ridden, and dangerous: French aircraft circling above almost daily.[20] This was the medical ritual, not so different from across no-man's land in the French camp. The steady ministrations to sick and dying were centuries old and knew no cultural barrier.

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At lonely ISABELLE to the south, fighting to keep Highway 41 open produced buckets of bloodshed. So much so that the Third ACP—the Parachute Surgical Unit—radioed for more blood, and then even more—three gallons were sent. Surgical gloves were also needed—the fast pace of operating quickly exhausted supplies. Fifty pairs were sent. Doctors clamored for more: suture material, intravenous fluids, antibiotics, all the mainstays of critical care. And in the opposite way wounded convoyed out bound for Gindry and Grauwin's central hospital. All too soon there would be little chance of salvation. Viêts would close Highway 41 and surround the small airstrip with sharpshooters, putting an end to any ground or air travel.

Even before that, either airfield proved to be a potential death trap. Casualties among crew members, including physicians, were not uncommon. At the main airstrip, on 17 March, the pilot of a C-119 took a round from a 37 mm antiaircraft gun right through his windshield, ripping off his right arm. He was dragged from the plane barely alive. On 21 March, another captain taking off with a load of injured was shot through both legs by a sniper, once again through the cockpit window. Somehow, he was able to throttle down and bring the plane to a halt. Pilot and casualties were unloaded and taken back to Grauwin's hospital, but the plane sat empty. Even in the bowels of the C-47 there was no safety. Anyone was at risk. *Capitaine médecin* Lavandier had accompanied nurses on a mercy flight in. Sometimes doctors would do that. Working his way from casualty to casualty just before takeoff, a Việt mortar exploded sending shards right through the fuselage skin and into Lavandier. When he arrived at Lanessan Doctor Aulong saw that one just barely missed his heart, a hair's breadth from death.

On 27 March, the last C-47 took off from Điện Biên Phủ. Colonel Jean-Louis Nicot, Air Transport Commander in Hà Nội had enough. The toll on his air crews was physiologically and psychologically telling. Further landings and low-level parachute drops would cease as of 28 March. And, he would rest no more planes on that airstrip. Almost 350 casualties had been flown out, most by plane, some by helicopter, but no more. There might still be a maverick flight in, a soldier of fortune intent on defying the odds, but officially it was over. The wounded were now stuck and filled the dank confines of hospitals and aid stations. Once flights stopped so did delivery of enough medical supplies. High level parachute drops would bring only a fraction of what was needed—at least half would fall into Việt hands. Little would be left for the humane care of Điện Biên Phủ's victims. And for everyone de Castries knew time was running out. On 1 April, Commissioner General for Indochina, Maurice Dejean, appealed

to United States Ambassador Donald Heath in Sài Gòn for help. A secret telegram was then sent to Washington: "De Castries reports that his men are growing exceedingly weary…[The] issue now depends upon hours and days. He asked if through some miracle we could send more C-47s."[21]

It even reached the Joint Chiefs of Staff. Should the United States get involved? Never had there been a clear understanding of France's intent in Indochina or its ability to suppress revolutionary fervor. Some thought chances of victory at Điện Biên Phủ were 50/50 at best. President Eisenhower understood the threat of Communist domination of the Indochina Peninsula and the precarious French position at Điện Biên Phủ, but did not "want anything said that would be an explicit promise [of assistance to the French] that we might not be able to live up to."[22] Why risk global war with a hasty decision? The matter was tabled. Help would not come.

As for the fortunate ones who managed to escape "the inferno" in those days before 28 March, Jacques Aulong at the Lanessan Hospital in Hà Nội saw them. Sometimes a hundred would arrive in twenty-four hours. Many had waited by the runway for days before a flight got through. Unloading them from the planes, their dressings were soiled, stained with greenish pus. The odor of gangrene was unmistakable. Many were amputees, many encased in plaster. Some, the "bellies"—abdominal wounds—had been wounded long before and not yet operated. He saw an *étalé*, a spreading stillness, about them, the gradual diffusion of sepsis. A few, deteriorating rapidly, he took straightaway to the operating room. But they all had a woeful look:

> Most, already suffering for several days, have that dirty yellow earthy complexion. They are pale, anemic…Cheekbones, stretched thin, emphasize fatigue, anxiety, pain. The eyes are wide open. They are prostrate on their stretchers, buried in parachute fabrics, and one may wonder if they are cradled in blankets or shrouds.[23]

Even with extra surgical teams he would often operate clear through the night until sunup. "[T]he sky is blue already. I think why bother to go to bed," he would recall. But it was not enough. Knowing the travails of his fellow surgeons trapped in "the inferno," Aulong begged to go. *Ç'est là-bas que les blessés ont besoin de moi*. "It is there that the wounded need me," he begged his commanding officer. But he was not parachute trained. The answer would be "no." A night jump at low altitude—the only way now to insert medical personnel with any degree of safety—by an untrained parachutist would be virtual suicide.[24]

It was turning worse than even Aulong suspected. At Điện Biên Phủ simple hygiene was becoming a health issue. Wounded were crammed into every available space. Soap and water cleanliness was almost impossible. In fact, soap was becoming a coveted commodity. Without it and fresh bandages, the build up of human waste was a breeding ground for an assortment of pathogens. Fouled, grimy wounds festered, dysentery prevailed, and the air was choked with stench. Discarded severed limbs, a speedy solution for mutilative shrapnel injuries, rotting corpses deposited near the hospital—it was no longer safe to dally and dig graves—and carcasses disinterred by enemy barrages were creating a prevailing odor that permeated everywhere. At the very least the dead had to be buried. De Castries insisted that bulldozers dig mass graves or that bodies be interred where they fell—a dangerous undertaking in the trenches and usually done so shallow that any explosive disturbance would expose a smelly, decomposing arm, leg, or face. Of course, flies loved it; big bloated green flies that bred maggots and filtered underground to light on open wounds—even inside casts—and on food. Patients panicked at the site of squirming little white maggots. Not to worry, Grauwin told them, they eat rotten flesh and help clean the wounds. Small comfort for sickened patients now at the mercy of nature.

Above ground, the battle would settle into the bitter bickering of trench warfare, reminiscent of the Western Front 40 years ago. To a casual observer the landscape was barren, not a human in sight—just surrealistic scenes of discarded munitions, sandbags, and corrugated steel. Living mortals were beneath ground hoping to avoid the incessant shellings. To those who could remember, it was Verdun—a naked panorama devoid of foliage, suffused with mud and barbed wire, housing thousands of submerged soldiers who shared the underground with their vermin residents—and their rotting comrades. But now without a *Voie Sacree*, "The Sacred Way," that heavily trafficked road connecting Verdun's wasteland with Bar-le-Duc, convoy after convoy of trucks bulging with men and materiel—General Joffre's lifeline. Without it the battle would surely have been lost. There would be no *Voie Sacrée* at Điện Biên Phủ, either in the air or on the ground, not for the French. The *dân công* and Route 41 would serve that purpose for the Việt Minh, their logistics almost as crude as one long bucket brigade but as effective as heavily-laden laden truck convoys. No, without a *Voie Sacree* here at Điện Biên Phủ victory for the French, even a stalemate, would be elusive if not impossible.

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On 28 March, Deputy Chief Lê Văn Huỳnh with infantry Company 241, Battalion 387 of Division 308 was instructed to go to the tiny village of Pe Luông, about four kilometers west of the valley to lend a hand in burying the dead of a sister company, Company 78. On the way, snaking through narrow trenches in the twilight, he saw the pitiful wounded, some horribly maimed. The position of Company 78 was totally destroyed. "In front of us a spectacle of desolation" he wrote. "All defensive works have collapsed." "Many of our dead have been mutilated and defiled after being crushed by enemy tanks." It only served to harden his resolve. "Fight to victory to avenge those who sacrificed themselves." And then he punctuated his commentary with a final memory: "Night falls. We work in darkness, without lamps or torches. We wipe our tears to finish our painful mission under the pale light of the flares."[25] But the task was gruesome. One Vietnamese soldier described it so:

> The fallen soldiers shared one destiny; no longer were there honorable or disgraced soldiers, heroic or cowardly, worthy or worthless. Now they were merely names and remains. For some of the other dead, not even that. Some had been totally vaporized, or blasted into such small pieces that their remains had long since been liquidized into mud.[26]

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Château de Terraube had been built for the Galard family in the late 13th century. Their lineage was one of the oldest in France, perhaps dating back to the Frankish king Clovis. A descendant, Hector de Galard had been appointed *grand maréchal des logis* (field marshal of the king's camp and dwellings) by Louis XI. He was pictured on a tapestry which hung in the grand salon. Genevieve de Galard had spent summers at the opulent chateau during her childhood. For the most part, though, she grew up in the Parisian patrician neighborhood of the *Monceau* district in the *17eme Arrondissement* close to the *Rue de Levis*. She had lost her beloved father at age nine, and survived the privations of World War II tucked away in a rented apartment near Toulouse, close to family property in Labatut, that region of southern France known to the Romans as *Septem Provinciae*, the Seven Provinces, but nearer the Pyrenees. Whether it was her father's illness and death or the calling of her aunt as a nurse for the Red Cross, she bore a pressing need for medical work. It was then she decided on a nursing career that would take her to the *Groupement des Moyens Militaires Transports Aériens* (the transport air service of the French air force) and *Convoyeuses de l'Air*, the flight nurses.

She had already been to Indochina once, a combat veteran at age twenty-nine. January of 1954 marked the beginning of her second tour. Her first visit to Điện Biên Phủ was shortly after that, a camp barren, subterranean, scored with trenches, shelters, sandbags, and machine gun emplacements. Her next trip there was 19 March. This time, landing by Dakota C-47 had been frightful, incoming rounds bracketing the plane as soon as it feathered to a stop. That ended daylight flights. Only night arrivals were allowed. Still, all had to be done in a hurry. As the plane taxied, cargo doors opened, supplies were pushed out, and stretcher cases loaded aboard. Ambulatory patients—*assis* was the French word—followed. Then, just as fast, the doors slammed shut, the plane revved up and bolted down the runway. It was all measured in minutes. For a third time, she landed the night of 25 March. No ambulances. After a few minutes, the pilot, knowing shells were sure to fall, throttled up and took off empty. On 28 March, Genevieve de Galard rode another sortie in, just before sunrise but in horrible visibility—one of those valley days when the fog was thick and ceiling dreadfully low. The landing was a bit off center, her plane careening into barbed wire, piercing the oil reservoir. No repairs would be done until the next night. But that did not matter. Further take-offs and landings had been called off. Việt Minh antiaircraft and artillery were now so accurate that any *evasan* flight was likely to be brought down or destroyed on the tarmac. Hers had been the last flight in. That very night the Việt Minh unleashed a stupendous artillery barrage rivaling that of 13 March. Giáp's attacks on the hills east of the Năm Yum had begun. Volleys of explosions once again cratered the airstrip sealing her fate. Genevieve de Galard would not be leaving Điện Biên Phủ. She would now throw in her lot with the resident medical teams. Wandering the underground corridors, she soon located Grauwin's hospital. It was there he first noticed her, nonchalantly leaning against the wall of a passageway in his infirmary. No time to waste, he gladly put her to work. *Mademoiselle* de Galard she was referred to then. Only a little later would she simply be called Genevieve. Hers would be the most serious cases, those who needed intensive care, frequent dressing changes, the abdominal patients with colostomies. The men were fond of her, a woman in the very heart of all this misery. But not one to shy from adventure, Genevieve could be found on the battlefield, in the outlying aid posts. She was looked upon as an angel, the wounded flocked to her, a female warmth that had long since deserted them: "[v]ery soon I realized the importance of a woman in the midst of battle. When wounded, the toughest man becomes as vulnerable as a child and needs to feel supported."[27]

Neither was Grauwin a misogynist. He had come to value the presence of women—as nurses, attendants, and even ambulance drivers. Some had given their lives for the men:

> The great procession of extraordinary young women…in Indochina…Nothing and no one can replace a young woman at the bedside of an injured soldier…this gentleness, this patience, this mysterious femininity…in the most mechanical and most professional care.[28]

"You were, for many of us, a small piece of our native land," one soldier remarked. Yet the plight of the casualties, some horribly maimed, struck her deep. Soldiers blinded, amputated, eviscerated showed exceptional resiliency, whether unaware of their fate, or hopeful despite it. Unrelenting pain got to her most. Open fractures, gouging wounds of muscle and skin needed frequent cleansing, were exquisitely painful, the victims unable to stifle a shriek at any movement. Even morphine would not erase the agony. This undeserved suffering, she could not reconcile.

For all the medics, for Grauwin and Gindrey and Genevieve and all the others, there was an unspoken admiration. The exhausting schedules, the hours upon hours of operating in muggy subterranean dugouts, sweat dripping from bared chests as they silently tried to repair the hopelessly damaged did not escape the notice of officers and enlisted alike.

Without warning, during the afternoon of 29 March, Việt artillery opened up on the hill complexes called DOMINIQUE (D1 in Việt parlance) and ELIANE (A1) east of the Năm Yum River. Genevieve de Galard had felt it, as if a sledge hammer was pounding the earth under her feet. It signaled the start of General Giáp's "second phase," assaults. His intent was to slowly press towards the French central command in and around the former village of Mường Thèng. Taking high ground here would enable Việt gunners to literally fire right down the throat of French enclaves clustered in the so-called CLAUDINE sector. In total DOMINIQUE and ELIANE sectors held a dozen firebases, spread east and north, that, if overrun, would open corridors directly into the command center across the Năm Yum River. For Giáp the DOMINIQUES and ELIANES were key. In Việt hands Điện Biên Phủ would be defenseless. The French would be finished. Giáp knew it, too. He also knew that his prey was bruised and cornered, but all the more vicious now. This phase would be murderous. Onward, he exhorted his troops on 29 March:

> Behave resolutely and valiantly, strike rapidly, settle rapidly, attack fiercely and not let slip any opportunity to wipe out

> the enemy. Should one fall, another will take his place…each man must set a good example when assaulting the enemy, everyone must show strong mettle, not be afraid of difficulties or casualties, strike terror into the enemy's heart at the sight of our troops.[29]

His artillery smothered the hills with round after round of high explosives, kicking up geysers of earth that wiped out all geographical contours into one hazed cloud of pulverized dirt, rubbish, and human remains. Those not immediately blown to bits were deafened by concussive blasts or struck dumb by shock waves that stunned fragile brains. The thuds and tremors reached Grauwin and Gindrey deep in their surgical station, shaking dust from the walls and instruments from their hands. Business would soon pick up, they knew. Whoever managed to straggle out of that hell might still be alive but less man than forlorn zombie, bloodied and dazed, as if reality had become an absurd preference and insanity the only logical escape.

The first was a 12-year-old boy, son of a T'ai resident. His abdomen had been sliced open by shrapnel. He lived only minutes. Then more came, and the squalid space reeked rich in the ferrous odor of blood, and echoed with the moans and cries and the whistling and pounding of falling shells. "I plunged once more into my closed universe, where nothing existed beyond shattered bodies…and blood," Grauwin recalled.[30] For three days and three nights straight he and Gindrey operated. For his meals Gindrey took nourishment through a straw while he worked. Cushions of parachute silk served as brief respites—their only allowable rest—for the overtaxed surgeons.

In just one day the DOMINIQUE fortifications had fallen. The troops on two of the ELIANE strongpoints fought valiantly and viciously but at the end of the day both were in enemy hands, including the strategic post known as ELIANE 1. Only one, designated ELIANE 2 was still held by the French. If it fell, the Viêts would be knocking on de Castries' door less than a mile away. Paratroopers fought with a desperation in any number of see-saw battles that re-claimed, then lost, then re-claimed the critical hill. Cannister rounds fired horizontally from French guns tore into massed Việt ranks and ripped apart bodies in sickening displays of piecemeal anatomy. Enough patched together counter attacks by paratroopers finally cleaned the hilltop and kept it in French possession, but at a frightful cost, some 40 dead and 189 wounded.[31]

For a time Giáp pulled back. Even he was appalled at the mortal sacrifices of his troops, their meat strewn about ELIANE's hillsides as if put

through a giant grinder and tossed like fertilizer. Back at the central camp the mauled from DOMINIQUE and ELIANE dribbled in, lugged across the Năm Yum by leery ambulance drivers and stretcher bearers, unsure if they, too, would be cut down by the swarms of Viêts nesting in on their hard-won summits. Less seriously wounded were sent straight to the battalion aid posts rather than make the treacherous journey back. Grauwin had counted over 100 wounded admitted to his hospital. Gindrey powered through sixteen major operations within 20 hours. *Docteur* Vidal, head of the Sixth ACP now precariously dug in on one of the ELIANE redoubts, operated without a break, his only power source a pitifully small electric plant that added to the ear-splitting noises in his tiny surgical station. Days and nights were becoming a blur, the work almost robotic, the wounded faceless. The imperatives drilled into his head as ACP chief: "*trier, réanimer, évacuer"* (triage, resuscitate, evacuate) he had long discarded. His was no longer a waystation. There was nowhere else for these casualties to go. *Opérer parfois* (operate sometimes) became *opérer souvent* (operate often). He was it; the wounded were not leaving. Even transport the short distance across the Năm Yum was foolhardy. His station on ELIANE 2 would soon be cut off.

Stymied by valiant French resistance on the ELIANEs Giáp would not quiet his cannoneers. They flogged those great guns until muzzles glowed red. Zeroed in with precision, there was not a square meter of ground that they could not churned up. Gray skies of April merely added to the metastasizing pessimism of colonial troops but failed to dampen the Việt tempo. Bergot remembered:

> The weather is gloomy and the terrain, stunned by harassing fire, seemed to emerge with difficulty as from a bad sleep. A kind of yellow fog made of damp dust and cordite constantly floats over, full of a stale smell of gunpowder and decomposing corpses.[32]

To Giáp, though, it was the smell of victory. His gun crews laid it on thick. Saturate the place. Chase any visible soldier not with rifle rounds but with 105mm shells. For the French life above ground would be rank suicide. Grauwin heard men talk about a quick dash for coffee, to retrieve wash, or run to the canteen, ended by shrapnel from sudden bursts of explosions. It seemed the Viêts had every inch of the valley covered. Subterranean haunts were reinforced—more timber, metal plates, sandbags, dirt. Lumber, steel, and earth were added to the roof of Grauwin's hospital. All connecting trenches were shielded so that men could move from one area

to another without exposing themselves to the hail of shrapnel. Life transformed into mole-like existence in mazes of dim, wet corridors.

On 10 April, there was an attempt to retake the ELIANE 1 strongpoint. French and Vietnamese paratroopers clambered up the slopes facing an enemy dug in and waiting. They met under withering fire, the battle fought from shell hole to shell hole. With stupefying *elan* reinforcements marched in singing their battalion songs or simply *La Marseillaise* as if on parade; inconceivable that at the hour of their death lungs managed to expel such *bravado*. It was not for France that they fought and sang, not for money or conviction or ideals. Like all soldiers in vicious combat, they fought for each other. Slowly, at the crest, Viêts were flushed out, one cluster at a time, with hand grenades, rifle butts, bayonets, and flame throwers. ELIANE 1 was back in French hands and held, even in the face of fanatic enemy counterattacks. But it was not without a new butcher's bill: almost 200 killed and wounded. Genevieve de Galard counted 26 alone brought to her bunker.

More ominous now was the fate of the water supply. With the fall of the DOMINIQUE fortifications drinking water became critical. The purification system, set up near the Năm Yum bridge, was now targeted by Việt Minh in the hills. Twice a day Grauwin's "coolies" made trips, ducking snipers and mortar rounds, to fill five jerry cans with potable water. By mid-April three of his porters had been picked off. Once the rains of April commenced, the trip was even more grueling, the trenches leading to the river filled with waist-high muck. A ten-minute journey turned into a two-hour ordeal, the returning men coated in slime and completely spent.[33] But water was essential. Casualties were mounting at a furious pace. In the first two weeks of April, Grauwin's field hospital admitted 751 wounded. All of them would need clean water for washing and irrigating of wounds, as well as simple hydration. And the demands were monumental. In this brief period 310 operations were done, many to clean and trim extremity injuries—water an essential part of that treatment—but many, too, of a much more serious nature. Seventy-six of these men would die. At this rate an alarming ten percent of surgical cases might not survive.[34] And for many, survival meant evacuation. Critical injuries demanded resources Grauwin could no longer provide—and clean water among the most basic. Without them death was almost assured. The encirclement, the strangulation was working. Giáp now referred to his tactics as "slowly bleeding the dying elephant." The French would dryly dub it *L'asphyxie*, "the suffocation."

Never ending cycles of nighttime bombardments and infantry attacks of course kept men awake throughout. During the day sleep was fitful and

often interrupted for repositioning of troops, repairing trenches, cleaning weapons, and resupplying ammunition. Bergot described it well:

> For legionnaires, a terrible moment…each feels that a storm is coming and will soon break over their heads. Each dreads the cataclysm but once it starts perhaps it will solve the terrible uncertainty—waiting is worse than death. With the first shell, everything becomes black. Some men close their eyes, others their ears. Still others, with their mouths open, wait for this explosion, which will put an end to their waiting and will sweep away all their doubt. The body is heavy, with a heaviness of ice. The belly becomes soft. It gurgles, it shivers…a thick clot that sticks in the throat.[35]

Psychologically, perpetual combat, loss of comrades, and the constant fear of incoming artillery was taking its toll. Hypervigilance came at a cost: sleeplessness, tremors, even hallucinations. "Fight-or-flight"—that adrenalin response—sooner or later emotionally depleted men and probably affected their very physiology. That same adrenalin flogged the heart into overactivity—soaring blood pressures, rapid beating. Merciless whipping, even in young, healthy men, could be too much; heart muscles worn out, irritable, rebellious—the same effect as if, in the present day, they had ingested mammoth quantities of methampthetamine. Towards the end some men, as reported by Grauwin, after weeks of constant duty, would be found dead at their post, with no discernible evidence of wounding. *Ils ne sont pas blessés. Ils ñont rien. Ils sont morts*, ("They have no wounds. They have nothing. They are dead.") he was heard to say.[36] Battalion surgeon *médecin Lieutenant* Jean-Marie Madelaine of the 13th Foreign Legion Half-Brigade, would describe a trooper walking who suddenly fell to the ground, dead. It may be they died in a state of complete physiologic collapse, perhaps fatal heart rhythms—fibrillation, arrest—brought on by ceaseless adrenalin release and less than ideal nutrition. Surgeon Gindrey saw it too: those with relatively minor wounds, done in by sleeplessness and constant combat, lapse into an indifference and then unconsciousness from which they did not recover. But all were wasted—even the upright. A story was told of Dr. Madelaine sawing through a leg bone in his first aid station, the only noise the grinding sounds of the saw teeth. At one point he simply ran out of energy and asked his nurse to take over. The to and fro grinding resumed. Madelaine propped himself up against a wall, pulled out a cigarette, lit it, and gave out a long sigh. After a few puffs, he was back at work and off the leg came, his cigarette dangling from his lips.

In mid-April Giáp switched the focus of his attacks to the HUGUETTE sectors—an expanse of flatlands northwest of the airstrip. De Castries had dug in there but had been forced to consolidate earlier in April. The outermost subsector HUGUETTE 7 had to be abandoned. It had been pounded to meaningless, churned-up dirt by enemy artillery. By 18 April, a second ring of fortifications, named HUGUETTE 6, was lost. The survivors, finally breaking out of their surrounded ditches, were brutally cut down by enfilading fire, losing over 100 dead, 49 wounded, and 79 men missing. Giáp's troops kept up the pressure. They encircled one other HUGUETTE redoubt. There was little chance for escape or rescue. The end would come as colonials were picked off: one, two, or three at a time. Luckier ones, hands in the air, were marched off to Việt camps.

And then the rains came. Not soft spring showers, but torrential downpours. Monsoons. In the surgical *antennes* patchwork roofing was no barrier. Soft dirt floors quickly became saturated, and even in the operating room the layer of mud eventually welled over the ankles. Out in the trenches mud became mixed with feces, blood, and even decomposing flesh from the unburied. Like the Verdun battlefield generations before, wounds would now be filled with gangrenous bacilli—*Clostridia*—fresh from the bowels of their decaying hosts. But even for the healthy mud slowed locomotion to a snail's gait, each step sucked into the batter-like muck. Wounded faced even greater torments. Crippled men could scarcely make it to the hospitals. Night might be the only time to find them, their recovery a matter of groping in the dark, without light or lantern, guided only by the muffled moans of exhausted, distressed men. Carrying them back was ridiculously hard, almost impossible. Hours it might take. Mud, weather, and near starvation sapped too quickly any vigor. Grauwin could see it. He already knew the end was near: "[t]he wounded were reaching the end of their powers of resistance both moral and physical…I had to ask myself why God had imposed this trial upon us and where it was that the men found strength to resist it."[37]

Genevieve de Galard saw it too. She could recite a litany of devastating injuries passing before her: eyes torn out of their socket, broken thighs, open wounds of the chest and back, head injuries with exposed brain, abdominal and rectal wounds with colostomies, triple amputees. All were young men. Some got quick operations and were moved on to recover, some were simply placed aside—so mauled as to be irreparable. Death could be mercifully rapid in those dungeons of Điện Biên Phủ. "These memories continue to haunt my dreams and my nights every time I have to talk about them. They carry a part of hell with them," she would later

write. Yet even the most damaged still exuded tenderness. Their gaze and their gratitude, the acceptance in their countenance spoke of humanness still unspoiled by the horrors that had been inflicted.[38]

Ernest Hantz, a German by descent but living in France, bore embarrassment and humiliation at the fate of his fatherland as the war ended in 1945. In those days any connection with Deutschland was a black mark. He had never supported the Third Reich, but felt compelled, at twenty years of age, to restore his reputation. Medicine would be the path to redemption. Finishing l'École du Service de Santé Militaire (Military School of the Health Service) in Lyon, he spent time at Val-de-Grâce military hospital in Paris. His sights were set on colonial service. Urban life bored him—but not for long. From his modest Paris apartment in the 15eme Arrondisement, Hantz said goodbye to wife and two young children, boarded an *Air France* Super Constellation, and some hours and stops later, landed at Tân Sơn Nhứt aerodrome outside Sài Gòn. As head of the Fifth ACP his unit first moved to Phnom Penh, Cambodia but in late 1953 shifted to Vientiane, Laos. After the opening of Operation CASTOR his team was re-directed to Mường Sài, that small village located southwest of Điện Biên Phủ, across the border in Laos. It was a haven for casualties from Điện Biên Phủ, brought in by Dakotas or Sikorskys. Triage, resuscitate, evacuate. Those were his instructions. Mường Sài was to be little more than a waystation, a sophisticated surgical post. Package the victims for Lanessan. But in the very first batch—some 20 wounded—were two pale, clammy soldiers with belly wounds. They would never survive the trip to Hà Nội. Without hesitation he operated, opened their abdomens, and did what he could. Bowel perforations, bleeding, the hidden mess of massed munitions. And for the others, he would not send them back until they had been thoroughly inspected, cleaned, sutured, and dressed. For the rest of February and early March they were fed a steady stream of casualties from that place called Điện Biên Phủ. But the tropics would fell him, too. It was at Mường Sài that Hantz noticed his urine had turned dark. He felt weak, melancholic. Hepatitis. With a lingering fatigue he managed to finish his work, but each day took superhuman effort. The yellow of his eyes matched the lassitude of his spirit. Only slowly did symptoms dissipate. The grip of Indochina's microbes—as if allies of the Việts—was a tenacious one. When Giáp's antiaircraft guns forced a halt to flights from Điện Biên Phủ at the end of March, Hantz was ordered to pack up his unit and return to Hà Nội. Without casualties Mường Sài was now expendable. He was sent to rest his liver.

But not for long. On 10 April, *Coloniel-médecin* Albert Terramorsi, Chief of the Health Service for Indochina in Hà Nội, authorized a flight of another ACP into Điện Biên Phủ under the command of *Lieutenant-médecin* Bergeron. It would have to be a night drop. With conditions at the encampment demanding absolute blackout, any markings for the drop zone were erased. Unless a full moon gave some light, it would be pitch black. But to loiter in the air was to invite a Việt Minh response—arcs of 37mm anti-aircraft fire, remarkably accurate even at night.[39] After nervously circling straining to see any land markings, Bergeron called it off. Back to Hà Nội. Terramorsi, though, insisted that another surgical team be dropped. Grauwin's reports were calamitous. Too many wounded were piling up. Moral would suffer. Irritated by Bergeron's timidity, he approached Hantz. Jump into Điện Biên Phủ without fail and a promotion awaited, was the offer. *Capitaine-médecin*. Hantz could not resist. A man of calculated risks, he knew they would either make it, be killed, or be taken captive; two of the three eventualities distinctly unpleasant (or, perhaps all three). In a short time, the Fifth ACP's equipment was loaded onto one Dakota C-47, the men into another. The planes barely made it off the ground. Hantz had demanded twice as many supplies as allowed, almost 2,500 kilograms. With that he could handle maybe 50 casualties instead of the ordinary twenty. Another midnight flight, his two planes mixed in with ten other Dakotas carrying paratroopers of the Second BEP. Hantz remembered their approach to the drop zone. The noisy hum of the formation had alerted Viêts below. "Ground explosions, tracers, and showers of bullets in all directions." An unsettling feeling crept in that he and his comrades were going to get it "right between the eyes."

They jumped at lower than 600 feet. At that altitude the main chute deploys just before hitting earth. That early morning of 12 April was pitch black, and the landing came with jolting suddenness. Hantz and his team released their chutes and stumbled into a shell hole littered with barbed wire fully expecting to be quickly machine-gunned. With some difficulty they disentangled and discovered to their relief that they were within the compound's perimeter. Met by *Capitaine-médecin* Damany, the men of ACP Five were led to their work station, a large, buried shelter just south of the command post. It had once been a mess hall, now transformed into a kind of hospital annex. "We would not leave this shelter for almost a month except for those rapid trips in the open air when the demands of nature impose on us to empty our bowels."[40] Surprisingly all his unit's equipment, scattered as it was over five hundred meters, was intact and undamaged.[41] Grauwin sought him out. With a grin the lanky, fresh look-

ing Hantz announced "I bring you greetings from all your colleagues in Hà Nội." It was a most welcomed arrival. There were accumulating staggering numbers of injured men. Like a display of Dante's tormented, bloodied, bandaged heads, faces, and limbs lined the narrow corridors and even spilled into the operating areas. Low, muffled moans and idle conversation were interspersed with cries for help. There was no hesitation. Hantz's men rounded up their supplies and moved in. Within three hours the first patient was on the table, and he was gowned and gloved. Of the funereal surroundings in which he was placed, Hantz later wrote, "[i]n this sinister lair that evokes a sepulcher, the team has already begun to work, lining white parachutes over earthy walls, draped against the heavy timber ceiling."[42] Thus began, in his words, "an insane period when days ran together and then weeks ran together until we lost all sense of elapsed time." The wounded, mostly artillery victims, hobbled or were carried in, some from battalion aid posts, some straight from the battlefield. The horrific effect of artillery was readily apparent: angry, torn limbs, as if clawed and chewed by some prehistoric monster, the red of opened blood vessels mixed with Điện Biên Phủ's dark, filthy soil. Half-focused eyes of the victims wandered in disbelief at death's new intimacy.

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Not 10 kilometers away another surgeon toiled under the same appalling conditions, working on an assembly of wounded rivaling that seen by the French. The siege of Điện Biên Phủ was consuming men on both sides at an alarming rate. Doctor Tôn Thất Tùng, the slight, intense young surgeon who had bedazzled his French mentors with a brilliant mind and tireless energy was bent over the cots and stretchers of ailing comrades brought down by French gunfire. From one to another he went, looking, listening, feeling—always thinking, always anticipating the unexpected. Now 41, he decided to leave Hà Nội after the riotous night of 19 December 1946 with his wife and six-month-old son. "The August Revolution (1945) exploded like a pink flame in Hà Nội," he would later write. Months before, he himself had become a thief and a brigand, secretly absconding with medical supplies from all over Hà Nội to stash in clandestine bases around the city. During the street fighting of 1946 he would remember the pop of gunshots around Hà Nội, day and night, sometimes in such rapid succession that it became one steady roar. His hospital, the *Phủ Doãn* Hospital—the former Protectorate Hospital—was now deserted by the French, but he and his staff were carefully guarded by armed Việt Minh patriots. Revolutionaries would summon him at any time now to Hà Đông, in the

suburbs of Hà Nội, to operate on Việt Minh cadres at the *Bắc Bộ Phủ*, the former residence of the governor of Tonkin, taken over by the resistance. One of his patients had even been "an emaciated old man," a man named Nguyễn Ái Quốc, a man who now called himself Hồ Chi Minh. "The Great Patriot" had made a distinct impression on Dr. Tùng. "I was won over to the revolutionary cause, fascinated by the personality of our great leader," he wrote.[43] It had become a schizophrenic existence. Tùng would dutifully operate at the University hospital during the day but then slip away to Hà Đông and work through the night on wounded patriots.

But his heart was no longer in Hà Nội. During the first years of the war, his Việt Minh were on the move, chased by French regulars. Tùng moved as well—nine times to different spots around Hà Nội and on the coast. His hospitals hurriedly set up in the most secretive of locations, but equally as fast tore down as the rumbling of French armor and the screeching of French jets closed in. He would call these times an "Odyssey of the Resistance." Finally, in 1947, his teams settled around the village of Ai, deep in the jungle, near Chiêm Hoá in the *Việt Bắc*. But it would be a demanding existence. Tigers roamed the woods, the sound of their rutting, the smell of their rank breath hung in the night air. In fact, one slinked into Tùng's small yard and killed his dog. Living huts were elevated on stilts, affording some relief from the humidity but, more importantly, as protection from the wild beasts.[44] Tùng's young wife, the aristocratic Vi Thị Nguyệt Hồ, granddaughter to the Governor of Thái Bình Province, discarded her patrician heritage and accustomed herself to the harsh realities of the *Việt Bắc.*[45] A scrub nurse by training, she quickly pitched in to change dressings, give medications, and look after crippled soldiers. It was a devotion to the man and the cause that typified this revolution, enduring all things for a greater good. And there were endless hardships. William Duiker's biography of Hồ Chi Minh, described meals of mostly rice, garnished with wild vegetables. Soon gardens were tilled and home-grown vegetables furnished. Sometimes small portions of salted meat were added as a special feast. Hồ Chi Minh humorously described it as *conserves de Việt Minh* ("canned Việt Minh").

At Ai Tùng and his colleagues Hồ Đắc Di, Nguyễn Hữu Trí, and Hoàng Đình Cầu were instructed to build the *Trường Đại học Y khoa kháng chiến* (University of Medicine of the Resistance). There would no longer be l'École de Médecine de Hanoi—not, at least, until liberation had been achieved. Doctors must be trained for the struggles of the great revolution. They would have to be trained right here in the *Việt Bắc.* The venerable Hồ Đắc Di agreed to serve as dean while 30-year-old Hoàng Đình Cầu, a

thoracic surgeon by training, would be appointed "principal" of the new school. Together they would develop an entire curriculum to educate and train doctors for the Việt Minh movement. The entering students would spend one year at school, learning the basics of emergency care and then sent straightaway to combat units in the field. With limitations on the types and amounts of western medications available, Hồ Đắc Di relied on a resurgence of traditional Vietnamese medical practices, blending them with western customs. Hồ Chi Minh had said as much:

> We must build our own medicine which must be based on this principle: scientific, national and popular. Our fathers had many valuable experiences in treating diseases with Vietnamese and Chinese medicines. To expand the field of medicine, attach great importance to the study of traditional medicine, try to combine it with modern medicine.[46]

Hồ Chi Minh himself had been the recipient of traditional Vietnamese medicine. On the eve of the August Revolution of 1945, he was taken ill with high fevers. The already thin man was becoming weaker and thinner. The usual French concoctions of aspirin and quinine had done nothing to alleviate his symptoms. His worried general, Võ Nguyên Giáp, summoned a local Tày healer who mixed burnt root ashes with a thin rice soap and gave it to the ailing leader. The next day his delirium was gone and fever soon subsided. Hồ Chi Minh recovered.[47]

Annamese "bone-setters" had long used bamboo splints and leaf plaster for fractures. It had been part of *Thuốc Nam* (southern medicine). And it would be again, as dwindling medical supplies forced a reliance on traditional pharmacopoeia. For the Việt doctors trained according to western medical thought, such botanical remedies raised suspicion. But few objected. In the *Việt Bắc* there was simply no other choice. Most of the rank-and-file infantry, coming from the former peasant classes, relied heavily on ancestral traditions—often handed from parents to children as part of family rituals. *Thuốc Ta* (our medicine) was preferable anyway.[48] Western medical practices were still foreign and suspect, especially now that there was open hostility to French influence.[49]

Over the next few years Tùng would become something of a medical ambassador for Hồ Chi Minh's government in exile. After the Chinese Communist victory of 1949, he traveled to Beijing to visit the Rockefeller Foundation hospital, the Peking Union Medical College, a major center of Western medical science in China. It was there that he may have picked up techniques to manage head injuries. Tùng also visited the Democratic

Republic of Korea and Pyongyang but seemed less impressed with their medical acumen. Despite his importance in solidifying relationships with these communist governments, Tùng was impatient to return to the *Việt Bắc* and his embattled soldiers of the Việt Minh.[50]

The bucolic scenery around Ai appealed to Tùng. Wandering blue streams and luxuriant carpeting forests seemed a perfect site for his "jungle medical school." Simple bamboo huts were constructed for classrooms—even anatomy dissection—and laboratories set up and equipped for hematology and pharmacology. He had even supervised construction of patient wards and an operating room. But not for long. Duplicity was rampant. Someone tipped off the French. A day after the school's official opening, 7 October 1947, airborne legionnaires surprised the faculty with a sudden assault, scattering teachers, students, and patients. Like plundering Vikings, they ravaged the campus, burned to the ground bamboo buildings, and even killed one patient who had been left behind. Tùng and Hồ Đắc Di snatched what medicines they could and fled into the woods hounded by bursts of automatic fire. Returning to Ai would not be possible. The French would keep it under surveillance from now on.

But the *Việt Bắc* was a vast territory. The district of Trung Giáp in the province of Phú Thọ was chosen as an alternate site: remote, mountainous, almost inaccessible by roads. Or so Tùng thought. After considerable trouble setting up their campus, yet another French raid drove them away. Back to the Chiêm Hoá area nearer the Chinese border. At last hills and valleys of the *Việt Bắc* would conceal their *Trường Đại*—the Great University of the Resistance. On 15 October 1950, Hà Nội Medical University, as the jungle school was now called, opened in the wilds of the Việt Bắc, with Hồ Đắc Di as the titular head. The first class had 40 students, chosen in a more egalitarian manner than done under the French. During this period of war, emphasis was placed on treatment of traumatic injuries, with a surgical focus. Tôn Thất Tùng was a primary mentor and adviser in the skills of *ngoại khoa* (surgery). Students were drilled on elements of first aid, wound care, and splinting of fractures. Their schooling was an integration of lectures and very real field medicine for Việt Minh cadres. For those of bourgeois origin, political classes were also mandated to indoctrinate Marxists theories. Yet, restraint by Party officials was necessary, as doctors were sorely needed and those with nationalistic but not communistic tendencies were granted indulgent, but necessary leeway.[51] Still, constant harassment by French forces had proven immensely expensive—loss of medical supplies would not be replaceable. And the suffering to patients was incalculable. But all turned a blind eye to their woes. "We

are still happy even when we're covered in dirt and hide in the jungle," Tùng would proclaim, having barely escaping with his life.[52]

Yes, it would be a meager lifestyle, far different from the relative luxuries of Hà Nội. Porous, patched together bamboo huts roofed in thatch would serve as patient wards, thinly separating occupants from the whims of their surroundings. Despite General Giáp's admonitions, foodstuffs were not always plentiful, particularly in terms of protein sustenance. A rice-based diet furnished barely sustainable nutrition. Rationing was a must, and usually only five-days' worth was allotted at any one time. And the *materia medica* slowly dwindled. Pilfered supplies from metropolitan hospitals could not keep up with expenditures in the jungle. Việt Minh were as susceptible as any to the myriad parasites, vectors, protozoa, and bacteria. Yes, personal and group hygiene measures had helped, but dangers of contamination were ever present. Battle wounds, though, would provide the crucial challenge. At first, stolen French stores furnished the much-needed provisions. Shortly, scavenged articles were supplemented with ingenuity. For example, sutures were fashioned from acrylic thread carefully unraveled from French parachutes. Bicycle lights served as operating lamps, a cyclist pedaling furiously with a generator hooked to a propped up rear wheel. Everything was reused. Linen, bandages, splints, even gloves were cleaned, washed, sterilized as best they could, and restocked. In time, Chinese and Soviet help would arrive. Between 1952 and 1954 medical aid from those two countries would account for 110 tons of medical supplies, chiefly vaccines, antibiotics, and instruments.[53] But always there was the willingness to rely on frugality and familiar *Thuốc Nam*, the comfortable medicines of their childhood.

It was on 23 March 1954 that Tôn Thất Tùng received a dispatch from "Uncle Ho." He and Vũ Đình Tụng were to move surgical teams to Điện Biên Phủ. Casualties had been far greater than expected. In the 316 Division alone, the first few days of the March offensive against DOMINIQUE strongpoints had flooded eastern front hospitals. Five hundred had been planned. The eventual count was three times as many: over 1,500.[54]

It had taken Tùng's two surgical teams, frugal knapsacks on their backs, ten days to reach the battle zone on foot. There was no easy way. For the Việts the road to Điện Biên Phủ was a meandering journey through jungle—narrow footpaths barely perceptible—fording streams, scaling mountain passes, the whine of French planes above a constant reminder of the proximity to death. His "hospital"—"Station No. 1" it would be called—was no more than a clearing under canopied trees, his operating area an open-air tent. A nearby brook furnished fresh water. Already casu-

alties lay about, some in urgent need of surgery. Vũ Đình Tụng would supervise Stations 2, 3, and 5 (mostly wounds to bone and limbs). And so it had begun, a procession of the maimed. One after another entered the tents and were placed on barren operating tables. It was inconceivable what humans had wrought. Flesh torn by mighty forces far too great for fragile human frames. Many of these young boys had literally thrown themselves at their enemy and felt the full impact of retribution, riddled by bullets and grenades or dismembered by mortars and mines. And they looked back at him with that quiet stare of the trusting.

The rains came shortly, those same drenching monsoon rains that had turned the French camps into seas of mud. Rains that sodden the earth and the spirits; an opaque curtain of showers outside, pudding-like clay inside. How could anyone keep sterility here? A cacophony of sound—the thunder of bombs, the hammer of rain—battered his thoughts. And always danger. A shell exploded here, felling a tree and killing two doctors. Napalm ignited huts there, less than a mile away.

But for Tùng it was the broken boys that brought him into focus, that shut out the roar of war and the drubbing of nature. These faces, these haunting faces could not be ignored. He would work until he was numb, until he cared little about the soaked earth beneath his feet or the wringing shirt on his back—it was as if Tùng were possessed by the collective will of ancestral healers. Even here he would be a perfectionist, scolding anyone who failed to prepare, anticipate, react. Care must be exact. Yet even with his stamina there were too few doctors and nurses. Such numbers of patients that physical and emotional energy slowly sapped, leaving all of them slouched, speechless, and drained. Tùng confessed:

> I feel exhausted in the evening…My head is heavy, my body aches all over. My fingers are numb with fatigue. We are only six surgeons and 20 nurses to attend 700 wounded…we haven't got enough strength left to eat our dinner…I begin to feel, in my own flesh, the suffering of the people.[55]

Then he would begin again. Under steady downpours, one moment he is operating on blasted arms and legs, cutting away frayed muscle, bone, and skin, the next he is peering through skull into bleeding, mushed brain. It was with head injuries that he felt most challenged: a wonder anyone survived. "Human brains are the most precious sources of life," he wrote. And then off to belly wounds. He looks at one young Việt soldier in the throes of peritonitis from bowel perforations. "Don't hurt me," the boy pleads. With the little equipment and medicine at hand, Tùng is not sure

the boy will be saved. It is the same here on both sides. Too many wounded, too few surgeons, too little time. But for Tùng there would be little pity for the plight of the other side:

> The colonialists must now be living in a continuous nightmare…Only a few years ago, in Viet Bac, they hunted us mercilessly. Now they are falling to our guns like sparrows.

Tùng was a deft surgeon. His French instructors had marveled at his hands and the way he neatly sliced through the delicate structures of human innards. In his civilian days, human anatomy had fascinated him. In particular, he had studied liver anatomy and perfected a way to safely remove parts of the liver involved with tumors, procedures that were almost unheard of anywhere in the world. It was all so much more rudimentary now. The flesh he saw before him was bruised, lacerated, ripped apart, and battered. The only course was to trim away damaged tissue, stop bleeding, and bandage. But, the cases kept coming.

In those rare lulls in fighting, when he could take a break, remove himself from the misery around him, Tùng would sit alone in front of the straw huts that served as operating rooms and hear the odd contrasts of nature and man: bucolic sound of crickets mixed with the thunder of artillery.

Nor would there be much compassion by doctors in the trenches of Điện Biên Phủ for the Việt Minh. But, by all accounts, any wounded enemy, on either side, would be cared for to the best of their ability and resources. "The enemy were treated just like the others, their wounds bandaged, plaster casts applied, and condition stabilized," wrote Genevieve de Galard.[56]

But the French were indeed beginning to live a nightmare. The landscape was now devoid of life, a vast expanse of dirt, sandbags, half-buried thatch, corrugated steel, and barbed wire. Hardly a soul was visible above ground. The village of Mường Thèng of course, had been leveled. Nothing remained. On the redoubts death was a repugnant presence, ground into the earth like fertilizer. The *centres de resistance* were turning into quagmires of misery. Rain and bombardments unearthed rotting corpses hastily buried, their stench permeating everywhere. Feces, vomit, putrid food added to the bounty of sustenance for millions, it seemed, of fat green flies. Dysentery from contaminated food spread through the ranks. Fearful of being picked off by snipers, most just relieved themselves in trenches and bunkers, forming puddles of brown muck. Grauwin even saw that pots used to collect urine and feces among the wounded sat undisturbed, emptying them outside would invite Viet Minh fire. One orderly had been

gunned down just above the steps of an exit still clutching his full chamber pot. And food itself was becoming an issue. With fear of exposing positions, cooking was no longer considered wise. Canned, cold combat rations were the only recourse, but, lacking fresh fruit and vegetables, there was fear that vitamin-deficient conditions would appear, such as scurvy or *beri-beri*. Men were encouraged to eat what produce was available. With the shrinking perimeter in April and limited ability to shuffle supplies by parachute drop, agonizing choices had to be made by French High Command in Hà Nội: ammunition, food, reinforcements, or medical supplies. Lowest priority seemed to be medical supplies.

Nevertheless, by 15 April, the camp was on short rations and by the end of April on half rations. This basically meant monkey meat, hard biscuits, or various types of hard candy. Foraging at night for food outside the wire was discouraged. Việt Minh gunners sighted any suspicious looking package and would fire on it with the slightest movement in the dark. Infantry in the trenches were exposed to the elements night and day, rain-soaked clothes never seemed to dry out. And everywhere, Việt cannon tubes lobbed round after round of mortar and artillery, sometimes targeting specific objectives, sometimes randomly in hopes of stirring panic. By 20 April, almost two-thirds of the ancillary medical staff—nurses, orderlies—were gone: killed or wounded. Five doctors became casualties. Gutsy Lieutenant Rondy, always—it seemed—near the action, was wounded when a round exploded just outside his infirmary. Fragments pierced his frame in a dozen places. Another was *Lieutenant-médecin* Jourdan, battalion surgeon for the *IIe Bataillon, Ier Régiment de Chasseurs Parachutistes* (Second Battalion, First Chasseurs Parachute Regiment, one of the oldest and most decorated of French airborne units) whose aid post was on ELIANE 4. A nearby explosion took out part of his right thigh leaving a crater the size of both fists. At Grauwin's hospital the wound was cleaned and dressed, but there was no walking back. He would be confined to a stretcher, the injury far too painful to ambulate. But Jourdan was insistent he return to his post. ELIANE 4 was in grave danger, and the men needed him. So, stretcher and all, he was taken back and, flat on his back, directed his aidmen in the care of the wounded.

Notes

1. Giáp, *Điện Biên Phủ*, 206.

2. Jacques Péricard, *Verdun 1914-1918* (Paris: Librairie de France, 1933), 80.

3. Guy Leonetti, Lettres de Diên Biên Phu (Paris: Fayard, 2004), 178.

4. Laure Cournil, "Diên Biên Phu: Des Tranchées au Prétoire: 1953-1958," (PhD diss., University of Paris, 2014), 232.

5. Hựu, *Lịch sử quân y,* 476.

6. Grauwin, *Doctor at Dienbienphu*, 94.

7. Grauwin, 96.

8. Erwin Bergot, *Les 170 Jours de Dien Bien Phu* (Paris: Presses de la Cité, 1979), 114.

9. Grauwin, *Doctor at Dienbienphu*, 91.

10. Đặng Đức Tuệ, Đào Thanh Huyền, Nguyễn Xuân Mai, et al., *Dien Bien Phu Vu d'en Face: Paroles de B*ô *D*ôi (Paris: Nouveau Monde Éditions, 2010), 157-158

11. Grauwin, *Doctor at Dienbienphu*, 99.

12. Grangier, R. "Jacques Gindrey: De l'Élevé Résistant du Maquis de l'Ain au Chirurgien de Dien Bien Phu" *Hist Sci Med* 44 (2010): 73-77.

13. Roger Bruge, *Les Hommes de Dien Bien Phu* (Paris: Perrin, 1999), 183-184.

14. Ted Morgan, *Valley of Death: The Tragedy at Dien Bien Phu That Led America into the Vietnam War* (New York: Random House, 2010), 290.

15. Leonetti, *Lettres*, 218-219.

16. Numbers from Windrow, *Last Valley*, 427-428, and Fall, *Hell*, 170.

17. Windrow, *Last Valley*, 434.

18. Howard R. Simpson, *Dien Bien Phu: The Epic Battle America Forgot* (Washington DC: Potomac Books, 1994), 88.

19. Grangier, "Jacques Gindrey."

20. Huyền, *Vu d'en Face*, 46-47.

21. The Ambassador at Sài Gòn (Health) to the Department of State, Saigon, April 1, 1954, 751G.00/4-154: Telegram, Office of the Historian, Department of State, Washington, DC.

22. Memorandum of conversation with the President, March 24, 1954, Eisenhower Library, Dulles papers "Meetings with the President."

23. Thuries, *Merci Toubib*, 231. One case in point was that of a Sergeant Leroy who sustained fragments wounds o his abdomen at ISABELLE on March 16. He was taken to the main hospital and operated on by Dr. Grauwin. On March 18 shelling of the hospital resulted in additional fragment wounds to his abdomen. Because of the disruption of the hospital due to the shelling, he was taken back to ISABELLE to be operated there by Rezillot's team. On arrival an artillery round destroyed the ambulance and killed the driver. Sergeant Leroy was rescued, underwent an abdominal operation, and waited for air evacuation.

None was to come at ISABELLE so he was transported again to the main compound and spent three nights in a drainage ditch waiting his turn for a flight out on 25 March. (See Windrow, *Last Valley*, 475-476).

24. Thuries, *Merci Toubib*, 230.

25. Huyền, *Vu d'en Face*, 161-162.

26. Báo Ninh, *The Sorrow of War* (New York: Riverhead Books, 1993), 25.

27. Geneviève de Galard, *The Angel of Dien Bien Phu* (Annapolis : Naval Institute Press, 2010), 62.

28. Grauwin, *Doctor at Dienbienphu*, 140.

29. Võ Nguyên Giáp, *Dien Bien Phu* (Hanoi: Foreign Languages Publishing House, 1964), 226.

30. Grauwin, *Doctor at Dienbienphu*, 133.

31. Figures from Windrow, *Last Valley*, 480.

32. Bergot, *Les 170 Jours*, 225.

33. Grauwin's "coolies" were actually *prisonniers internés militaires* PIMs (essentially prisoners of war, mostly Viet Minh, but also some T'ai deserters). They were informally referred to as "rats of the Nam Yum, as they encamped on the banks of the river in their own grimy community. Surprisingly, they stayed put throughout the siege, serving faithfully in various support functions when ordered. Few tried to escape.

34. Figures are from Fall, *Hell*, 244, although the source is not referenced. This figure may not take into account of more lightly wounded men who may not even been sent to the hospital, so the denominator might be artificially small.

35. Bergot, *Les 170 Jours*, 195-196.

36. Bergot, 244.

37. Grauwin, *Doctor at Dienbienphu*, 187-188.

38. de Galard, *Angel of Dien Bien Phu*, 64.

39. Việt Minh antiaircraft batteries were prodigious. Some estimated that at least 80 37mm antiaircraft guns and 100 12.7 mm (0.50 caliber) guns were placed in the hills around Điện Biên Phủ, supplied with over 44,000 rounds of 37mm ammunition alone. Flak was reported so heavy by American C-119 pilots that they felt it was worse than over Germany in World War II (Shrader, *War of Logistics*, 318).

40. Thuries, *Merci Toubib*, 161-162. In itself a dangerous adventure. More than once men were picked off or obliterated with their pants around their knees.

41. Grauwin contends that half of their containers fell into Viet controlled territory and were not retrieved (*Doctor at Dienbienphu*, 180).

42. Thuries, *Merci Toubib*, 162. Parachutes would drape the walls and ceiling to hopefully catch dust and dirt that would shake loose with each explosion.

43. Tùng, *Vietnamese Surgeon*, 29.

44. William J. Duiker, *Ho Chi Minh*, (New York: Hyperion, 2000), 410.

45. Of interest, past Governors of Thái Bình Province had been staunchly pro-French and took drastic measures to suppress revolutionary ideas. Source: Huệ Tâm Hồ Tài, *Radicalism and the Origins of the Vietnamese Revolution*, (Cambridge: Harvard University Press, 1992), 54-55.

46. Vũ Văn Ngạn "Le Service Sanitaire de l'Armée et l'Alliance des Deux Médecine Traditionnelle et Moderne" Études Vietnamiennes 50 (1977): 30-38.

47. As told by Wahlberg, A. "Herbs, Laboratories, and Revolution: On the Making of a National Medicine in Vietnam" *EASTS* 8 (2014): 43-56 .

48. Laurence Monnais, C. Michele Thompson, Ayo Wahlberg, *Southern Medicine for Southern People* (Newcastle upon Tyne: Cambridge Scholars Publishing, 2012), 3.

49. Guenel, Annick "Entre Chine et Occident: Place et Rôle de la Médecine Traditionnelle au Viet-nam" In Anne Marie Moulin [Ed], *Les Sciences Hors d'Occident au XXème Siècle*, Volume 4: *Médecine et Santé* (Paris: Orstom Éditions, 1996), 177-192.

50. See Aso, M., Guénel, A. "The Itinerary of a North Vietnamese Surgeon: Medical Science and Politics during the Cold War" *Science Technology Society* 18 (2013): 291-306.

51. For further discussion of the new *Việt Bắc* medical school, see Michitake Aso, "Learning to Heal the People: Socialist Medicine and Education in Vietnam 1945-54" in Hans Pols, C. Michele Thompson, and John Harley Warner [Ed] *Translating the Body* (Singapore: NUS Press, 2018), 146-172.

52. Nguyên Phương, *Tôn Thất Tùng: Cuộc Đời Và Sự Nghiệp (1912-2002)* (Hà Nội: Nhà Xuất Bản Y Học, 2002), 101.

53. *Sơ Lược Lịch Sử Y Tế Việt Nam*, Volume I (Hà Nội: Nhà Xuất Bản Y Học, 1995), 262.

54. Hựu, *Lịch sử quân y,* 472.

55. Tùng, *Vietnamese Surgeon*, 46-47.

56. de Galard, *Angel of Dien Bien Phu*, 71.

Chapter 10

Hemorrhage!
Humors, Hibernation, and Henri Laborit[1]

All our internal movements, even the highest, are subject to vegetative domination.

—Rene Leriche, *La Philosophie de la Chirurgie*, 1951

Hemorrhage! Since Homeric times when warriors raged at each other with razor-sharp swords and spears the intent was to cut, slash, and stab until vital structures were severed liberating liters of blood and dropping one's opponent like a stone. If ancient texts are to be believed, the battlegrounds of antiquity ran thick with blood, combatants slipping in crimson slime and stumbling over alabaster corpses rendered bloodless by mortal blows. In the *Iliad*, that grand warrior Achilles ran amuck killing indiscriminately, described on one occasion slaying Trojan hero Tros by smiting him "upon the liver with his sword, and forth the liver slipped, and the dark blood welling forth therefrom filled his bosom; and darkness enfolded his eyes, as he swooned."[2] With mighty whacks, off came arms and legs, chests and abdomens ripped open. Hemorrhage was massive; death quick. Few in those violent days survived a serious wound. If not dead within minutes, the lingering blood loss soon spelled the end as the fight continued around them, no one taking the time or effort to remove victims from the fray and little to be done even if they could. So be it, was the general response, even into the Middle Ages, the cost of doing battle, the scourge of the warrior.

But now, even though war is just as brutal as in Homeric times, there is a measure of hope. If pulled free in time, if taken to a place of safety, in the presence of skilled care givers, just maybe bleeding can be stopped and recovery possible. Of course, a majority of casualties—some say as many as two-thirds—are destroyed almost immediately: cut in half, dismembered, beheaded, or instantaneously transformed into a fine, pink mist by high explosives. For the rest, the immediate survivors, it is imperative *to stop the bleeding*. Almost intuitive, the quick reaction is to slam a hand, some cloth, a bandage on a wound that is torrential-

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ly hemorrhaging. Tourniquets—some have called them garrotes—might help for limbs sliced—or almost sliced—off. But the bleeding must be stopped. Internal hemorrhage is much more difficult. Nothing short of operation-wide incisions to reach in, find, and compress bleeding points—will be sufficient. And time becomes the new enemy. Where can surgery safely be done? How long to get there? In the meantime, efforts to replace what has been shed take center stage, foremost among them, human blood. Blood is indeed a precious commodity, essential for life, and essential in abundance. It is the vehicle for oxygen, the molecule of life—some say life itself—without which death looms larger each minute. Once again, time, time, time is of the essence. It might be only a "golden" hour, perhaps at the outside of 90 minutes, before time runs out. Of those who survive the initial injury having lost any amount of blood—those ashen, slumped life forms hurried back to medical care—only half will survive. And in this Indochina War for both sides, time was a commodity that slipped through fingers like fine sand.

The human body is an amazing machine. There are mechanisms, developed over epochs, to thwart the grim message of exsanguination. Loss of blood almost immediately provokes pathways of salvation. Clotting of blood heightens, blood vessels constrict, shrinking vascular spaces, and blood shunts to two critical organs: the heart and brain—immediate responses to loss of precious fluid. But, if bleeding cannot be stopped, if the flow of blood is unabated, the heart weakens until it cannot be helped. There is a point where all the blood and all the medication and all the skill do no good. It is an irreversible event.

So, for those lucky few, those wounded who are pulled, carried, motored, or flown to safety, whose blood leaks, whose hearts pound, whose arteries spasm in desperate effort to sustain life, there may be redemption. But these are ones who have perplexed caregivers, whose countenance was so grave that death seemed imminent, their feeble pulse, pale appearance, and clammy skin outward manifestations of a circulatory system so emptied that organs starve for its oxygen.

At first it was thought simply a consequence of trauma itself, as if the nervous system—the brain and nerve endings—had been so rattled that there was a reflex slowing, almost an internal paralysis. Early French physicians called this condition *la secousse*—the "jarring." Later another term was applied, and this one seemed to stick—*choc* in French, *shok* in German, "shock" in English. A literal shocking of the nervous system. Alfred Velpeau regarded two distinct stages of reaction following a gunshot wound when treating casualties from the Paris rebellions of the 1840s. An

initial period of "stupor," a result of the sudden "shock" which the nervous system experiences after wounding, and a period of "inflammatory reaction" beginning after two or three days.[3] For those prostrate from their injuries, the eminent German physician Professor Herman Fischer gave the classic description of a "*shok*" victim:

> He lies, as you see, quiet and unreserved; the face is peculiarly drawn…the nostrils dilated. The dull, dull eyes are deep, half covered by the eyelids, and are surrounded by broad, dark rings. The pupils appear wide and react wearily. The gaze stares indifferently and into the distance. The skin and the visible mucous membranes are marble-pale, a little blue-colored on the hands and lips. On the forehead and brows hang big drops of sweat. The temperature of the whole body has fallen significantly by feel…It is only with very painful impressions that the patient grimaces sadly…No limb moves spontaneously…Passively raised, the limbs soon fall down as if dead… The pulse is barely perceptible, very frequently irregular and unequal…The respiration appears irregular, abnormally deep, sighing, long inspirations alternate with very superficial, frequent, barely visible and audible.[4]

"Shock is a momentary pause in the act of death," so reported Harvard Professor John Collins Warren, Jr. in 1894.[5] But all made no mistake, it was truly a dying process if not soon corrected. And how should that be done, many wondered. A simple matter of blood loss? Surely not. There must be some agent, some "humor" that bears responsibility for this morbid condition. "Grave wounds give rise to a general and profound feebleness" caused by a nervous incapacitation as a result of the trauma itself, opined American surgeons Mitchell, Morehouse, and Keen in 1864.[6] The eminent Samuel Gross of Philadelphia had said it well: "the machinery of life has been rudely unhinged."[7] Of course, in the 19th Century little could be done anyway. Transfusions and fluid replacement for shed blood were not yet to be discovered. Only theories and explanations abounded. Imbalances, toxins, and even metaphysics were the rage. French experimentalist Claude Bernard held his *milieu interieur* responsible, the humors that contradicted external stresses to maintain some type of equilibrium, some independence—liberation—of the organism, and regulated by the nervous system (the nervous system itself regulates all these mechanisms and harmonizes them.)[8] This *Belle Époque* was the age of the materialist, the age of science and experimentation, where all living phenomena could be reduced to a series of chemical or physical equations. Those vital forc-

es, around since the days of Hippocrates, were so much bunk, some felt. Yet beyond chemistry and physiology there was still the unexplainable, the mysterious. And even with physiology wizards like Bernard there was still a conviction that, at some level, indeed life forces—vitalism—was at play. "All of the vital mechanisms however varied they may be, have always one goal, to maintain the uniformity of the conditions of life in the internal environment," Bernard would write.[9] With his *milieu interieur* and oscillating humoral machinations, Claude Bernard's theories would fuel debates on stress and the shock syndrome for decades to come. And he would generate interest in the autonomic nervous system, that network of involuntary nerve fibers controlling all vegetative functions. Cutting sympathetic nerves in the neck, he observed a warming of the skin and a flush of oxygen-rich perfusion, as if those nerve fibers had inhibited the release of life-blood to skin and muscles. Anesthetic agents, notably chloroform and ether, seemed to dull or abolish this "irritable" quality of nervous tissue, "destroy[ing] and suspend[ing] conscious sensitivity first, then unconscious sensitivity" including nervous tissue emanating from the spinal cord.[10]

Doctor George W. Crile of Cleveland took up the task at the turn of the 20th Century. Paralysis of the nervous input, he thought shock to be. The arteries became paralyzed, unable to constrict. There was a general collapse. "We concluded that shock was the result of exhaustion" through "impairment of the vasomotor mechanism." Overstimulation of motor activity—those fine tendrils of nerve cells reaching to the muscular walls of arteries and veins—must be responsible. His remedy? "*Anoci-association*," the removal of all psychic and physical stimuli from the brain as the central mediator of stimulation—use of preoperative narcotics, general, inhalation anesthetics such as ether, and the use of local anesthetics such as procaine (Novocain).[11]

Crile was not alone. Harvard-educated Walter Cannon, Professor of Physiology, was a student of Bernard and subscribed to Crile's thinking as well. There must be a toxin, he surmised, and set out to prove so. The First World War would give ample opportunity. Thousands of damaged soldiers flooded the aid tents and surgical wards of forward hospitals. Cannon had seen his share, watching the ebb of life in Casualty Clearing Stations in western France since 1917. And his toxin, this substance liberated by trauma, wreaked havoc on the autonomic nervous system—that grand initiator of all that shock will become. The autonomic nervous system was a silent culprit, working its wiles, almost without consent, triggering release of adrenaline, the mediator agent that constricts blood vessels, makes the

heart pound, fuels an intense desire to fight or run.[12] And these boys in the trenches were hardly prepared to withstand more stress. Cold, wet, exhausted, hungry—often malnourished—they were not the epitome of youthful reserve and endurance. These were not the doughboys, the Tommys, and the *poilu* of paperback fiction. Beaten down by endless days of bombardments, snipers, patrols, and the mud and muck of frontline trenches, there was little reserve left. Wounding left them depleted. Shock came quickly. Dehydrated, bleeding bodies could not cope. Cannon was convinced. It was not blood loss but "exhaustion of the vasomotor center;" exhaustion of those involuntary nervous impulses brought alive by trauma.[13] And working in Paris, in laboratories close to those of the great Claude Bernard, he would, too, develop a theory of balance, that stress produced an internal reaction to compensate, to produce a harmony—he would eventually call it *homeostasis*.[14]

Others followed. Irishman James Reilly, orphaned by the age of four and dirt-poor, arrived in Paris a young man, living frugally on the *Rue de Vaugirard* in the Latin Quarter, almost monastic in his lifestyle. A private man, he shunned company, preferring only few close friends. Unpredictable in behavior, it was likely a simple obsession with his task at hand, be it patients or laboratory work. Graduating from medical school, he served in the French Army during World War I but then received a coveted appointment at the Pasteur Institute in Paris. This led in 1922 to a directorship of the laboratory for the Claude Bernard Hospital in the *18eme Arrondissement*. His experiments, tailored to Bernard's hypothesis of the *milieu interieur* and overstimulation of the autonomic nervous system, particularly the sympathetic nervous system and its effector agent adrenaline, led to formulation of his own theories, that an exaggerated vasomotor, endocrine, and immunologic reaction could be produced by certain noxious agents—"irritations" according to Reilly. French soon called this *d'irritation neuro-vegetative de Reilly* (the autonomic "irritation" of Reilly).[15] The end result of intense vasomotor (vasoconstriction) activity would be to limit oxygen delivery, starve tissues, and provoke a spiral of irreversible damage and death.[16]

And the final event: a progressive drop in blood pressure brought on by this exhaustion, termed by many as a vascular collapse; the wildly beating heart unable to sustain perfusion and, deprived of oxygen itself, gradually weakening until contractions slowed and ceased. At some point Reilly may have shared his work with another contemporary, the Austrian-borne Hans Selye. Selye spent time in the Paris of the 1920s, a place of heady hedonism, rebounding from the horrors of war. It was there that he observed

the miserable condition of many patients under stress—the maladies of cancer and tuberculosis, the damages from burns and trauma. It was if their systems failed to adapt. Once again, nocuous agents seemed to be the trigger. A publication in the journal *Nature* brought his theories to the forefront.[17] Not only did Selye describe physiologic alterations—his so-called *alarm phase*—but, eventually, even microscopic changes could be found, the adrenal gland instrumental in his stress response, eventually becoming depleted of stress hormones in its teleological effort to compensate and adapt. Selye's adaptive response progressed in two phases: the alarm phase with an autonomic outpouring of catabolic hormones, and the resistance phase in which the body strives to adapt to its new environment—a return to harmony in Bernard's *milieu interieur* or Cannon's *homeostasis*.[18] But such exuberance could be fatal if adaption was not achieved. Depletion and exhaustion in due course would lead to irreversible imbalance and death. Other Frenchmen took up the cause. The revered surgeon Rene Leriche blamed this perplexing shock syndrome on the same autonomic nervous system, a "vasomotor phenomenon" he called it. Severing of these nerves reversed the constriction. Skin warmed, a pink hue returned, blood vessels dilated. Evidence that shock was counterproductive, a robust, if not deranged, reflex response.

In response, the brilliant, but brash American surgeon and physiologist, Alfred Blalock at Vanderbilt University, had debunked all this. A student of heart function, blood flow, and oxygen delivery, he was perplexed by Cannon's reports on shock and the inconsistencies with his findings. His classic vivisection experiments on hind limb trauma in the late 1920s showed without question that the circulatory changes observed after injury were not due to some mysterious "toxic factor" but simply to a loss of blood—a totally mechanistic explanation. "Shock…can be produced by hemorrhage alone," he contended, a position distinctly at odds with the toxin theory of Walter Cannon (more or less, a mechanistic approach in contrast to Cannon's humoral agitations).[19] Previous researchers, namely Walter Cannon and the British physiologist William Bayliss, had performed the same experiments incorrectly, Blalock contended, with erroneous results. The reduction in blood pressure seen in shock victims was due to loss of volume, pure and simple. However, he ended his paper with one important caveat: "definite conclusions cannot be drawn from these experiments as to the mechanism of the production of shock in man."[20] Nevertheless, the two squared off in a much-touted debate before the American Surgical Association in 1934 in Toronto. Cannon, the diplomat, was outgunned by Blalock's pressing rebuttal of toxins and vasoconstrictors. For

American surgeons, anyway, Blalock had won the day, roundly supporting his hemorrhagic theory.[21] For Cannon, shock and its humors did not go quietly in the night. In a publication that same year, Cannon again insisted:

> I still believe that a toxic factor [in shock] may operate in certain conditions, and it seems highly probable also that there are nervous factors…a prolonged activity of the sympatho-adrenal system…hemorrhage plays an accessory role.[22]

Well, accessory role or not, hemorrhage loomed large during World War II. Blood by the plane-loads went into veins of Allied and Axis soldiers alike, the sooner the better. Focus was on early care, near the point of wounding. Time to fully staffed surgical hospitals could be long, even days, but usually hours. It was the mainstay of treatment for combat units—fresh whole blood. Sometimes directly from veins of eager donors—fellow soldiers and sailors—into veins of the injured, working amazing wonders—bleeding stopped, flesh pinked, and, sometimes, literal resurrection occurred.

But the French would not be so easily dissuaded. The "milieu" camp generated by Claude Bernard insisted on a parallel pathway, a humoral response—likely from substances similar to hormones—initiated by a disharmony of involuntary nerve impulses. All would come to a head with the adventures of Henri Laborit. Henri was a child of the French colonial empire. Born at the Lanessan Hospital in Hà Nội, Indochina in 1914. His father was an irascible colonial physician from the Vendee region of France, citizens known for their rebellious and stubborn behavior, a man of *un sale caractere violent* (a nasty, violent nature), his aristocratic mother from the *Poitou* where they met, both drawn to classical music. Indochina was a rugged lifestyle for the colonial couple. Henri's mother would often accompany her husband into the highlands of Tonkin, even riding sidesaddle and toting her husband's medicines, vaccines, and surgical instruments. That same year Henri was born the Great War exploded. Henri's father stayed with the Army of the Orient, he and his mother returned to France to the quiet village of Chauvigny near Poitiers. After the war, the family was stationed in Guyana. It was there, in idyllic settings, that Henri's father contracted tetanus and died a few days later, on 21 July 1920. Destitute, he and his pregnant mother returned to France, he to be raised largely by his grandparents, she to return to Paris, forced to work odd jobs to bring in enough money to feed her two sons (Henri rejoined her in Paris at age 11). As much of a character as he was, Henri's father left quite an impression. "My father, or at least the myth that has built up in me, is always present," he would write.[23] So, like his father, baccalaureate complete, Henri en-

tered *l'École principale du service de santé de la Marine* (the Navy health professions school) in Bordeaux. After graduation, in a declared war with Germany, Henri found himself aboard the destroyer *Sirocco*. The night of 31 May 1940, loaded with over 700 evacuees from Dunkirk, the *Sirocco* passed right in front of two German motor torpedo boats. They each fired a torpedo. Both hit *Sirocco*'s stern producing horrendous explosions and a column of flame reported to be nearly seventy meters high. The ship went down in two minutes carrying 700 soldiers and sailors to their death. Laborit was one of the few survivors, in the water all night until picked up by the British corvette *HMS Widgeon* the next morning. It was an experience he would never forget. "Death everywhere" he would later say, and refused to talk of the details.

As for his mother, wartime was not kind to her. Perhaps the only way to scrape together a living for a destitute widow, she was a Vichy sympathizer. After the war she was arrested, jailed, and allegedly brutalized and raped as a German collaborator. Released, then re-captured and imprisoned again, she lost everything—civil rights and her meager pension. She died of gastric cancer in 1953.

As for young Henri, he took up the profession of surgery. In that capacity he was sent to Toulon on the French Riviera. It was here that he encountered a number of gravely wounded men, victims of crushing logging accidents arriving in profound shock. The usual treatment was liberal infusions of plasma and blood. To no avail, he discovered; their mortality was considerable. "I found myself in a helpless state before an inexorable process [irreversible shock]."[24] It was then that he began reading the works of René Leriche on a "post-operative malady." "The truth is," Leriche commented, "that every operation inevitably leads to a certain number of nervous and humoral leukocyte changes, the like of which constitutes a veritable postoperative disease." He saw dejection, despair, thirst, dryness of the tongue, vomiting, bloating, low urine output and falling blood pressure in those who had undergone long, complex operations. It was a combination of humoral and nervous outpourings he surmised. "I personally think that shock is above all a vasomotor phenomenon, usually upset by too great a loss of blood. And I believe that in postoperative disease it is in line with the nervous actions."[25] Trauma—even the careful trauma inflicted by surgeons—was the cause. Cutting, crushing, pulling, sewing all must liberate substances that arouse the humoral and nerve centers which, in turn, release substances that invoke a "flight or fight" response—the manifestations of adrenaline and the sympathetic nervous system.

And Laborit began his long journey to understand this wound shock, this response to trauma and hemorrhage. "I have always had an interest I traumatic shock," he wrote. A student of the French school of Bernard and Reilly and Selye, he was a "humoralist," but one who saw an overactive response of the nervous system as the inciting process. Indeed, it was Selye's alarm reaction that produced such an exuberant reaction, arteries clamping down, oxygen restricted, tissues suffering—the shock syndrome. Laborit felt regulation of the uncontrolled release of adrenaline was paramount in curbing this stress of trauma. Without it, there would be eventual exhaustion of adrenaline, flaccid arteries and veins filling with stagnant blood, and soon total collapse of the vascular system. Certainly, hemorrhage played a role, but perhaps only an inciting role. It was the body's reaction to blood loss that fueled this potentially lethal syndrome. In that sense Laborit became a disciple of Cannon and not Blalock. His focus was the intermediate neurotransmitter acetylcholine. Acetylcholine worked at the ganglia of the sympathetic nervous system, sending signals down nerve fibers to individual arteries and veins, releasing adrenaline onto waiting arteries. Stop release of acetylcholine, he hypothesized, and diminish release of adrenalin. Blocking agents—antagonists—were the answer. There were known substances that could accomplish this: atropine, curare, procaine, and the new class of antihistamines called phenothiazines. Work on phenothiazines had been ongoing for years, as a substance that might have antimicrobial properties. Laboratories in Paris found little activity against infection but discovered remarkable antihistamine and hypnotic effects. What was more, the substance seemed to inhibit transmission of autonomic nerve impulses in those connections outside the spinal cord—the ganglia. Laborit was intrigued. His research in animals showed that the new phenothiazine derivative RP-3277, since called promethazine and marketed under the trade name Phenergan, did indeed block nerve impulses at the ganglia.[26] Individually, neither atropine, tetraethylammonium (another ganglionic blocking agent), nor phenothiazines could protect his experimental animals from the "Reilly phenomenon." However, a combination of those agents gave clear protection. Together with his co-worker Pierre Huguenard Laborit developed his "lytic cocktail," a *mélange* of agents using low doses of curare, tetra-ethyl ammonium, procaine, and promethazine. His rationale:

> We must act at the level of the ganglionic synapses, the point of junction between the pre- and post-ganglionic fibers, where we can prevent the passage of the influx and thus act indirect-

> ly on the adrenergic post-ganglionic fibers. We will do it with curare, tetra-ethyl ammonium, and Novocain.[27]

Dissociation or, sometimes, *deconnection neurovégétative*, it would be called—a temporary uncoupling of the autonomic nervous system. Not that he would forego time-honored blood transfusions for victims of shock. Yes, blood resuscitation still played a vital role:

> We have not wanted, at any moment to decry the actual techniques of emergency resuscitation. It is quite obvious that the blood transfusions, plasma, and serum infusions are the same methods that we accept, and we appreciate their utility.[28]

Yet, experimentally at least, use of his lytic cocktail seemed to optimize the effect of transfusions, and maintain tone in those slender arterial walls to propel oxygen to vital tissues.

Henri spent the first few months of 1948 off the coast of Indochina aboard the hospital ship *Chantilly* looking for wounded soldiers, but found little opportunity to ply his profession or his concoction. Upon his return from the Orient, he was assigned to the Sidi-Abdullah Hospital in Bizerte, Tunisia. It was there that he tried his lytic cocktail for the first time, not in shock victims but on obstetrical patients. Three young women had died of eclampsia in quick succession, all in late pregnancy. And then there would be a fourth, but this time Laborit intervened. She was suffused with a lytic concoction of phenothiazines—and survived! So did others.[29] Bolstered by success, he then moved on to surgical patients anxious to abrogate Leriche's postoperative malady. A combination of promethazine, procaine, and atropine before and after surgery was used—sometimes he added the synthetic narcotic meperidine.[30] Again, success, he reported. Finally, there were the gravely wounded—victims of traumatic shock. These were the worst. And here there were only modest triumphs. Not even liberal blood transfusions seem to rouse their wretched condition.

From Tunisia Laborit was sent back to Paris and the confines of the Val-de-Grace military hospital. Bored, now detached from clinical surgery, the restless genius could not yet forego his obsession with traumatic shock. He began toying with hypothermia: intentional lowering of body temperature to slow metabolism. Could shock victims, their *milieu intérieur* in chaos, benefit from this? To be sure, it was not a new concept. Sporadic reports had surfaced since the time of Napoleon, he knew. Napoleon's surgeon Baron Dominique Larrey described the case of the Count d'Ornano, felled by a cannon ball on 18 November 1812 at the Battle of

Krasnoi. Motionless, he was left for dead in the snow. The next day the general's *aide-de-camp*, returning to clear the snow and give him a dignified burial found the count quite alive. The resurrected Count d'Ornano recovered completely to later be named Marshal of France by Napoleon III. Larrey presumed that the cold had a hand to play in his survival.[31] He was so impressed that he went on to use hypothermia in selected cases:

> The parts may remain for a longer or shorter period of asphyxia without losing their life; and if the cold be removed by degrees, or if the person affected by it pass gradually into a more elevated temperature, the equilibrium may be easily reestablished with the function of the organs.[32]

This was not lost on Laborit. His ganglioplegic promethazine seemed capable of lowering body temperature, but now friend and colleague Paul Charpentier at the pharmaceutical company of Rhone-Poulenc in Paris, had developed a new phenothiazine named "RP 4560." It was similar to promethazine but more potent in its ganglionic properties and able to produce a "twilight state" of consciousness, a patient hardly aware and hardly worried. Partner and anesthetist Pierre Huguenard would call this condition *anesthesia sans anesthésique* (anesthesia without anesthetic).[33] But what really caught Laborit's attention was its effect on the central nervous system, specifically the region of the brain called the hypothalamus. It was here that temperature regulation occurred. By administering his lytic cocktail, in effect temporarily paralyzing the autonomic nervous system (but not the *voluntary* nervous system) and then giving RP 4650, the hypothalamus pathways could be blocked. Subject patients to modest cooling (without shivering) and just maybe metabolic processes—and the demand for oxygen—would lessen. He would call his new cocktail "artificial hibernation," akin to the hibernating states of certain mammals.[34] A radical concept from a distinctly unorthodox researcher did not sit well with established surgical aristocrats. They exploded in their criticisms. "A concert of howls" he wrote, "incendiary articles put forth to accuse me of human experimentation or, equally damning, of total absence of experimentation."[35] His mentor, René Leriche came to his defense, and penned his support as a preface to Laborit's textbook *Réaction Organique à l'Agression et Choc*. "You have found something. This always gives rise to opposition. Do not worry and keep going" Leriche wrote.[36]

For Laborit this was the "magic bullet" for treatment of shock. The military was intrigued. War in Indochina, particularly the reaches of northern Tonkin, had been going poorly. Hundreds of casualties lingered on hostile battlefields far from civilization. Men languished and wounds fes-

tered hours, if not days, away from skilled surgical care. Frantic front-line doctors did what they could—bandage, splint, stop bleeding—but the horrible injuries of artillery and grenades plagued them. Fragments from shells would tear into bodies, causing any number of serious wounds. Many could have three or four life-threatening injuries. How, in small dug out aid stations—the French called them *postes de secours*—could harried battalion physicians keep their soldiers alive? Even surgical *antennes*, with surgically trained doctors, were faced with dismaying challenges. Stabilize, yes, but *how*? And time often slipped away in those verdant hills and valleys of Indochina—the skies heavy and gray, monsoon rains poured, anti-aircraft fire chattered, and air evacuation ceased. Would Laborit's cocktail afford some measure of hope, to temporize, buy more time?

Yes official "approval" of Laborit's methods stalled in the assemblies of the erudite. The *Académie de Chirurgie* was skeptical. But they were not to face the scores of men whose pallid, clammy appearance broadcast a physiology in turmoil, the machinery of life "rudely unhinged," the ghastly appearance a momentary pause in the act of dying. No, but *Medecin-Chef* Colonel Claude Chippaux had. Through the doors of the Lanessan Hospital in Hà Nội flooded these boys, hardly alive, torn and pulped limbs filthy, innards pierced by innumerable shards, death following closely.

Enough! The pity of it all chafed Chippaux. No doubt Laborit was a maverick, but his lytic cocktail had promise. And "hibernation"? Why not. Intuitively, it made sense. Protocols were developed. Missives were issued. Paradigms for resuscitation in *postes de secours* and surgical *antennes* changed: fluid resuscitation always, of course, but now infusions of meperidine, promethazine, and procaine. As for artificial hibernation? Perhaps at Lanessan, not in the field. A complex undertaking, Laborit had stressed it was not simple "refrigeration" but pharmacological cooling. And his lytic cocktails? They were not designed to replace traditional transfusions of blood but to aid in "redistribution" by preserving vascular tone:

> What will the transfusion accomplish? In principle it strives to reestablish the blood volume. In fact, it will come up against vaso-constriction, that is to say, with a container of restricted volume…when the systolic pressure will have returned to a normal figure, the blood mass will only be partially restored, the arteriolar vaso-constriction will persist as will the anoxia …The blood pressure will remain only momentarily at a sat-

> isfactory level and then fall back. A new transfusion will have the same consequences until…irreversible shock.[37]

Such a radical departure. For confirmation, Laborit was sent to Indochina to observe the workings of his protocols. He was immediately struck by the harshness of the land and its unforgiving penalties: humidity, incessant downpours, fevers, dysentery, the hopelessness of a hunted prey. It frazzled the nerves if not the body.

There was never a lack of clinical material. Hồ Chí Minh's Việt Minh saw to that. By the time of Laborit's visit, *Docteur* Chippaux had gathered a number of cases. Artificial hibernation was first tried in ACM 901 at Nà Sản in December of 1952 on *Capitaine* Brun-Buisson's Việt prisoner. A mixture of chlorpromazine, promethazine, and meperidine had been given, along with plasma. Eight hours later, when he arrived at the Lanessan he was stable but with a sinking blood pressure still. Blood transfusions helped, raising his pressure to 100, and he was taken to surgery. His abdomen was a cesspool, a swirl of blood and feces. Intestine had been shattered in two places, releasing its contents. To everyone's surprise the young Việt soldier hardly blinked and recovered without a hitch. It was Laborit's mélange, Chippaux claimed. Without it, over the eight hours he lingered at Brun-Buisson's ACM, he surely would have died.

Another case soon followed. A Moroccan, a member of the *tirailleur*, African light infantry, was shot multiple times; at least two rounds found their mark—one ripping into his abdomen and the second drilling through his thigh. Blood loss was quick, and when he reached the battalion surgeon his blood pressure was already dangerously low. Immediately blood transfusions were started and a half dose of the "neurovegetative *mélange*" was given—promethazine, procaine, and meperidine. More transfusions followed as he was evacuated back to Hà Nội. In Lanessan's triage area, seven hours after injury, the Moroccan's systolic blood pressure hovered around 80mm Hg, still low, still in shock.[38] Another dose of the *mélange* was given along with another liter of blood. Off to surgery. Two perforations of the intestine and a number of bleeding vessels in the thigh—and nasty, torn muscle as well. Feverish work by his surgeons controlled everything—shock soon abated, vital signs restored, and recovery complete. Another success. Word spread of Laborit's miraculous concoctions. Academicians, though, in Paris were still not wooed. Anecdotal cases were not hard evidence. Clinical trials were lacking.

But Chippaux was satisfied. He believed. "Neurovegetative disconnection can and should be considered as a method of the future," he argued.[39]

For emphasis, he collected more cases, some from his Lanessan Hospital and some from Saigon's Grall Hospital where Laborit's method had not been tried. In a group of 168 wounded treated in Hà Nội, there were a dozen critical patients—extreme shock, almost dead. Only half survived but a few lived much longer than expected because, Chippaux stressed, they had received Laborit's cocktail before arrival. "A survival of several days left a glimmer of hope, a last chance." Of those treated in Saigon a number of shock victims died because blood and plasma ran out.[40] Had Laborit's cocktail been given perhaps transfusions would have been better utilized by the mangled victims. Sufficient proof in Chippaux's thinking:

> The work of Laborit and his collaborators, leading to a partial inhibition of neuro-vegetative reactions by pharmacodynamics means, did not bring about a revolution in war surgery, but substantial progress nevertheless.[41]

Not convincing evidence for the prestigious *Académie de Chirurgie*, though. Reports from Indochina were discussed, dissected, and critiqued. "[I]n no way does the new method of "hibernation" supplant and replace the tried and tested method of classical resuscitation," some retorted. "We are not permitted to say…that the observations submitted to us suggest successes and [in fact] seem to prove the opposite by their failures," still others added.[42]

Even fewer outside of France were enthusiastic. A review in the *British Medical Journal* cautioned "too many positive statements about the method have grown out of too little general anaesthetic experience and comparative objective assessment."[43] American surgeons Rudolph Matas and Michael DeBakey flirted with the concept briefly, especially hibernation, but found little application in hemorrhage and traumatic shock. And, by the summer of 1954, the French were done in Indochina. War would end there and so would curiosity about Laborit's concoctions.

And as for Henri Laborit. He remained convinced that ganglioplegics and cooling could offer protection from progression of traumatic shock, but his reputation could not afford the luxury of eccentricity that had carried his mentor René Leriche. Discouraged and disheartened Laborit sought the security and isolation of the laboratory. He plunged into the anesthetic and psychic properties of his drug chlorpromazine. It did wonders for the demons of psychotic maladies. In fact, Rhone Poulenc would finance a small laboratory at *l'Hôpital Boucicaut* in the *15eme arrondissement*. Yet Laborit's demons were ill-contained. The paradoxes of life still haunted him: action and inaction, rewards and punishments, euphoria and anguish,

submission and dominance. His was a mind troubled by inconsistencies biochemical and undefinable. “I have moments of well-being, not happiness,” he told an interviewer in 1988 at the age of 73, “I love life…I’m very sad to grow old…It annoys me to have to die.”[44]

A conflicted man, in the words of Campan, “Laborit seems to have finally slipped into a contemplative pessimism, tinged with a vague irony observed by the negative elements of fundamental dichotomies.”[45] To the end, in May of 1995 Henri Laborit felt cheated that he had not received the recognition that he deserved—the underappreciation of a genius mind.

Indeed, he was brilliant. The quirky Laborit seized an opportunity in Indochina to experiment on his intriguing lytic cocktail and his not-so-bizarre model of artificial hibernation. It would not be the last time that notions of treatment for horrible battlefield wounds were rushed to the front lines for less-than-ideal clinical trials just because men were dying needlessly in austere conditions. It was a passion for mercy. In that sense, his work on hemorrhagic shock was not without merit and, for a time, it provided some hope for the lonely *antenne chirurgiens* who manned those precarious outposts of medical care. With scarcities of blood and, not infrequently, even plasma. With the intimidating prospect of major surgery in sandbagged bunkers looming, the thought of a simple cocktail of medications to deliver in the course of resuscitation had appeal. If this could stabilize victims with sagging blood pressures and frantic heartbeats until evacuation, then all the better. Of course, it all was too simplistic. Hemorrhagic shock is still incompletely understood and still perplexes front line medical workers. Short of immediate surgery—and sometimes major and complex surgery—to stop the bleeding, there has been no tried and true remedy other than fresh blood transfusions. Manipulation of the body’s very intricate response to bleeding is as yet imperfect.

Notes

1. This subject matter was also presented in Helling, T.S. "'A Cold and Drowsy Humor': Theories of Traumatic Shock from Bernard to Laborit" *J Trauma Acute Care Surg* 89 (2020): e41-e47.

2. Homer, *Iliad*, Book 20, from: A.T. Murray, *The Iliad with an English Translation*, (Cambridge: Harvard University Press, 1924), lines 465-470.

3. Velpeau, L. "Gravity and Treatment of Gunshot Wounds," *Lancet* 8 (1848): 179-181.

4. Herman Fischer "Ueber den Shock" *Sammlung Klinischer Vorträge* 10 (1870): 69-82.

5. John Collins Warren, *Surgical Pathology and Therapeutics* (Philadelphia: W.B. Saunders, 1894), 279.

6. Mitchell, S.W., Keen, W.W., Morehouse, G.R. "Reflex Paralysis," Circular No. 6, Surgeon General's Office, Washington DC, March 10, 1864.

7. Samuel David Gross, *A System of Surgery: Pathological, Diagnostic, Therapeutic, and Operative*, Volume 1 (Philadelphia: Henry C. Lea's Son & Company, 1882), 414.

8. Claude Bernard, *Leçons sur les Phénomènes de la Vie, Communs aux Animaux et aux V*égétaux (Paris: J.-B. Baillière et fils, 1885), 367.

9. Bernard, Op. cit., 121.

10. Bernard, Op. cit., 290.

11. George W. Crile MD and William E. Lower MD, *Anoci-Association* (Philadelphia: W.B. Saunders Co., 1914).

12. The autonomic nervous system can be likened to an "automatic" nervous system, that network of nerves which act largely without conscious control. Basic bodily functions are "automatically" regulated by these methods, an important one being regulation of the tone of blood vessels, which, in turn, regulates how much oxygen-laden blood reaches the organs and tissues.

13. Walter B. Cannon, *Traumatic Shock* (New York: D. Appleton and Company, 1923), 23.

14. Walter Cannon, *The Wisdom of the Body* (New York: W. W. Norton & Company, 1932).

15. In French scientific literature, the autonomic nervous system is also referred to as the *système nerveux végétatif.*

16. Reilly, J., Rivalier, E., Compagnon, A., Laplane, R. "Hémorragies, Lésions Vasculaires et Lymphatiques du Tube Digestif Détermines par l'Injection Péri-Splanchnique de Substances Toxiques Diverses" *Compte Rendus des Société Biologie* 116 (1934): 24-26.

17. Selye, H. "A Syndrome Produced by Diverse Nocuous Agents," *Nature* 138 (1936): 32.

18. Catabolic agents are those that promote breakdown of structural proteins to provide energy needed to combat the stressing agent. Adrenaline and cortisone are examples. They are ultimately destructive if not soon "turned off."

19. Blalock, A. “Shock: Further Studies with Particular Reference to the Effects of Hemorrhage*” Arch Surg* 29 (1934): 837-857.

20. Blalock, A. “Experimental Shock: The Cause of the Low Blood Pressure Produced by Muscle Injury” *Arch Surg* 20 (1930): 959-996.

21. Buchman, T.G. “Shock: Blalock and Cannon” *Arch Surg* 145 (2010): 393-394.

22. Cannon, W.B. “A Consideration of Possible Toxic and Nervous Factors in the Production of Traumatic Shock” *Ann Surg* 100 (1934): 704-713.

23. Henri Laborit, *La Vie Antérieure* (Paris: Grasset & Fasquelle, 1989), 22

24. Laborit, *La Vie Antérieure*, 81.

25. René Leriche “La Maladie Postopératoire“ *Lyon Chir* 31 (1934): 627-636.

26. Lopez-Munoz, F., Alamo, C., Cuenca, E. “History of the Discovery and Clinical Introduction of Chlorpromazine” *Ann Clin Psych* 17 (2005): 113-138.

27. Laborit, H. “Sur le Mécanisme Physiologique du Syndrome d’Irritation“ *Press Med* 57 (1949): 774-776. Impulses for the sympathetic nervous system arise in the spinal cord in response to various activators and then travel down nerve fibers (axons) to an intermediate connection in another collection of nerves called ganglia. From here via acetylcholine, the impulse continues down other nerve axons to the “end organ”, the small arteries and veins that produce the bulk of constriction of blood flow to maintain blood pressure to heart and brain in times of blood loss.

28. Laborit, H. “La Thérapeutique Neuro-Végétative du Choc et de la Maladie Post-Traumatique*“ Press Med* 58 (1950): 138-140.

29. Laborit had already tried low doses of the ganglioplegic curare on obstetrical patients to relax pelvic muscles and allow easier passage of the fetus through the birth canal. Curare, of course, is that toxic agent which quickly produces paralysis of respiratory muscles (through “poisoning” of autonomic ganglia) and death through asphyxiation. It is used as a muscle relaxant now during general anesthesia along with general anesthetic gases to produce a quiescent subject for the surgeons.

30. Initially developed as an anticholinergic agent to block the action of acetylcholine by the German chemist Otto Eisleb in 1939, it was also found to have analgesic effects similar to morphine.

31. André Soubiran, *Le Baron Larrey: Chirurgien de Napoléon* (Paris: Fayard, 1966), 499.

32. Remba, S.J., Varon, J., Rivera, A., Sternbach, G.L. “Dominique-Jean Larrey: The Effects of Therapeutic Hypothermia and the First Ambulance” *Resuscitation* 81 (2010): 268-271.

33. Laborit, H., Huguenard, P., Alluaume, R. “Un Nouveau Stabilisateur Végétative (le 4560 RP)“ *Press Med* 60 (1952): 206-208.

34. Laborit, H., Huguenard, P. “L’Hibernation Artificielle par Moyens Pharmacodynamiques et Physiques” *Press Med* 59 (1951): 1329.

35. Laborit, *La Vie Anterieure*, 110.

36. See Henri Laborit, *Réaction Organique* à *l’Agression et Choc*, (Paris: Masson, 1954).

37. Laborit, H. "*L'Hibernation Artificielle en Chirurgie de Guerre*," *Rev Corps Santé Mil* 9 (1953): 17-34.

38. Normal systolic blood pressure is at least 100mm Hg. A fall to 80mm Hg is indicative of shock, the heart no longer able to deliver necessary oxygen-rich blood to vital organs. If uncorrected this condition can turn lethal.

39. Chippaux, "Hibernation Artificielle."

40. Blood was not easy to come by in Indochina. The prevalence of protozoal (particularly malaria) and parasitic infections demanded careful screening and limitation of willing donors.

41. Chippaux, C., Carayon, A., Rouffilange, F., et al "L'Hibernation Artificielle en Chirurgie de Guerre," *Press Med* 62 (1954): 504-506.

42. Nicol, M., Mattei, M., Brun-Buisson, M., et al "Introduction des Méthodes de Laborit dans le Traitement des Chocs de Guerre en Indochine" *Mém Acad de Chir* (France) 79 (1953): 392-398.

43. Mushin, W.W. "Artificial Hibernation." *Brit Med J* 2 (1954): 1091.

44. Henri Laborit interview with Monique de Gramont, *Chatelaine*, May, 1988.

45. Campan, L. "Un An Après la Disparition de Henri Laborit: Réminiscences et Réflexions." *Urgences* 16 (1997): 31-34.

Chapter 11

Capitulation

If I am to die…

—Lieutenant Erwan Bergot[1]

In the central hospitals of de Castries,' *base aeroterretre* the living situation turned deplorable. Wounded crowded every tunnel, every nook. It was almost impossible to walk without stepping on a casualty bound to his filthy stretcher. Another artillery round penetrated the roof and exploded. No one was injured but earth tumbled in along with clouds of black smoke. The wounded who could rushed out, naked and terrified, crouching for safety in the mud, their dressings grimy and fouled. *Lieutenant Docteur* Verdaguer found the entire scene unbelievable, some men wounded two or three times, crammed in bunks four high, or shoved into crannies dug out of the side of tunnels. Many wounded if at all able, insisted on vacating these veritable dungeons—the "catacombs," some would call them—feeling that, if they were going to die, they would much prefer to die in the open among their friends, not as they were now, already trapped in their graves. What agony, to die in cramped compartments hewn out of the walls of trenches. Lieutenant Erwan Bergot, with the *1er Bataillon Etranger de Parachutistes* (First Foreign Legion Parachute Battalion, *1er BEP*) later wrote of these places and these men:

> In the bowels of the field hospital, the wounded pile up, confined in the worst surroundings and moral conditions, including mud, rats, flies, maggots and the smell of death that sticks to their skin. Then, barely healed, sometimes barely clothed the paratroopers leave, they return to battle: "*Crever pour crever* [if I am to die], so I will die with friends." The blind, the one-armed, the one-legged, cross over the river, they settle again in their holes, they man the weapons, assist the loaders, fire the mortars.[2]

Vaincre ou mourir was the cry—"Prevail or die!" Ignoring the inevitable, they went back again and again, wasted and torn, their resiliency other worldly, yet still with a swagger, a snap to their step, stripping the dead of their weapons, their helmets, their grenades. And if wounded again, even though it may be grave, these *manchots*, these irrepressible crippled, will not rely on the help of comrades. Instead, many silently crawl on their bellies, inch by inch, back to immersion in the "mud and misery" of the

surgical hospitals. It was the American Alamo reenacted on a far grander scale. But there were those who would not return. Genevieve de Galard watched these boys, some she had come to know, hauled into the hospital one after another. Some would ask "Is it serious?" She would always reassure them…and then watch them quietly pass away during the night. And of the troops still able to fight she wrote:

> [O]ne can only imagine what it was like to be in a unit dismantled by casualties in conflicts in which each soldier faced ten Viets, in which the unit's leader had been wounded or killed… One cannot underestimate the shock effect of bombardments or of total exhaustion.[3]

She was joined in her nursing by the most unlikely of volunteers: prostitutes from the bordellos. Verdaguer saw them, in his aid station, four petit Vietnamese women never leaving the side of their former clients, feeding them, cleaning them as best they could, even emptying containers of urine and feces. The journalist Alain Sanders, writing for the right-wing Catholic daily *Present*, quoted Dr. Grauwin as commenting:

> These girls were soldiers. Real soldiers. They conducted themselves in a remarkable way. All my wounded, all my amputees, all my abdominal operations were in the shelter in underground holes. And they had to piss, to move their bowels. It is these women, these prostitutes transformed into "angels of mercy" who helped them, who helped our wounded endure their miseries. They made them eat, drink, to hope against all hope.[4]

Battalion surgeon Madelaine saw the same thing. The young courtesans, invited to leave when the battle started, declined. They instead turned to the wounded. He saw them as gentle, smiling, patient creatures, never put off by the most dangerous of circumstances or ungrateful care. They remained at the side of the dying until the last moment.[5] The comfort of a woman was transforming. Panic subsided, the pain eased, the abandonment abated. *Repose en paix, tout va bien* ("rest in peace, all goes well") their eyes seemed to say.

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"My tent was small and cute," Tôn Thất Tùng wrote on 4 April, at Treatment Station No. 1. It was set beside a spring and a fall. "I love the sound of moving water." He eulogized: "This spring . . . will carry the love

and upbeat spirits of us—Điện Biên Phủ soldiers—and send them to the Laos people, Cambodians, and Vietnamese living along the banks."[6]

On 18 April, General Giáp sent a letter to his medical teams and physicians concerning their role in the battle for "Mường Thanh" (Điện Biên Phủ):

> As we all know this is the biggest campaign in our history, and I know how many improvements and how much effort you have put into making it a success. Despite countless obstacles and deprivations, you have done a wonderful job taking care and providing treatment to our sick and wounded soldiers.[7]

Despite the patriotic rhetoric, conditions for the Việt Minh turned every bit as deplorable as the French. April monsoons flooded trenches routinely. The injured would lay in the muck, often almost submerged, their open wounds festering in bacteria-laden culverts. "[A] rightist and negative tendency appeared among our officers and me…fear of casualties, losses, fatigue, difficulty and hardships" Giáp would later write.[8] Thousands had already died. Many, over 80 percent, were victims of artillery—horrible, disfiguring wounds flayed open to the elements. By the time they were dragged out, infections had set in compounding the monstrous gouges, lacerations, and fractures. Surgery and cleansing were key measures, but to be sure, antibiotics had to be given. And where were they? Chinese sources trickled in, but the supply line was long and laborious. Tôn Thất Tùng had tried to dissolve the anti-malarial drug quinacrine in water to wash these filthy wounds and claimed it had anti-bacterial properties. His endorsement fueled an enthusiasm for the practice that may have been premature, but there was simply no alternative. Other antibiotics were scarce and mostly pilfered from French stores. One exception was the ingenious work of Đặng Văn Ngữ at the medical campus near Chiêm Hóa. Ngữ had been able to produce some penicillin from yeast specimens brought from Japan. Đặng Văn Ngữ was a remarkable scientist. A graduate of l' École de Médecine de Hanoi, Ngữ was one of the first students to complete the new six-year tract, spending extra time in the parasitology laboratory of Professor Henri Galliard.[9] From there Ngữ spent the war years in Japan perfecting the production of penicillin from molds. He was probably the most influential person in providing penicillin for Japan's war victims. In fact, his laboratory was probably the only source of the antibiotic for Japan's wounded. Enticed by Hồ Chi Minh's call for revolution, in November of 1949 Ngữ left Japan to return to his homeland. Joining his compatriots in the Việt Bắc he fashioned a rudimentary laboratory from bamboo, using juice from the stalks of corn as culture medium. In short

order, penicillin again flowed. Once more, his ingenuity gave rise to probably the only center for antibiotic production in the North. On a personal front, wars proved to be the antithesis to family life. Ngữ and his wife Tôn Nữ Thị Cung and children were finally reunited in the Việt Bắc after nine years of separation.[10] She would be of immense help to him in his laboratory, but sadly would fall ill and die just after the fall of Điện Biên Phủ in May of 1954. "My sincere condolences for the loss of a strong and faithful comrade," Hồ Chi Minh would write.

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At remote strongpoint ISABELLE—the Viêts would refer to it as Hồng Cúm—with its 1,800 infantry, eleven cannon, and three tanks there had been steady incoming bombardments since the beginning of the first offensive on 13 March, but there had been no massed assaults.[11] ISABELLE existed for the sole purpose of providing supportive and enfilading artillery fire for the northern strongpoints. The outpost had ample supplies of ammunition for its 105mm and 155mm howitzers and 120mm mortars.[12] It sat on a rather flat, swampy bend in the Năm Yum River, less than a mile across. Devoid of any elevation or vegetation, the water table was even too high to allow deep digging. Yet the commander, Colonel Andre Lalande, had fortified the place with an impressive system of entanglements, trenches, and shelters, reinforcing the dugouts with a meter of dirt overhead to withstand shellings. A slight rise in the center housed the command post and Rezillot's hospital. French patrols went out periodically to try to keep open the single vital road linking ISABELLE to the main compound. Aside from short, violent skirmishes, this proved of no value. The Việt Minh had fortified the small, deserted hamlet of Ban Kho Lai just off Route 41, and were now able to lay down an impenetrable barrier of mortar and automatic fire, blocking any relief efforts. An attempt on 22 March to link up ISABELLE's troops with the main compound was a temporary success but a bloody, Pyrrhic victory for the French, costing way too many dead and wounded. Paratroopers dragged and carried their bloodied comrades into ISABELLE and quickly outstripped Rezillot's small hospital. That evening a frantic call went out from Rezillot's Third ACP for gallons of blood, surgical gloves, reams of catgut suture, and more surgical instruments. This was the price of a small triumph. And the Viêts quickly regrouped, once again closing the road. There would be no more serious attempts to keep Route 41 open, enthusiasm drained away with the blood of legionnaires.

The last attempt to clear wounded from ISABELLE occurred on 23 March. One helicopter, after delivering a letter to *Lieutenant* Rezillot, took off without waiting for casualties. Just as it did a second, following helicopter landed, loaded one casualty and lifted off. Both bulbous H-19s—tempting targets for Việt gunners—were almost immediately brought down by Việt artillery, the wounded passenger incinerated. There would be no more attempts at air evacuation. By mid-April the entire compound was encircled, the garrison completely cut off, and the tempo of incoming artillery stepped up. With such a small perimeter almost any round landing would hit something. Movement above ground was distinctly hazardous. For outgoing fire, the situation was becoming critical. Lalande's gun crews were literally running out of ammunition. Their perimeter was so small that parachute drops were like trying to hit the center of a bulls-eye. Planes had only seconds to release their pallets. No surprise, many loads fell way outside and into enemy hands. Every commodity ran short. The last warm food would be gone by 19 April. All rations, except precious few for the wounded disappeared within days. Hunger itself gnawed at men, weakened them, and soured their hopes and fortitude. Colonel Lalande himself was wearing down. He and his men had faced almost continuous combat or bombardment, day and night, with little rest—patrolling, sniping, preparing for the nocturnal attacks that mostly never materialized. Yet, the specter of little green-clad men rising up in utter darkness suddenly only meters away sent shivers up the spine of any sane sentry and made sleep impossible.

On the east bank of the Năm Yum, an appendage of the compound, called Wieme's strongpoint after its local commander Lieutenant Reginald Wieme, was literally pounded into the mud by ferocious artillery fire. By mid-April, ten percent of his men were dead and 40 percent captured or missing. Attempts to even reach the main compound of ISABELLE would be impossible, the small bridge built across the Năm Yum lay directly in the sights of Việt Minh gunners. And amidst it all, the dead, littering the ground like discarded garbage, were rotting, many dismembered and chewed up by repeat blasts. It would evoke images of the butchery of Verdun. There emanated a reek which was stifling; permeating through trenches and dugouts, as ubiquitous as the pungent smell of gunpowder.

In the hospital manned by Rezillot and his Third ACP, 117 seriously wounded lingered, unable to be evacuated, dressings filthy, wounds suppurating, flies intolerable. Almost 140 men had already died or were missing. And the rains of late April transformed most of the compound into a swamp. With a modicum of supplies the four *antenne* physicians did what

they could to comfort the fallen. By April, Route 41 was closed. Ground evacuations were at an end. The auxiliary airstrip saw a grand total of two planes land before it too, was in enemy hands. All the while, Việt trenches inched inexorably forward, appendages, like cancerous tentacles, snaking right up to within meters of the French lines.

Doctor Rezillot managed to preserve the records of his Third ACP at ISABELLE after capitulation. He apparently stuffed them into a pillow of a wounded soldier who managed to sneak them out with his eventual evacuation. In those records is contained a likely microcosm of surgical care across the beleaguered battlefield. Lieutenant Rezillot would see 556 severely wounded men brought in by stretcher to his surgical station. Of those 224 required only fluid resuscitation, transfusions, and a period of rest. On the other hand, 331 needed some type of surgical procedure. Of these gravely wounded men thirty-four died on the table, likely from hemorrhage. Thirty-seven more died in the days that followed, an appalling operative mortality ("died of wounds") rate of 21 percent. Considering the conditions under which Rezillot and his team worked, it is no surprise. Sterility and asepsis were far from the norm, evacuation not even a consideration. By his records Rezillot saw forty-three abdominal wounds and operated on thirty-one with suspected visceral "violations."[13] Over half succumbed. There were but sixteen survivors. Eleven of 28 patients with chest wounds died as did four of ten with disastrous thoraco-abdominal (chest and abdomen) injuries. Of course, with the use of high explosive artillery shells and mines—almost three-fourths were wounded by such munitions—mangled limbs were commonplace. Forty-four were treated, many with open fractures. The young surgeon performed 18 primary amputations, losing two patients, and five secondary amputations in near hopeless cases.[14] All died. Unbelievably, considering the appalling conditions at ISABELLE, there were only two cases of gas gangrene. Wounds to the brain could be disastrous. Four of 14 did not survive. In contrast, damage to blood vessels—vascular injuries—fared amazingly well, even with the real potential for catastrophe that could result. Only two of 16 such patients died as a result.[15]

As April came to a close, Grauwin would gingerly step through his underground hospital, the floor completely carpeted by bodies—the wounded and their attendants. Numbers were swelling at a malignant pace. At times he would find his operating assistants, crumbled asleep, waxen, eyes sunken, still wearing their bloodied blouses and rubber aprons. Soon they would be awakened for another casualty needing surgery. He would tour the abdominal unit, almost all with colostomies, feces flowing into bags,

sometimes soiling fresh surgical incisions. They would beg for water. Ordinarily it would be forbidden for fresh laparotomy cases, but now there was no way to get water into them—the saline solutions were gone. They would drink then groan, cramp, and vomit. The ones with chest wounds would be propped up against the earthen walls, better perhaps for their breathing. He visited a young soldier whose spinal cord had been cut by a bullet, his feet warm but "lifeless as blocks of wood." He passed Corporal Heinz who had lost three limbs—both arms and a leg—sitting on a stool, always with a ready smile. Grauwin wondered how he managed to move around at all. And the ones with leg fractures, casted but the bones not reduced, angulated, fragmented, the pain almost unbearable. They needed traction or, better yet, surgery to debride, wash out, align. Some, with neglected fractures would later have amputations, infections of the bone already setting in. Others would arrive with tourniquets on, pleading "Major, you'll let me keep my legs?" But the pale, mangled limb would have to come off. And then, as Grauwin made his rounds, a dreadful stench, like the odor of a rotting corpse. An open fracture of the leg was the culprit, the man treated initially, thought to be recovering, then moved to a distant location. The leg was enormous, bullae bursting, the gray-blue color of gas gangrene all the way to the thigh. Amputation would have to be at the hip, but he would never withstand it, not in those dungeons. No, nothing more could be done. The solution: injections of morphine—until he was unconscious. He would linger for days, delirious, before sweet death finally took him.

Still, this closely-clipped, bare-chested doctor maintained a practiced arrogance. A ferocious positivity guided him through the blinding sorrow of hollowed-eyed compatriots who lined his reeking catacombs and pleaded with their speechless gaze for healing. It would be a mechanic's trust in digits that would somehow grip, pinch, ply and pivot stainless hardware to his will and feather the finest surgical silk down in knots guaranteed to choke any spitting vessel or draw together ruptured flesh, as if he alone could command vital spirits to desist their mischief and restore serenity. The spiraling smoke from a dangling Gauloise acted as incense for his irreverent benedictions.

His pace was equally uncompromising. The siege had depleted almost everything. So far Grauwin's hospital had used almost 1,500 surgical dressings. His two sterilizers were working night and day and had done so for over 50 days cleaning and sterilizing dressings, gloves, and instruments. New dressings now were made from parachute silk formerly used to wrap the dead. Shrouds were now made from brown tent canvas.

Corpses were laid in and the canvas stitched up. They were buried where they fell.

It was no different for Lieutenant Hantz and his Fifth ACP in the hospital annex. His team was equally consumed with the wounded. "The execution and speed of the operation is of paramount importance," he later wrote, "Amputations take only minutes…I dread above all a burst liver because the hemorrhage is virtually uncontrollable"—and the process was time-consuming. Laparotomies were reserved to the end if they could wait. Opening bellies often uncovered a wealth of trauma: minced intestine, livers in pieces, kidneys chewed—and all bathed in a marinade of blood and feces. Shell fragments tore through everything liberating any type of body fluid. Precious minutes, even hours, would be consumed in cleaning out the disgusting mess. In some Vietnamese wounded there would even be squirming *Ascaris lumbricoides*—thick roundworms—set free from torn bowel. And with blast injuries the abdominal wounds might only be the beginning; metal splinters piercing lungs, face, neck, and limbs, each site needing special, meticulous attention. All the while there might be the urgent call for him to look at a casualty who suddenly worsened. Hemorrhage unchecked. Immediate surgery needed here, too. And the incessant damnable rain and the mud…now even on the hospital floors. A literal cesspool it had become. If that were not enough everyone cringed at incoming rounds, even those that did not explode. "I am obsessed by the fear of delayed explosions of shells," he admitted. On one occasion there was a shell burst not fifty meters away. The entire operating staff was coated in a dust cloud, earthen walls nearby collapsing on the wounded. They stopped, grabbed shovels, and dug out the half-buried patients and scraped muck from their wounds. "How do you talk about asepsis?" Still, he knew if the explosion had happened a few meters closer they would all be dead.[16] Genevieve de Galard vacated her space at the Airborne Commandos quarters in order to put more wounded. She wept at their suffering, "Conditions became dramatic for the injured. Many of them remained unconscious for hours in the mud of foxholes without possibility of evacuation to the surgical units."[17]

The camp was a cesspool. Hantz was pushed to operate even quicker, such were the numbers of wounded. Now, surgery was done only with local anesthesia—Novocain. Rarely could he change gloves, bloody gown, or instruments. Alcohol was the only disinfectant. Fortunately, most wounds needed only a cutting away of dead, dirty tissue—until bleeding started which meant healthy skin or muscle, a good sign. It was a process called *débridement*—to rid the body of dead and dying flesh. The Great War had

shown its benefits. Gas gangrene from the manured soil of northern France had proved horribly lethal, literally devouring men alive with a spreading, grayish discoloration of skin as bacteria ate their way towards the heart. Even amputation was too late by the time the infection emerged. The affected limb took on the appearance of decomposition, the odor of rotting meat was rich in the air. One could smell it before even entering the tents. Death was swift and almost assured. A Belgian surgeon, Antoine Depage, had insisted on his technique. Taking scalpel and scissors, he cut away any suspicious skin or muscle, eliminating substrate for those noxious bacteria—they would be labled *Clostridia*. Good bleeding tissue was left, now resistant to the toxins of *Clostridia*. Gangrene was avoided. Healing could occur. *Débridement* had now become standard surgical practice for wounds of war. High energy blasts damaged tissue beyond the scope of immediate devastation. Wide paring was necessary to avoid catastrophic infections later.[18]

But there were worse injuries, of course. Some beyond treatment. Cavitating head wounds, brain visible, or the gurgling wounds of lungs. "The inconceivable became the routine."[19] For those lingering, some, mercifully, would die gently without a word, not a drop of blood showing. No suffering. No pain. It was if they had closed their eyes and simply swooned, a look not of terror or of joy, but merely peace; as if death had visited and tenderly took them away.

Journalist Pierre Accoce likened Grauwin's hospital to Victor Hugo's description of the slums of Paris in *The Hunchback of Notre-Dame*, those wretched souls, some truly infirmed, many faking their ills to entice more alms from passers-by. For the derelicts, seemingly near death one day and found up walking the next, it became known, tongue in cheek, as the "court of miracles." But unlike the urchins frequenting the *Place de Grève* in Paris, Grauwin's bloodied, bandaged refugees sprawled in the caverns of his station, deserved pity—and attention. Their lesions were not of the imagination but of flesh and blood—and Grauwin and Gindrey truly were working "miracles" on some of these men. This was a veritable *Cour des Miracles*.[20]

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It was no better on the other side. Doctor Tùng labored amidst the steady downpours ("it rains cats and dogs," he wrote). "To have peace and happiness we must know to endure sufferings and live like our combatants in their rain-soaked trenches."[21] Like hundreds of thousands of his coun-

trymen, Tung was imbued with the spirit of resolve, of conviction that liberation—independence—was a painful process. The individual becomes merely a cog in the wheel of victory—indispensable in the aggregate but sacrificial in the particular.

"It's intense around here," Tùng reported 10 April. Three out of the six doctors at his station were ill. Supplies—cotton balls, gauze bandages, plaster of Paris—were running out. All the while the number of wounded mounted. Work was endless. The mood was somber. No chirping birds, yellow flies everywhere, driving the wounded mad. Soon Tùng himself was sick. "I was in bed the whole day yesterday . . . my belly still hurts, must be from bad ox meat…How can I do surgery?" Somehow, he rallied. Difficult head cases continued to pour in for him. "I did [surgery] it with all my heart and mind…without such determination, we can't be good surgeons." Even a nearby forest fire did not halt his work. While operating others evacuated patients as the flames torched mosquito nets and blankets and almost destroyed their makeshift intensive care area. And then, two days later, "We won't leave Điện Biên Phủ, not until the last enemy is killed."[22] Fellow doctor Do Dính Dịch recalled years later the awful conditions under which troops toiled. Dysentery, skin infections, and scabies were common ailments. Smoke from fires for boiling water as sterilization and for food had to funneled through vents traveling long distances underground so as not to be spotted by French aircraft. Intravenous fluids such as saline were in short supply. Coconut water, much the same consistency of human plasma, was used as a substitute for men in desperate need of resuscitation from blood loss. It was given directly into their veins. In the absence of antibiotics green banana leaves were applied as a topical disinfectant, although their true value was questionable.[23]

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On 1 May, Giáp launched his third offensive designed to capture the ELIANE strongpoints to the east and the HUGUETTEs to the west. A thunderous barrage preceded, lasting at least three hours. Legionnaires crouched in their trenches and dugouts curled in fetal positions, hoping for an end to the thunder and concussion. Bombardments, those wretched bombardments, had begun anew. They hammered at hope and mercy and salvation, as if the very fibers of existence quaked and yielded with each detonation; as if Athena herself had a particular distaste for this ugly war and was punishing all who partook. Indeed, they would break some men. French journalists during the Great War tried to described the impact:

> There's nothing more horrible in war than being shelled. It's a form of torture that the soldier can't see the end of. Suddenly he's afraid of being buried alive…He conjures up the atrocious agony…The man stays put in his hole, helplessly waiting for, hoping for, a miracle. [24]

The ELIANEs were then stormed by thousands of fresh, eager Việt Minh troops against a dwindling supply of French colonials. Many *bộ đội* wore eerie gauze masks of nose and mouth, perhaps to protect against smoke and dust. Attacks were relentless—and brutal, the air filled with war-cries, shrieks, and groans. Men shot and clubbed in hand-to-hand combat. Company commander Rene Leguere took a hit to his head that exposed brain. Surprisingly, he survived to find his way, with other wounded, off the slope. That same day the HUGUETTEs came under renewed attack. During the next 36 hours the few surviving legionnaires were pummeled by Việt Minh of veteran Division 308. Like many skirmishes at Điện Biên Phủ, it was a fight to the death. There would be no prisoners. Some tried to escape but become tangled in the barbed wire. Impaled, they were methodically cut down by the Việt Minh. A lucky few stumbled away, covered in mud and blood—more ghosts of Điện Biên Phủ. By 3 May, the strongpoints had been taken and under Việt Minh control.

But at a nasty price for Giáp's troops as well. Loss of so many young boys affected all. Moral sank. Victory seemed elusive despite successes. Would it all be worth the cost, many wondered? "We have been on Hill E (DOMINIQUE 1) for one month and four days, a period of extreme duress, recounted mortarman Nguyễn Hữu Chấp of Division 312. He went on to tell "Tension, fatigue, lack of sleep…We sleep in turn and we are so exhausted that we plunge into a deep sleep despite the sounds of weapons around." Every day cooks would bring them water in bamboo stalks and a ball of rice to be eaten with dried fish for protein, the skimpiest of nourishment despite Giap's promises. Political commissar of Battalion 54, Regiment 102 Nguyễn Như Thiện, as responsible for organizing and equipping porters to evacuate wounded and dead off of "A1" (the ELIANE complex). At 500 meters from the foot of the hill it was easy to make out motionless bodies carpeting the slope, victims of all kinds of projectiles. "I cannot hold back my tears in the face of such violence, such brutality of the battlefield," he remembered. The work was numbing and steady—when there was a lull in the violence. Even then, there were not enough porters to clear the field.

> I live between the dead. Many had to wait a few days to be brought back, their bodies no longer intact. Many are not

> identified because we have not even had the time to record the name, age or native country of new recruits. There are some who remain forever on this hill, we have not managed to recover their bodies.[25]

Nguyễn Sỹ Trinh agreed. A 22-year-old infantry group leader in Division 308, he saw many of his men lost. Out of 300 troops under his command, at the end there were only seventeen able-bodied left. The Viet Minh trenches became clogged with corpses that could not be evacuated or buried, causing a stench was almost unbearable. Rations became so meager that the soldiers would frisk the dead for the standard bag of rice tied to the waist of each man. Even though rotting cadavers were nauseating, hunger ruled and men often ate their meals next to decomposing flesh.

And as the troops advanced the medical corps followed. Twenty-seven-year-old surgeon Lê Thế Trung remembered being constantly on the move, digging new shelters for his wounded, who began arriving about two hours after combat started. Sometimes only two or three casualties in a day, other times victims flocking in. These May days were especially busy with the renewed offensive. Damage control surgery, mostly, as combat surgery generally is. Amputations were common for shredded limbs too far gone to salvage. His were cases of the most extreme urgency: men with ghastly wounds, men in shock, men who would likely die quickly.

His underground shelters were small but solidly built. They had to be to absorb the shocks of shells and bombs. In the operating area he had just one table, space just big enough for three people: the anesthesiologist, the surgeon, and a nurse. His kit was simple: scalpels, wires, needles. Otherwise, they would improvise. For example, to stop bleeding from arms or lower legs they wrapped the limb with strips of calabash or coconut, essentially making a tourniquet. Lighting was usually with electric "torches." There were no other sources for fuel and care had to be taken not to have too much light for fear of giving away their position to the French. There was never enough blood—unless some could be found amidst French parachute drops that landed in Việt Minh territory. Instead, his pharmacists made sterile intravenous fluid by boiling water. Whenever his troops took a French position, he would send porters scrambling around the captured first aid posts looking for any medical supplies: surgical instruments, cotton, disinfectant. "We are very happy [to find supplies] because these items help to treat our fighters," he wrote.[26] A special battalion, Battalion 148 had been formed for that very purpose, to scavenge for medical supplies—penicillin, morphine, sulfamid, gauze rolls, bandages. In fact, "war

booty," these *materia medica*—mostly medications—retrieved from the French, amounted to 10—15 tons according to official reports.[27]

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On 4 May, General de Castries, holed up in his bunker, finally visited the hospital and the wounded. Grauwin met him and was shocked at his appearance—thin and pale, wearing a khaki shirt and shorts, chain smoking. De Castries slowly made his way through the tunnels and hospital rooms, the heat terrible, the stench nauseating, men packed like sardines. There were the blind, the paralyzed, the amputees. One man was in the throes of tetany, his body stiff and arched, his eyes filled with terror, screaming himself hoarse, but he could not be quieted. Bloated abdomens of those waiting to die blocked the passageways. It was unavoidable to stare into the faces of death. The place had become a *ménagerie* of victims, so many that the relatively few able-bodied had seemed to ascend to the ranks of invincible gods. And throughout was the mud, now coating the General's shoes, sweat pouring down his face. It all must have been tormenting for the man saddled with defending this place to see all the misery his command had wrought. The impact of this visit was reflected in a subsequent radio message he sent that night:

> The situation of the wounded is particularly tragic. They are piled up on top of each other in holes that are completely filled with mud and devoid of any hygiene. Their martyrdom increases day by day.[28]

Meanwhile, in his hospital annex Lieutenant Hantz had so many wounded he alone could not accommodate them. It was there that his aids proved most useful, and, as he later recalled, "*L'inconcevable devient naturel dans l'urgence*" ("The inconceivable becomes natural in a hurry"):

> My nurses, exhausted by inhuman working and the total lack of sleep, roamed the permanent heap of wounded, rendering care that was normally prohibited, procedures for which they have had no formal training. They . . . would close the surgical wounds, cut down on veins to ensure resuscitation, immobilize fractures, apply and mold plaster. They, too, would feed me by spoon while I continued to operate and offered me any receptacle that would function as a urinal to relieve myself.[29]

It is a frustration for medics, seeing such carnage and having nothing to offer. Out in the barren wildernesses—the earth now stripped clean

of any vegetation— the battalion surgeons, Rondy, Madalaine, de Cafort, Rouault, and their kind, strapped with "reanimation" of hideously wrecked troops, were frantic to find veins large enough in shocked men to plug in bottles of saline and plasma, and then rummage through pulped flesh, searching for that source of welling red blood, hoping to find a ruptured vein, a pulsing artery to clamp and ligate, often now in pouring rain, and in trenches filled with muddy, feculent bath water. No longer would there be waiting surgeons at the main compound to reverse lethality, to make good the amateurish efforts they carried out suspending dying's relentless ballet—those avenues were closed. And as their patients gasped their last, that one final gurgle, that soft exhale of life's sweet air, their expressions wore the anguish of impotency, that their task was far beyond the capabilities of primitive tools, potions, and a thin shaman's veneer. Over grey deceased comrades they might look skyward as if to question why such destruction was thrown against the rawness of their guileless imperfections. There was nothing now but death and the death gaze of those still living, eyes no longer focused on tomorrows or yesterdays, only the inevitability of a moment's separation from eternity and the oncoming obliteration, heaven, or hell. Of course, there were the hopelessly wounded, those casualties so wrecked that survival, especially in Điện Biên Phủ's hinterlands, was impossible. For those, the Germans had a saying: "*Magen Schuss, Kopf Schuss—ist Spritzer*" ("Belly shot, head shot, it's an overdose"). In other words, the only humane treatment for the poor souls—far beyond human skill to reverse—would be ampoules of morphine—right in the butt cheek if their legs were gone—an overdose and a quiet end to their agony. And the corpses often left as a feast for ants, rats, and flies.[30]

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Not far away, ox brain for dinner was a delicacy for Tùng and his fellow doctors, as French jets screeched above. Hands swollen by yellow fly bites, mind numb from countless operations, plagued by diarrhea, "I feel energetic." In bed, listening to gunfire, he thought of the soldiers—"such a valorous generation," he felt.[31]

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On 6 May, the wounded of the ELIANEs, the last redoubts east of the Năm Yum, sensing the end was near, rose from their litters, picked up abandoned weapons and manned the trenches, ready to die but not like

rats in a hole, like men. Some were bandaged, in splints, even missing limbs. Fighting was so intense that they stood little chance anyway of making it back to a hospital. There were so many maimed fighters this area was called the "strongpoint of the wounded." Ammunition, food, and water were becoming scarce. It was no longer possible to pick up parachuted supplies even though on that day a generous 196 tons would be airdropped. In daylight it was much too dangerous to retrieve them. All would have to wait for nightfall. The French artillery, for the most part, had stopped firing. They were out of shells. *Capitaine Medecin* Le Damany radioed Hà Nội that night "Urgent need of all medical supplies, my stocks are destroyed."[32]

At two o'clock in the morning of 7 May, almost 2000 kilograms (two tons) of TNT were detonated under ELIANE 2. Genevieve de Galard felt it, like a rumbling earthquake. Explosives had been placed by Việt Minh sappers digging tunnels under French fortifications. In a geyser of dirt and smoke like an erupting volcano the hill literally disappeared. Việt Minh and remaining French soldiers crawled over the rim of the crater like tiny ants and engaged in vicious, life or death combat. By dawn most of the ELIANES were overwhelmed. There were too few Frenchmen and too many Vietnamese. Enemy infantry roamed the ground cautiously eliminating bunker after bunker with grenades, shooting all who survived and resisted. The rest were taken away as captives.

Now Grauwin saw that the Việt Minh were everywhere. "They literally rose up out of the mud and the water," he wrote. "Around me I could see nothing but mud, mud everywhere, on the ground, on the beds, on clothes and dressings, on tables, in wounds, and on faces and hands."[33] He saw his companion Gindrey bent over, bare chested, operating and operating more, standing in mud, the sweat streaming off him.

On ELIANE 4 there was no more ammunition. Fortifications had disappeared, caved in. The wounded housed in first aid posts and the Sixth ACP were faced with a horrid death by burial as artillery savaged the soft earth collapsing bunkers and dugouts. Four days before, Sixth ACP Chief Vidal had called Grauwin to report: "Major, it's getting impossible. I'm up to my ankles in mud, and the wounded are piling up beside one another. I can't even move."[34]

Vidal counted at least 50 seriously wounded men at his station, and he unable to even find clean bandages. The enemy was not more than three-hundred meters from him, a seemingly endless supply of fresh troops storming over fallen comrades as if stepping stones to victory.

No doubt within hours he would be overrun. It was then that Grauwin got permission to move Vidal, his unit, and his wounded back to central command. Somehow, the haggard parachute surgeon and his exhausted men transported by litter all the gravely injured across the bridge of the Năm Yum to Grauwin's hospital. They were put anywhere space could be found, often on just a piece of canvas spread out over the mud. "At last, he appeared," Grauwin later recalled, "very much thinner and with great blue rings around his eyes; he had aged ten years. He was covered with mud, and sweat dripped slowly down onto his chest."

Back at ELIANE 4 battalion surgeons Jourdan and Rouault stayed at their posts, giving what first aid was still available. Early in the morning of 7 May, the already wounded Lieutenant Jourdan, barely able to stand, was taken back to Grauwin's hospital along with a stream of "muddy statues," injured men, naked, and completely covered in mud—one a battalion surgeon, Dr. Alphonse Rivier—even a soldier hobbling in with one leg missing. After somehow making it back across the river, Vidal, despite his drained condition was helping Doctor Hantz, operating one after another, literally stepping over wounded men to get to their operating table. It was an impossible task, far too many casualties. Before long ELIANE 4, the gateway to the Năm Yum and central command, was finished. Eager, childish-looking troops—some even with American helmets and camouflaged uniforms recovered from missed airdrops—stormed from all around, clearing the trenches with hand grenades and rifle fire. In their fervor they seemed unfazed by the prospect of death even though the ground was littered with their riddled corpses. Shortly, Rouault's first aid station was overrun. Yet Việt Minh, in a show of compassion, told those who could still walk, those scattered among the dead and dying, to get up, go back to the hospital, and tell the doctors they were coming. Other wounded, stranded in trenches, frantically waved at oncoming enemy troops that they were wounded. They, too, were spared. The seven young Vietnamese prostitutes now serving as nurses had been trapped in the CLAUDINE complexes, to the end caring for the wounded, sometimes up to their hips in water and mud. After the fall, they were never seen again. Some say they were taken away for re-education, others suspect they were executed. The 11 Algerian girls, residing for a time in the DOMINIQUE fortifications, had been forced back onto the banks of the Năm Yum. Four would be killed in the battle, the rest taken prisoner.

All the remaining positions were overrun, all the devastated, plowed fortifications of the ELIANEs, the CLAUDINEs, and HUGUETTEs. Now only the central compound and distant, cutoff ISABELLE remained. The

noose was tight, the air of resistance cut off. French forces were in their death throes. The last words de Castries radioed his superior, General Cogny, in Hà Nội were, if anything, understated. "I'm blowing up the installations. The ammunition dumps are already exploding. *Au revoir*." "Until we meet again" indeed. There would be no assurance of that. Young Việt Minh, teenagers most, armed with rifles and bayonets and hand grenades would determine that salutation. *Adieu* would be more appropriate—"farewell." Eagerly they stormed the command post. Those who resisted were cut down like dogs—without pity or mercy.

A French soldier remembered that last victorious surge: "[t]here was even a grotesque breathless toylike beauty about it. The small, frail, agile men who floated within their overlarge uniforms, swarmed up the last slope again . . . and died in heaps."[35]

But they kept coming, always fresh troops to replace the fallen—thousands of them. And then at 5:30 that afternoon it was over. De Castries had ordered his troops—his proud legionnaires—to cease firing to avoid a massacre. Most French soldiers had no ammunition left to fire anyway. Genevieve de Galard distributed the last cigarettes to her patients and informed them the fighting had stopped. She saw relief in their eyes. "Calm and a strange silence settled over the valley, and we waited."[36] Surgeon Ernest Hantz witnessed a peculiar display and the same eerie stillness, almost a surreal vision as if, after hell's quieting, there now unfolded a resurrection of the dead:

> Standing after the crash of artillery and explosions, there reigns henceforth almost oppressive silence. I discovered the incredible spectacle of thousands of seriously wounded, out of their stinking holes and brought to the surface. [37]

Doctor Grauwin finished his last operation, a bullet wound to the arm, put on his uniform, rank insignia, and armlet with a red cross. He instructed all his men to do the same. He took Genevieve to his side, uncertain what fate awaited her. Swarms of *bộ đội* invaded the central position: "đi ra!" Come out! All were ordered outside the hospital. At the hospital annex Dr. Hantz saw the Việt Minh rummage through his precious medicines, equipment, and dressings—now the spoils of war. He was separated from his loyal *infirmiers*, his nurses who had played such a vital role in care of the casualties—officers to one side, enlisted to the other. Then suddenly the young doctor, no longer buoyed by the frenetic pace of surgery, had a sense of profound fatigue as if hit by a sledgehammer. He sat and stared, more like a zombie than a surgeon consumed by his work. Before long,

like many of his tired, emaciated comrades, he was herded into a column and marched out of the valley, the "bowl" of Điện Biên Phủ. The full fury of Việt Minh hatred now descended on them, epithets of murderers, war criminals, and slaves to America now hurled at them instead of bullets. That evening on top of the command bunker a red flag with a gold star now flew.

At ISABELLE in the late afternoon of 7 May, with the French flag still flying, Colonel Lalande contemplated a breakout. The wounded would be left to his doctors, Captain Calvet and Lieutenants Pons, Rezillot, and Aynie. All totaled there were over 60 seriously wounded lying about and 100 others lingering nearby, crouching, sitting, exhausted. But it would not happen. His men were spent. Continuous fighting, sleeplessness, emotional fragility, and near starvation had sapped the strength of even the uninjured. Hundreds of Việt Minh stormed the wire entanglements that evening. It was like a steamroller. Legionnaires, out of ammunition, fought the invaders with knifes. Those French who tried to escape were either shot or rounded up and brought back, their arms tied behind their backs. There was no hope. In the darkness of that evening, amidst hordes of Viet Minh intermingled with French walking wounded, now stumbling about, the end came quietly. Shooting stopped. Surrender.

And not so far from that ugly scene a surgeon celebrates at the news. Professor Tung, waiting for a ride to a new surgical assignment, Surgical Station Two and Three, heard the news from a passing cyclist. "We've overrun Điện Biên Phủ," the cyclist shouted, "De Castries has surrendered":

> We hug each other yelling for joy. Then I run as fast as my legs can carry me to bring the good news to my team . . . What a splendid night! No more obstacles on our way to freedom, to the future.[38]

A distance away, in Hà Nội, Dr. Jacques Aulong was heartbroken. By 2 May, he knew it was over. "*C'est la fin de Dien Bien Phu*," he wrote in his diary that day. Yet sadly—and angrily—he vented that *la fournaise*—the inferno—was still consuming its sacrificial victims. The French had allowed their fine paratroopers and legionnaires to be chewed apart by what he considered a rag-tag bunch of rebels. And on 7 May, the day of capitulation, the atmosphere at Lanessan Hospital was that of a mortuary. It was like the death of a sick man long expected, but when it comes still a strike at the heart, he noted in his memoires. "*Honte! Trois fois honte a Navarre*!" he scratched—Shame! Three times shame on Navarre![39]

Genevieve de Galard would be treated chivalrously. But she was appalled by the sight that greeted her when she emerged from the hospital that evening of 7 May. The landscape was coated with bodies, some now bloated, purple, the smell overpowering. She and her doctors and nurses were allowed to stay for a few days to care for the wounded. The chaplains and some battalion surgeons were given permission to scout the battlefield for unattended wounded. They encountered the same ghastly sight of decomposing carcasses and amputees, gravely wounded men, crawling about in the mud, their pitiful moans the only sounds now heard. All would be rounded up and herded into prisoner of war camps to await negotiations in Geneva. And many survivors, at the end of their tether—starving, injured—would soon succumb in those camps, the compassion of their Việt Minh captors quickly wearing thin.

It will never be known for certainty the numbers of casualties, types of operations, and outcomes of patients as the hospital records were lost with capitulation of the camp. However, patching together what can be found, for the entire GONO encampment, the statistics are sobering. Somewhere between 2,000 and 4,500 men had required hospitalization. According to surgeon Ernest Hantz, in the main hospitals staffed by the 29th and 44th ACM, 1,200 wounded passed through; in the Third ACP (ISABELLE) 556 seriously wounded; the Fifth ACP (hospital annex) 1,000; the Sixth ACP (ELIANE 4) 800.[40] Hantz estimated that around 1,500 men were also treated in battalion aid posts scattered about the battlefield. In a publication from October 1954, Huard and his colleagues described the surgical experiences of the two ACMs at Điện Biên Phủ, "*A.C.M. GONO*." Three surgeon—Grauwin, Gindrey, and Hantz—performed 630 operations. Of those there were 52 penetrating wounds of the abdomen—22 of these men died, an operative mortality of over 40 percent. There were 107 limb amputations and nine vascular wounds. The inordinate number of amputations (almost one in six operations), was due to the extensive use of artillery and mines by the Việt Minh. Some were caused by crush injuries due to cave-ins of trenches and bunkers (again a result of large caliber artillery). A few limbs were taken from development of gas gangrene, although this, fortunately, did not prove to be a frequent occurrence—only seven cases were reported. Vascular injuries caused an ischemic gangrene and need for amputation in four cases (one axillary and three popliteal), although Doctor Hantz was able to successfully repair one femoral artery injury in Hunter's canal (a later arteriogram confirmed the success of his surgery). Many of the wounded would be injured for a second, third, and even a fourth time as they insisted on returning to their units after their recovery.[41]

Other sources differ. In the official history *Le Service de Santee en Indochine, 1945-54*, Regis Forissier put the figure at 4,436 wounded. Of those 2,280 were treated in battalion aid posts (287 dying of their wounds, a 13 percent mortality); 2,167 were cared for at the surgical hospitals where 1,154 operations were performed and 142 men died (seven percent mortality—if, indeed, all mortality was postoperatively).[42] Bernard Fall, in his Appendix B, indicates that there were 6,215 hospital admissions, 739 operations, and 252 deaths, a hospital mortality of four percent. Many of these hospital admissions might have been for non-battle conditions, so the "died of wounds" rate is not clear.[43] Much more optimistic was a tally from Dr. Gindrey that he reported in 2010 as a tribute to his fellow surgeons at Điện Biên Phủ, including many former battalion surgeons. Gindrey claimed in this blog that 2,156 wounded were treated and 1,154 were operations performed. He then cited a mortality figure of 2.9 percent.[44] No doubt the figures include a number of procedures performed at aid posts in outlying fortifications—mainly extremity and soft tissue debridements. Still the mortality rate is amazingly low. Exact numbers will never be known, but probably close to 5,000 wounded were treated—many, of course, multiple times. It is also probable that around 1,000 operations were performed at the main hospitals. While there were quiet times and surges, on average that means 18 operations were done daily. For those with grave injuries, no doubt the operative mortality was high, and Huard's figures for abdominal surgery were probably accurate—40 percent. Conditions, especially towards the end, were abominable, and lack of evacuation doomed many of these men who afterwards developed complications and infections. In the aid posts, a mortality figure of 13 percent is also believable. Even more isolated and care even more rudimentary, wounded there, particularly when the situation even prevented evacuation to the main hospital, no doubt languished in their misery. Any serious bleeding or infection was likely to be fatal.

Death from wounding at Điện Biên Phủ reflected the horrific conditions under which surgeons toiled and the wounded endured. Whatever the true figure, one can surmise that for grave wounds, those of the head, chest, or abdomen, mortality exceeded what one might ordinarily expect from expeditionary troops in the field. This rate probable did reach 40 percent. There were a variety of factors involved: the deluge of wounded for a limited number of surgeons, the cramped and filthy underground hospital conditions, difficulty in transporting surgical cases to the surgical units by virtue of enemy fire (sometimes hours were required to litter carry cases several hundred meters), ruined passageways, or simply distance

to be traveled (in the case of ISABELLE). But most importantly, it was the inability to extricate the critically injured in a timely manner. Ground transport was effectively cut off early in the battle, and air transport was similarly ended by massive and accurate enemy antiaircraft fire. And for the last month of the battle, no seriously wounded were evacuated. Those with serious injuries languished in the mud and darkness of their underground dungeons amidst the legions of maggots and the company of rotting comrades. It is remarkable that more cases of *Clostridia* gangrene (gas gangrene) did not occur. The dirt and mud of Điện Biên Phủ must have eventually rivaled those churned up farm fields of France and Belgium in World War I, when gas gangrene was rampant. Human excrement and decomposing bodies provided abundant *Clostridia*. It is a testament to the training and diligence of battalion doctors and command surgeons in debridement and cleansing of wounds so as to take away all devitalized tissue, the spawning grounds of *Clostridia* organisms.

What is also truly remarkable, despite fairly accurate antiaircraft fire, reports showed that 94 tons of medical supplies were parachuted, including 1,324 bottles of dry plasma, 922 bottles of fresh plasma, 527 liters of blood, 3,104 liters of saline solution, almost nine billion units of penicillin, 18,250 individual dressings, 697 kilograms of cotton rolls, 6,610 ampules of morphine, and 4,560 ampules of promethazine.[45] In addition, the practice of direct donor-recipient transfusion of warm, whole blood was also widely utilized. Despite the absence of cross-matching, no transfusion incidents were reported (or, at least, clinical recognized). Certainly, some of the medical supplies fell outside the French perimeter, particularly as it shrank over the last days and weeks. No doubt some of these materials were grabbed by the Việt Minh and sent to be used in Dr. Tùng's surgical hospitals.

As for the Việt Minh official numbers of dead were recorded at 4,020. The total number of soldiers admitted to treatment facilities, which presumably is the total wounded in combat, was officially noted at 14,619 (February to May of 1954), a sizable percentage (4,378) were seen following the second phase offensive of Giáp's Death rates from wounding were appalling. Almost half of head injuries, one quarter of abdomen injuries, and 17 percent of chest injuries died. Poor hygiene, lack of first aid, few surgeons, and insufficient sterilization were the chief causes.[46]

By arrangement of a truce through the Geneva conferences, the wounded of Điện Biên Phủ would eventually be airlifted to Hà Nội. Because the airstrip had been so badly damaged during the siege, only a portion could be used. Small DeHavilland "Beavers," single engine planes capable of

holding up to four litter patients, were flown in along with Sikorsky S55 helicopters. Over ten days, beginning 14 May, 858 men were evacuated, including 351 litter patients. By then, of course, the wounded, those still alive, were in terrible shape, having received only the most rudimentary care at Điện Biên Phủ. There was no electricity and all basins and urinals had been removed. There were no fresh bandages, gaping wounds abounded filled with maggots, abdomens were soiled with excrement. Some limbs were so badly ischemic and dirty that high thigh amputations were necessary—and with only local anesthesia as all general anesthetic agents had been confiscated by their captors. Those lucky ones who were chosen for evacuation were first taken to Luang-Prabang in Laos because of low ceilings to Hà Nội. From there they were loaded into larger Dakotas for the trip to Hà Nội. Doctor Aulong was ready to receive them but was shocked at their appearance. He wrote in his diary:

> Among the wounded some lay prostrate in their parachute canopies stained with blood and mud. The eye fills with images of their ordeal. Some were becoming septic and in urgent need of surgery…those that were recovering began to celebrate this joyous occasion.[47]

But all had deteriorated: leaden complexions, dark circles around the eyes, emaciation. He remarked about one young paratrooper wounded on 20 April. The man lay naked in his parachute canopy, his lower body dirty and inert. He weighed but 40kg (88 pounds), paraplegic, with his back covered with bedsores and eschar. The boy did not remember much of his injury, only that he was struck in the back by a bullet. He might have been a lucky one. Many died during the 10 days between 7 May and the first evacuations. The last flight arrived in Hà Nội on 27 May, accounting for the last of the 858 casualties.

Those left behind in the prison camps, slowly withered from their injuries and many never returned. It is doubtful any French prisoner with a head, chest, or abdomen injury survived captivity. Genevieve de Galard was forced to leave on 24 May, although she would have much preferred to stay with her patients. The doctors were marched out with other officers and eventually imprisoned with them as well, unable to reach the sick and injured enlisted men. The infirmed then were cared for by orderlies of questionable medical training. Needless to say, the death rate for diseases and injuries was appallingly high. It has been estimated that only four of ten men who fought at Điện Biên Phủ were ever repatriated.[48] They either died on the battlefield or in the prisoner of war camps. It was the Bataan death march and imprisonment relived.

Doctor Grauwin and his fellow physicians were liberated the first week in June. He was full of praises for his surgical team and for all the *médecins* at Điện Biên Phủ. And he praised the commanders who somehow led their men in a gallant, if not futile, fight that was not of their making. Of the 18 *medecins* captured at Điện Biên Phủ, only one did not return, *Lieutenant Medecin* Leon Staerman, who collapsed on the long march out. Completely exhausted, he was left on the side of the road by the column of prisoners and their captures, shortly before reaching the Red River. He was found and carried to a prisoner of war camp where he languished, cachectic and racked by dysentery until he passed away 1 September 1954.

Like other besieged doctors—those of Bataan or Stalingrad or Dunkirk –the healers of Điện Biên Phủ worked in the dugouts and tunnels and trenches of the damned, in mud and rain and filth delivering their art in the tiny fragments that were left. Knowledge, talent, and skill did little in the end to pull their pitiful victims through. Nothing remained in those last days but a gentle wipe of a forehead, a reassuring touch—a human connection—and soft words for the almost departed. For the doctors who worked frantically to comfort and stabilize amidst the barest of essentials it would be those memories—those nightmares—that would be their ghosts of Điện Biên Phủ. It would be those decisions—the awful sorting that had to be done, who could be saved and who could not—that doomed some young fighters to a certain death which would bring them all to tears well into the twilight years of their lives.

What does one learn from such experiences? Indeed, what did the medical world learn? Medical care around Điện Biên Phủ, both French and Vietnamese, was critical not only to the salvage of life but to the moral and motivation of uninjured combatants. Despite horrid conditions for the French, and, to some extent, the Việts, the mere presence of medical personnel provided some encouragement to men faced with a vicious fight and the likely prospects of wounding. The two great fears of soldiers in combat are death and pain. This, they look to their doctors to fix. *Save me and ease my suffering*. Fortunately, laymen are naïve about medicine and the ability of medical men to rescue them. Medicine is still, just as in ancient times, viewed as a miraculous vocation and those who practice it near godlike. In and of itself the physical presence of doctors is soothing. In fact, proper training, skill, and devotion are critical. Many of the wounds of battle can be effectively treated using modern techniques and principles. Yet, there are limits. Physicians may be committed, courageous and selfless, but they are not gods. Men will suffer and die despite the best of care. Still, the psychological benefit of doctors is unquestionable. Espe-

cially in expeditionary operations, where immediate transport to rear areas is not forthcoming, the presence of advanced surgical posts, co-located with combat troops, is vital. In that sense, the value of surgical *antennes* and Việt field hospitals proved indispensable. Those surgeons manning their front-line stations used their skills at vigorous resuscitation (primarily for hemorrhagic shock) and limited ability to surgically intervene. What they did not control was a steady stream of resupply. Nor did they control the lifeline out. Blood, plasma, intravenous fluids, bandages, and surgical items waned—a frustration for any combat doctor. Expeditious evacuation—so difficult on both sides—proved crucial to save lives and remove the dreadful consequences of any combat. Dying patients, gruesome wounds, and sounds of suffering filled the corridors. Such scenes play heavily on soldiers—and, for the French, trapped in their rabbit holes, it surely did at Điện Biên Phủ.

Notes

1. Perhaps attributed to Émile Zola in *Au Bonheur des Dames* (Paris: G. Charpentier & E. Fasquelle, 1895), 389. "*Crever pour crever, je préfère crever de passion que de crever d'ennui!*" (If I am to die, I prefer to die of passion rather than die of boredom."

2. Bergot, *Les 170 Jours*, 280, and Bergot quotes from the journalist A.lain Sanders "Les P'tits Gars de Điện Biên Phủ" https://laguerreenindochine.forumactif.org/ accessed June 11, 2020.

3.] de Galard, *Angel of Dien Bien Phu*, 80.

4. Jean-Marc Binot, *Le Repos des Guerriers: Les Bordels Militaires de Campagne Pendant la Guerre d'Indochine* (Paris: Fayard, 2014), 230.

5. Anecdotes and Dr. Grauwin's quotes from Jean-Marc Binot's *Le repos des guerriers: les bordels militaires de campagne pendant la guerre d'Indochine.* There is some controversy about all this. Apparently not everyone was so struck. Doctor Gindrey denied that he saw any "whores" living at the central hospital. Doctor Hantz also did not witness them, although he admits he was immersed in operating on his wounded patients.

6. Phương, *Tôn Thất Tùng*, 99-100.

7. Hựu, *Lịch sử quân y*, 473.

8. Giáp, Điện Biên Phủ, 132.

9. Professor Henri Galliard (1891-1979) was a noted French physician and parasitologist who served as Dean of the Faculty of Medicine and Pharmacy at *l'École de Médecine de Hanoi* from 1935 to 1946. He was recognized as an authority on a number of tropical parasitic infections and considered an international expert in the field. Source: Brumpt, L. "Éloge de Henri Galliard," *Bull Acad Med* 164 (1980): 485-488.

10. Vu Ngoc Quynh "Dang Van Ngu. Vie et Mort d'un Médecin de la Résistance (1945-1967): Témoignage du Docteur Vu Ngoc Quynh," at http://journals.openedition.org/moussons/3315, accessed 4 March 2018 .

11. Fall (*Hell*) lists the garrison of ISABELLE at 1,663 on April 2, but refers earlier to a total of 1,809 men (no date given), 279, 284.

12. Boylan, *Valley of the Shadow*, 66-68.

13. Meaning, basically, gut injuries with spillage of highly contaminated intestinal contents and the very likely consequence of peritonitis, an often-fatal occurrence if not promptly treated. Therefore, suspected abdominal injuries carry high anxiety among health care workers.

14. "Primary" amputations were done immediately, recognizing that the limb was unsalvageable or was bleeding at such a pace that the only way to save a life was to cut it off. "Secondary" amputations were done after a period of observation, recognizing the extremity was lifeless or that gangrene was setting in.

15. Statistics from Pierre Accoce, *Médecins a Diện Biên Phu* (Paris: Presses de la Cité, 1992), 172. It is likely that injuries to large blood vessels were addressed by simply tying off the ruptured artery or vein rather than trying to

reconstruct it. The penalty, of course, for such "crude" approaches was amputation.

16. Thuries, *Merci Toubib*, 165-168.

17. de Galard, *Angel of Dien Bien Phu*, 81.

18. See Helling, T.S., Daon, E. "In Flanders Fields: The Great War, Antoine Depage, and the Resurgence of Debridement" *Ann Surg* 228 (1998): 173-181. *Clostridium welchii* (now called *Clostridium perfringens*) was the anaerobic (not needing oxygen) bacterium identified by physician and microbiologist William Welch (and others, such as the German Eugen Fraenkel) and implicated as the causative agent in gas gangrene.

19. Thuries, *Merci Toubib*, 169.

20. Accoce, *Médecins a Dien Bien Phu*, 113.

21. Tung, *Vietnamese Surgeon*, 48.

22. Phương, *Tôn Thất Tùng*, 111.

23. See Carl E. Bartecchi, *A Doctor's Vietnam Journal* (Morrisville: Lulu Publishing, 2020) 38-39. The use of coconut water as intravenous fluid has been reported in the medical literature and has some validity. See the review by Campbell-Falck, D., Thomas, T., Falck, T.M., et al "The Intravenous Use of Coconut Water," *Am J Emerg Med* 18 (2000): 108-111. In traditional Vietnamese medicine the coconut had special medicinal value both in the milk it contained and the meat within. See C. Michele Thompson, *Vietnamese Traditional Medicine* (Singapore: NUS Press, 2015), 97-136.

24. Niall Ferguson, *The Pity of War* (New York: Basic Books, 1999), 341.

25. Huyền, *Vu d'en Face*, 179-183.

26. Huyền, 47-49.

27. Hựu, *Lịch sử quân y,* 481.

28. Fall, *Hell*, 366.

29. Thuries, *Merci Toubib*, 169.

30. Windrow, *Last Valley*, 122. Two grave wounds of combat that are almost impossible to treat at forward field hospitals are belly wounds and head wounds. Head wounds are especially catastrophic if they traverse the entire cranium. Destruction of both brain hemispheres is almost uniformly fatal. Nothing can be done except morphine for a restless, dying patient. They are the epitome of "expectant care." They will either shortly expire or will survive their wounds for the next 24 or 48 hours.

31. Phương, *Tôn Thất Tùng*, 115.

32. Windrow, *Last Valley*, 601.

33. Grauwin, *Doctor at Dienbienphu*, 265.

34. Grauwin, 284.

35. John Clark Pratt, *Vietnam Voices: Perspectives on the War Years, 1941-1975* (Athens: University of Georgia Press, 2008), 25.

36. de Galard, *Angel of Dien Bien Phu*, 84.

37. Thuries, *Merci Toubib*,170.

38. Tung, *Vietnamese Surgeon*, 49-50.

39. Thuries, *Merci Toubib*, 237-238.

40. Thuries, 170.

41. Huard, P., Allehaut, P., Chippaux, C, “Le Traitement et l’Évacuation des Blesses de Dien-Bien-Phu,” *Bull Acad Natl Med* 138 (1954): 25-26.

42. From Windrow, *Last Valley*, 692, f17:8.

43. Fall, *Hell*, 484, Appendix B, Table VI.

44. http://paras-colos.over-blog.com/article-chirurgiens-de-l-impossible-56141334.html accessed 21 October 2016. Doctor Gindrey attributed these figures to “a compilation of various works of the doctors mentioned.”

45. Morin, Évolution du *Soutien Santé.*

46. *Lịch sử Bộ Tổng tham mưu trong kháng chiến chống Pháp 1945-1954,* 799 and *Lịch sử quân y Quân Đội Nhân Dân Việt Nam*, 475 and 478.

47. Thuries, *Merci Toubib*, 244.

48. Windrow, *Last Valley*, 647.

Chapter 12

Aftermath

We were wrong from start to finish.
—The Centurions

Điện Biên Phủ would not be the last French fiasco in this war of attrition. In the central highlands of Indochina, a region colloquially known as Annam, was located the important French Army post of An Khê. From An Khê radiated vital highland roads that, with mechanized armor, the French could easily patrol and maintain an interdiction force against infiltrating Việt Minh combat units. In the aftermath of Điện Biên Phủ, in late June, realizing the precarious position of the isolated French forces at An Khê and the inability to easily reinforce, French Command ordered the post evacuated. The battle-hardened garrison, known as *Groupement Mobile* 100, was composed of two battalions of a Korean regiment, the 43rd *Régiment Infanterie Coloniale*, the Tenth *Régiment Artillerie Colonial*, a squadron of armored cavalry, and a light infantry battalion of the Vietnamese Army. To accompany this exiting convoy would be a surgical *antenne* as medical support. On 24 June, the convoy left An Khê along Route Coloniale 19 to rendezvous with *Groupement Mobile* 42 at Pleiku. The veteran Việt Minh 803 Regiment would be waiting in ambush, the territory perfect for such malevolence, much like the evacuation of Cao Bằng along Route Colonial 4 four years earlier. The ambush unfolded with deadly precision, cutting apart French infantry and armor alike. Fighting soon deteriorated to hand-to-hand combat, air support of little help. Dozens of wounded, perhaps over a hundred, gathered at an area of the battlefield within 20 yards of the firing line. Some were desperately injured and unlikely to survive. And then the order came to abandon the vehicles and take to the jungle in hopes of escaping advancing Việt Minh. Much as along *Route Coloniale* 4, there was little hope in carrying out the stretcher cases. It was simply too task intensive. The surgical *antenne* doctor, Major Varme Janville, would not leave. "[M]y men need me here. I'll stay with them," he is reported to have said. They were all captured, of course, as the Việt Minh overran the column. They mercifully did not kill the wounded but, in fact, loaded many aboard captured trucks and returned them to the deserted An Khê infirmary. But they allowed little else. According to Bernard Fall, all the severely wounded died soon from lack of care (Varme Janville was forbidden to treat them), and the other wounded eventually died of exhaustion

as they trekked through hundreds of miles of jungle as prisoners of war. Varme Janville survived the entire ordeal and was released with the end of hostilities but, as Fall commented, "broken in health and spirit."[1] Half of Groupement Mobile's troop were killed or taken prisoner. The ambush was complete; the French force utterly destroyed.

The day after the fall of Điện Biên Phủ peace talks began in Geneva, Switzerland. In October of 1953 Prime Minister Joseph Laniel's Fourth Republic had announced a willingness to begin a negotiated settlement in Inchochina. The war had never been popular with the French people. Almost three-quarters, in 1950, could not even give a definition of the French Union. In November of 1953 Hồ Chí Minh signaled his readiness to follow suit, representing, as official statements read, "the wish of the people." In actuality the Vietnamese had also become "war weary" after seven years of conflict. Hồ Chí Minh understood the looming danger of American intervention as well as hints of growing uneasiness about the commitment of the Soviets and Red China in their burgeoning support of the Việt Minh government. Furthermore, Hồ had always envisioned a three-prong offensive: military action, popular support, and recruitment of international favor. Now it was time to foster diplomacy—initiatives designed to demonstrate his true search for an end to hostilities and his quest for peace.

So, on 8 May 1954, the first formal session of the Geneva Convention opened. Hồ Chí Minh's government seemed to play a subservient role to the major bargaining powers of the Soviet Union and Communist China. The fall of Điện Biên Phủ heightened anxiety of the French military, and by early June CEFEO commanders felt that the Mekong River Delta was in danger of slipping to the communists, and, if that occurred, neither Frenchmen nor Vietnamese would have the will to fight on in the south.[2] After painful propositions and concessions on both sides, two basic agreements on Việt Nam were reached: (1) cessation of hostilities dated 20 July and a line of demarcation, North from South, near the 17th Parallel. To enforce a neutral zone between, a Demilitarized Zone five km wide on either side was to be recognized. The Demilitarized Zone would separate two "regroupment zones:" Việt Minh north of the neutral territory and French Union forces south (to the Western world, these would be labeled "North" Việt Nam and "South" Việt Nam); and (2) the Final Declaration of the Geneva Conference on 21 July. The Declaration contained separate statements. One would require the French government "to withdraw its troops from the territory of Cambodia, Laos, and Việt Nam at the request of the Governments concerned." Another, and of vital importance to Hồ Chí Minh, was that, after two years, nationwide elections would be held

that would lead to unification of the two regroupment zones. The French were done with Indochina. The glorious colonial adventure had come to an end.

And what of the specter of Điện Biên Phủ? A myth would arise—for French and Viêts alike. For the French the vicious siege would be likened to the slaughter and glorious defense of Verdun—one elevated to mythical status because of triumph, the other because of defeat. A collective citation was issued to the garrison even before capitulation, in April, was signed by Minister of Defense René Pleven:

> For several weeks under the command of Colonel de Castries, the constituted troops of the French Union have repulsed day and night the fierce assaults of an enemy much greater in number. The heroic sacrifice of those who have fallen, the fierce tenacity of the combatants adds a new glory to the honor of our arms. United in the will to win, officers, non-commissioned officers, corporals and soldiers deserve the admiration of the free world, pride and gratitude of France. Their courage is forever an exemplary model.[3]

Truth is, heroism and courage existed in both camps, but so did strife, cowardice, and blatant murder. Colonel Pierre Langlais pointed out that of the 13 firebases that were overrun, eight had been so due entirely to garrisons deserting.[4] Some deserters were rounded up and forced to serve as almost slave labor in shanty towns on the Năm Yum no less exposed to the approaching dangers of creeping Việt Minh barrages and the looming threat of a rush of armed enemy across the bridge and into their midst, the likelihood of sparing these noncombatants remote. What of the legionnaires and colonial troops who stayed in the trenches and dugouts of the CLAUDINEs and ELIANEs and ISABELLE? Did their resolve falter, their thoughts morphing into a growing lethargy that displaced an adventurous resilience enabling them to level their rifles at an advancing fanatical host? Was there a sense of doom, of dread, of worthlessness? Would they have gladly laid down their arms and simply walked away? Heroes all? Perhaps. In the end maybe only a resolve to stay with the man on their right or left made them so; any more noble cause had long vanished. Indeed, some officers and some men of the CEFEO might have already had similar feelings to those of fictional Legionnaire Captain Boisfeuras when he commented, during his captivity after the fall of Điện Biên Phủ, in Jean Larteguy's classic novel on modern warfare, "The Centurions:"

> We were wrong from start to finish because we tried to see the war from the point of view of Saigon…by forcing ourselves to believe it was possible to isolate the Vietnamese peninsula from the rest of the Asiatic and Communist world and that we could calmly embark on our little operation of colonial reconquest.[5]

Yes, there was an ugliness to this whole murderous affair, these eight long years of blood shedding and trampling of human life and dignity. These years that stripped so many of joy and hope and filled so many hearts with rage and hatred blotted out all but the rarest of small mercies. Wrath indeed possessed Auguste Pavie's delightful paradise and even metastasized to the mellow and tranquil dwellers of Tonkin's highlands, secluded as they had been for centuries amongst the lush vegetation of their primitive cultures. Only the victims of this tragic war were able to precipitate the few drops of compassion from souls otherwise blind to forgotten beauties and restore goodness to a land shaken by hells of human creation. The physician-poet Nguyễn Thị Kim later wrote of that bloody period:

Luôn vững niềm tin, mãi tự hào.
Trang sử viết bằng máu cha anh
Đất nước giờ đây được vẹn lành
Vươn tầm thế giới bao gian khó
Always have faith, always be proud
Our history is written in my father's blood
The country is now healthy
Reaching out to the world of hardships.[6]

And peace, when it did come, was honorable only for the victors. For the vanquished, sentenced to another hell, that of the prison camps, their bravery and endurance perhaps was for a time forgotten. Perhaps no one at home now really cared, tired of strife and death in a land they could not even envision. This was the end for the French in Indochina. Their lucrative empire had collapsed; thoughts of *mission civilisatrice* soon forgotten. For the conquerors, Võ Nguyên Giáp hailed the victory as a major milestone in *Những năm Kháng chiến chống Pháp*, "the years of the resistance war against the French." He lavished praise on President Hồ Chí Minh, the Party Central Committee, his patriotic fighters, and emphasized the devotion of his *dân công* who served at the front. "All for the front, all for victory" would be the repeated motto for years to come. For the Vietnamese

people this battle and great victory would assume the proportions for all of history of the victory at Yorktown in the American Revolutionary War. His words might have been those of American General George Washington at such an occasion:

> The Điện Biên Phủ victory was…regarded as a great victory of the weak and small nations now fighting against imperialism and old and new colonialism for freedom and independence.[7]

As for Tôn Thất Tùng, he returned to Hà Nội and resumed his surgical practice at the former Protectorate Hospital for Indochina's impoverished, now renamed Phủ Doãn Hospital. A favorite of Hồ Chí Minh because of his undying loyalty to the national cause, Tùng was named Vice-Minister of Public Health and set about reorganizing the surgical services for a vast population of underserved Vietnamese. It would prove a daunting challenge as he had, at the outset, a skeleton crew of five surgeons for a hospital filled with 500 patients. While a champion of socialistic ideals, Tùng would never forget his French mentors and Western medicine. He would spend the rest of his career introducing modern surgical practices into Vietnamese medicine and would endlessly strive to transform his nation into a model of progressive surgical enterprise and partner to the wonders of Westernized medicine, leading the way in development of liver and open-heart surgery and recruiting cadres of skilled surgeons to man the ever-widening spectrum of healthcare in his Việt Nam. "My life has been tied inseparably with Vietnam…I am a doctor with my own fatherland, my own country. I can never leave the Vietnamese people," he would later tell a reporter. That was certainly not a sentiment shared by those emaciated, haggard French doctors of Điện Biên Phủ. They would gladly depart from Việt Nam.

What set the Indochina War apart was the utter disarray of the contested country. Largely rural, agrarian, mountainous, and impoverished, Indochina was ill-suited for European-style warfare. Small unite encounters prevailed and guerrilla warfare the norm. Roving bands of infantry—both French and Việt—roamed through the countryside anxious for battle. The Viêts often selected the time and place, and the French, at the last, decided catastrophically on their location for the definitive showdown. As a consequene, medical care, on both sides, seemed often an afterthought. While French and Việt physicians endorsed the concept of forward surgical field teams and hospitals, the critical factor was a smooth and efficient removal of wounded. The field hospitals themselves were often makeshift and not prepared for either reparative surgery or prolonged convalescence. Therefore, early evacuation was mandatory. The perilous nature of Indochinese geography challenged that. Unarguably, Viêts controlled the countryside

and imposed their will on tribes and peoples who inhabited those remote regions of Tonkin. With their coerced allies, this gave an advantage to evacuation in that predictable land routes were more secure. Their main disadvantage was simply a lack of equipment and vehicles. The French were not so lucky. In attempts to countermand Việt influence, they were forced to fling enclaves of military power deep into enemy country, often knowingly surrounded by their enemy. The medical teams attached were talented and audacious but so easily became compromised because of resupply or evacuation. Roads were hazardous and air transport unpredictable. The menacing specter of isolation and abandonment, particularly for French troops, would not abate. The Indochina War left no doubt that wilderness medical care is brutal and fraught with hardships. It will so often be a disappointment for medical planners in that the critical features of treating combat wounds—early and echeloned care—will too often be impossible. As a result, men will needlessly die.

What lessons, indeed, would be learned? Just over a decade later, American Colonel David Lownds' 26th Marine Regiment found itself isolated on the remote Khe Sanh combat base near the Demilitarized Zone in Việt Nam. On the base were the surgical capabilities of Charlie Med, a combat support hospital of the Third Medical Battalion, very much like Chippaux's *antennes chirurgicales*. Just as at Điện Biên Phủ Giáp's North Vietnamese regulars encircled the base (although Marines held a good portion of the surrounding hills). Marines were blasted continuously and casualties mounted. Charlie Med performed magnificently, but evacuation was tenuous; the Việts zeroed in and peppered the airstrip regularly. Incoming and outgoing mercy flights navigated a gauntlet of enemy fire to clear out wounded. But, in contrast to the French at Điện Biên Phủ, Americans held the periphery and overwhelmingly commanded the air. By pure courage and resourcefulness, they were able to move supplies and people in and out. The garrison held, casualties evacuated, and disaster was averted. Did Americans learn from the French? Doubtful. The looming fear during it all was that the Marines would be overrun, and a second tragic and embarrassing Điện Biên Phủ would stalk these interlopers as well. "Those who cannot remember the past are condemned to repeat it," so said philosopher George Santayana in 1905. For medical planners and tacticians, take this statement to heart.[8]

Notes

1. Fall, *Street Without Joy*, 219-220. See also Luedeke, K.A. "Death on the Highway: The Destruction of Groupement Mobile 100" *Armor* 110 (2001): 22-29,

2. The Mekong River Delta was a vast system of fertile wetlands encompassing, essentially, all of Cochinchina. For good reason it would be a contentious area in the Vietnamese-American War a decade later.

3.Renée Pleven, *Journal Officiel de la République Français*, 25 avril, 1954.

4. Pierre Langlais, *Dien Bien Phu* (Paris: France-Empire, 1962), 86.

5. Jean Larteguy, *The Centurions*, (New York: Penguin Books, 2015), 93.

6. As quoted in Ma Văn Kháng, "Đọc Phù Sa Ký Ức Của Nhà Thơ Nguyễn Thị Kim", in Nguyễn Thị Kim, *Phù Sa Ký Ức* (Hà Nội: Nhà Xuất Bản Hội Nhà Văn, 2022), 5-13, quote 13).

7. Giáp, Điện Biên Phủ, 145-146.

8. George Santayana, *The Life of Reason* (New York: Charles Scribner's Sons, 1920), 284. For more on medical aspects of the siege at Khe Sanh see Thomas S. Helling, *The Agony of Heroes*, (Yardley: Westholme Publishing, 2019), 319-388.

Works Cited

Sơ Lược Lịch Sử Y Tế Việt Nam, Volume I (1995). Hà Nội: Nhà Xuất Bản Y Học.

Accoce, P. (1992). *Médecins a Diện Biên Phu.* Paris: Presses de la Cité.

Alonou, B. K. (2006). Assistance Médicale Indigène: Action Humanitaire ou Œuvre Utilitaire. *Revue du Cames*, 7:166-173.

Andre, V. (1954). *Ici Ventilateur.* Paris: Calmann-Levy.

Andrews, H. [. (1862). *Virgil's Eclogues and Georgics.* Boston: Crocker and Brewster.

Aso, M. (2018). Learning to Heal the People: Socialist Medicine and Education in Vietnam 1945-54. In H. Pols, C. M. Thompson, & J. H. Warner, *Translating the Body* (pp. 146-172). Singapore: NUS Press.

Aso, M. G. (2013). The Itinerary of a North Vietnamese Surgeon: Medical Science and Politics during the Cold War. *Science, Technology Society*, 18:291-306.

ba Bành, D. (1952). The Influence of Western Medicine on the Traditional Medicine of Viet Nam. *J Hist Med Allied Sci*, 7:79-84.

Bartecchi, C. E. (2020). *A Doctor's Vietnam Journal.* Morrisville: Lulu Publishing.

Bates, A. B. (2007). Lãn Ông Lê Hữu Trác, (1720-91) and the Vietnamese Medical Tradition. *J Med Biography*, 15:158-164.

Beau, P. (1908). *Situation de l'Indo-Chine de 1902 a 1907.* Saigon: Commerciale Marcellin Rey.

Bergot, E. (1979). *Les 170 Jours de Dien Bien Phu.* Paris: Presses de la Cité.

Bernard, C. (1885). *Leçons sur les Phénomènes de la Vie, Communs aux Animaux et aux Végétaux* . Paris: J.-B. Baillière et fils.

Bigeard, M. (2010). *Ma Vie Pour la France.* Monaco: Éditions du Rocher.

Binot, J.-M. (2014). *Le Repos des Guerriers: Les Bordels Militaires de Campagne Pendant la Guerre d'Indochine.* Paris: Fayard.

Blalock, A. (1930). Experimental Shock: The Cause of the Low Blood Pressure Produced by Muscle Injury. *Arch Surg*, 20:959-996.

Blalock, A. (1934). Shock: Further Studies with Particular Reference to the Effects of Hemorrhage. *Arch Surg*, 29:837-857.

Bodard, L. (1953). *The Quicksand War: Prelude to Vietnam.* Boston: Little, Brown and Company.

Bodin, M. (2000). L'Engagement des Femmes Durant la Guerre d'Indochine 1945-1954. *Guerres Mondiales et Conflits Contemporains*, 198:137-147.

Bodin, M. (2003). Le Corps Expéditionnaire Français à la Veille de la Bataille de Dien Bien Phu. *Guerres Mondiales et Conflits Contemporains*, 211:11-27.

Boron, M. V. (1954). "*Les Antennes Chirurgicales en Indochine*." *Rev Corps Santé Mil*, 10:79-88.

Boylan, K., & Olivier, L. (2018). *Valley of the Shadow.* Oxford: Osprey Publishing.

Brocheux, P. a. (2009). *Indochina: An Ambiguous Colonization, 1858-1954.* Berkeley: University of California Press.

Bruge, R. (1999). *Les Hommes de Dien Bien Phu.* Paris: Perrin.

Brumpt, L. (1980). Éloge de Henri Galliard. *Bull Acad Med*, 164:485-488.

Buchman, T. G. (2010). Shock: Blalock and Cannon. *Arch Surg*, 145:393-394.

Campan, L. (1997). Un An Après la Disparition de Henri Laborit: Réminiscences et Réflexions. *Urgences*, 16:31-34.

Campbell-Falck, D. T. (2000). The Intravenous Use of Coconut Water. *Am J Emerg Med*, 18:108-111.

Cannon, W. (1932). *The Wisdom of the Body.* New York: W.W. Norton & Company.

Cannon, W. B. (1923). *Traumatic Shock.* New York: D. Appleton and Company.

Cannon, W. B. (1934). A Consideration of Possible Toxic and Nervous Factors in the Production of Traumatic Shock. *Ann Surg*, 100:704-713.

Carpentier, A. C. (1989). Quelque Éléments sur les Problèmes de la Santé. In A. Ruscio, *Vietnam: l'Histoire, la Terre, les Hommes* (pp. 239-246). Paris: L'Harmattan.

Chapuis, O. (1995). *A History of Vietnam from Hong Bang to Tu Duc.* Westport: Greenwood Press.

Charbrol, E. P. (1897). *Operations Militaires au Tonkin.* Paris: Henri Charles-Lavauzelle.

Chippaux, C. (1958). Hibernation Artificielle et Déconnection Neurovégétative: II, l'Hibernation Artificielle en Chirurgie de Guerre aux Divers Échelons de Combat. *Anesth Analg (Paris)*, 15:193-205.

Chippaux, C. C. (1954). L'Hibernation Artificielle en Chirurgie de Guerre. *Press Med*, 62:504-506.

Chippaux, C. L. (1956). Chirurgie de Guerre d'après les Observations Faites en Indo-Chine. *Bull Int Serv Santé Armées Terre Mer Air* , 29:13-15.

Chippaux, C. S. (1956). De l'Évacuation des Blessés par Voie Aérienne au Cours de la Campagne d'Indochine". *Médecine Aéronautique*, 11:227-239.

Clavel, C. (1908). *L'Assistance Médicale Indigène en Indo-Chine* . Paris: Augustin Challamel.

Clech, G. (1947). *Le Siam et ses Relations avec la France.* Paris: Saint-Pierre & Miquelon.

Cocteau, J. (1923). *Thomas l''Imposteur.* Paris: Gallimand.

Crile, G. W., & Lower, W. E. (1914). *Anoci-Association.* Philadelphia: W.B. Saunders.

Cucherousset, H. (1926, May 2). Soeur Antoine [Félicie Vacheron, des Dames de Saint-Paul de Chartres] et ses Oeuvres" . *L'Éveil Économique de l'Indochine*, pp. 9-11.

Đài, L. C. (2006). *Ç›était au Tay Nguyen: Journal de Guerre d›un Chirurgien Nord-Vietnamien, 1965-1973* . Hanoi: Thế Giới.

Đặng, V. V. (2000). *De la RC4 à la N4: la Campagnes des Frontières (Rouen:* . Rouen: Bibliothèque du Capucin.

de Galard, G. (2010). *The Angel of Dien Bien Phu.* Annapolis: Naval Institute Press.

de Lanessan, J.-L. (1895). *La Colonisation Française en Indo-Chine.* Paris: F. Alcan.

de Pirey, C.-H. (2010). *La Route Morte: Indochine RC 4 – 1950.* Paris: Indo Éditions.

de Saint Marc, H. (1995). *Mémoires Les Champs de Braises* . Paris: Perrin.

Delorme, E. (1880). *Manuel Technique du Brancardier.* Paris: Librairie Militaire.

Delorme, E. (1914). Blessures de Guerre, Conseils aux Chirurgiens. *Comptes Rendus Des Séances de Académie*, 159:394-395.

Delorme, E. (1919). *Les Enseignements Chirurgicaux de la Grand Guerre.* Paris: A. Maloine et Fils.

Doumer, P. (1902). *Situation de l'Indochine Française de 1897 à 1901* . Hanoi: F.H. Schneier.

Doumer, P. (1905). *L'Indo-Chine Française Souvenirs* . Paris: Vuibert et Nony.

Dror, O. a. (2006). *Views of Seventeenth-Century Vietnam: Christoforo Borri on Cochinchina and Samuel Baron on Tonkin.* Ithaca: Cornell Southeast Asia Program Publications.

Duiker, W. J. (2000). *Ho Chi Minh.* New York: Hyperion.

Dupont, M. (2017). *Roger Faulques: L'Homme aux Mille Vies.* Paris: Indo Éditions.

Duras, M. (1984). *L'Amant.* Paris: Les Éditions de Minuit.

Dutroulau, A. F. (1869). *Traité des Maladies des Européens* . Paris: J.-B. Bailliere.

Esteve, H. (2003). *Médecin Sur la RC4* . Paris: Indo Éditions.

Fall, B. (1961). *Street Without Joy.* Mechanicsburg: Stackpole.

Fall, B. B. (1966). *Hell in a Very Small Place: The Siege of Dien Bien Phu.* Cambridge: Da Capo Press.

Favreau, J. D. (1999). *Nasan: La Victoire Oubliée* . Paris: Economica.

Ferguson, N. (1999). *The Pity of War.* New York: Basic Books.

Fischer, H. (1870). Ueber den Shock. *Sammlung Klinischer Vorträge* , 10:69-82.

Forissier, R. (1989). Le Service de Santé en Indochine. *Rev Hist des Armées* , 4:3-16.

Giáp, V. N. (1961). *People's War, People's Army.* Hanoi: Foreign Languages Publishing House.

Giáp, V. N. (1964). *Dien Bien Phu.* Hanoi: Foreign Languages Publishing House.

Grangier, R. (2010). Jacques Gindrey: De l'Élevé Résistant du Maquis de l'Ain au Chirurgien de Dien Bien Phu. *Hist Sci Med*, 44:73-77.

Grauwin, P. (1955). *Doctor at Dienbienphu.* New York: The John Day Company.

Greene, G. (1955, 2004). *The Quiet American.* New York: Penguin Books.

Gross, S. D. (1882). *A System of Surgery: Pathological, Diagnostic, Therapeutic, and Operative, Volume 1.* Philadelphia: Henry C. Lea's Son & Company.

Guénel, A. (1996). Entre Chine et Occident: Place et Rôle de la Médecine Traditionnelle au Viet-nam. In A. M. Moulin, *Les Sciences Hors d'Occident au XXème Siècle, Volume 4: Médecine et Santé* (pp. 177-192). Paris: Orstom Éditions,.

Guénel, A. (1999). The Creation of the First Overseas Pasteur Institute, or the Beginning of Albert Calmette's Pastorian Career. *Med Hist*, 43:1-25.

Guénel, A. (2003). Constitution des Espaces Thérapeutiques en Asie du Sud-Est. Etat des Lieux, Interrelations entre Thérapeutes, Comparaison Régionale" . *1er Congrès du Réseau Asie*, (pp. 2-6). Paris.

Guidicelli, P. (1991). *Médecin de Bataillon en Indochine, 1947-1951* . Paris: Éditions Albatros.

Guillemot, F. (2009). Death and Suffering at First Hand: Youth Shock Brigades During the Vietnam War (1950-1975). *J Viet Studies*, 4:17-60.

Harper, D. (1998). *Early Chinese Medical Literature: The Mawangdui Manuscript.* New York: Routledge.

Helling, T. (2022). *The Great War and the Birth of Modern Medicine.* New York: Pegasus.

Helling, T. S. (1998). In Flanders Fields: The Great War, Antoine Depage, and the Resurgence of Débridement. *Ann Surg*, 228:173-181.

Helling, T. S. (2019). *The Agony of Heroes.* Yardley: Westholme Publishing.

Helling, T. S., & Marble, W. S. (2019). Surgeons to the Front: Twentieth-Century Warfare and the Metamorphosis of Battlefield Surgery. In P. E. Berg, *The Last 100 Yards* (pp. 191-209). Leavenworth: Army University Press.

Henry, D. (1898). Médecins Annamites Organisation du Service Médicale Indigène en Annam. *Ann d'Hygiène Médecine Coloniale*, 1:156-158.

Histoire Militaire de l'Indochine Française des Débuts à nos Jours (Juillet 1930). (1930). Hanoi-Haiphong: Imprimerie d'Extrême-Orient.

Hocquard, C.-É. (1892). *Une Campagne au Tonkin.* Paris: Hachette et Cie.

Huard, P. (1949). Le Docteur Albert Sallet. *Bulletin Dân Viêt Nam* , 3:121-124.

Huard, P. A. (1954). Le Traitement et l'Évacuation des Blesses de Di-en-Bien-Phu. *Bull Acad Natl Med*, 138:25-26.

Hựu, P. V. (1991). *Lịch sử quân y Quân Đội Nhân Dân Việt Nam* . Hà Nội: People›s Army Publishing House.

Jian, C. (1993). China and the First Indo-China War, 1950-54. *China Quarterly*, 133:85-110.

Karnow, S. (1983). *Vietnam: A History.* New York: Viking Press.

Kousoulis, A. A. (2012). Alexandre Yersin's Explorations (1892-1894) in French Indochina Before the Discovery of the Plague Bacillus. *Acta Med-Hist Adriat*, 10:303-310.

Laborit, H. (1949). Sur le Mécanisme Physiologique du Syndrome d'Irritation. *Press Med*, 57:774-776.

Laborit, H. (1950). La Thérapeutique Neuro-Végétative du Choc et de la Maladie Post-Traumatique. *Press Med*, 58:138-140.

Laborit, H. (1953). L'Hibernation Artificielle en Chirurgie de Guerre. *Rev Corps Santé Mil*, 9:17-34.

Laborit, H. (1989). *La Vie Antérieure* . Paris: Grassett & Fasquelle.

Laborit, H. H. (1951). L'Hibernation Artificielle par Moyens Pharmacodynamiques et Physiques. *Press Med*, 59:1329.

Laborit, H. H. (1952). Un Nouveau Stabilisateur Végétative (le 4560 RP). *Press Med*, 60:206-208.

Langlais, P. (1962). *Dien Bien Phu.* Paris: France-Empire.

Larteguy, J. (2015). *The Centurions.* New York: Penguin Books.

Le Page, M. (1981). *: La Tragique Épopée de la Colonne Le Page (Paris:* . Paris: Nouvelles Éditions Latines.

L'École de Plein Exercise de Médecine et de Pharmacie de l'Indochine . (1931). Hanoi: Imprimerie d'Extrême-Orient.

Lefeabvre, P. G. (1990). Le Service de Santé Militaire à la Veille de la Campagne de France en 1940. *Hist Sci Med*, 24:173-178.

Lefebvre, P. G. (1990). Le Service de Santé Militaire à la Veille de la Campagne de France en 1940. *Hist Sci Med*, 42:173-178.

Lefèvre-Pontalis, P. (1902). *Mission Pavie Indo-Chine, 1879-1895, Géographie et Voyages, Vol V.* Paris: Ernest Leroux.

Leriche, R. (1934). La Maladie Postopératoire. *Lyon Chir*, 31:627-636.

Lịch Sử Đảng Cộng Sản Việt Nam: Trích Văn Kiện Đảng, 1920-1954 . (1984). Hanoi: Truth Publishing House.

Lopez-Munoz, F. A. (2005). History of the Discovery and Clinical Introduction of Chlorpromazine. *Ann Clin Psych*, 17:113-138.

Luedeke, K. A. (2001). Death on the Highway: The Destruction of Groupement Mobile 100. *Armor*, 110:22-29.

Lyautrey, H. (1920). *Lettres du Tonkin et de Madagascar (1894-1899) Volume 1.* Paris: A. Colin.

Maghraooui, D. (1998). Moroccan Colonial Soldiers: Between Selective Memory and Collective Memory. *Arab Studies Quarterly*, 20:21-41.

McAlister, J. T. (1966). Mountain Minorities and the Viet Minh: A Key to the Indochina War. In P. Kunstadter, *Southeast Asian Tribes, Minorities, and Nations* (pp. 771-844). Princeton: Princeton University Press.

Michaud, J. (2006). *Historical Dictionary of the Peoples of the Southeast Asian Massif.* Lanham: Scarecrow Press.

Michaud, J. T. (2016). Tonkin's Uplands at the Turn of the 20th Century: Colonial Military Enclosure and Local Livelihood Effects. *Asia Pacific Viewpoint*, 57:154-167.

Monnais, L., Thompson, C. M., & Wahlberg, A. (2012). *Southern Medicine for Southern People.* Newcastle upon Tyne: Cambridge Scholars Publishing.

Monnais-Rousselot, L. (2002). In the Shadow of the Colonial Hospital: Developing Health Care in Indochina, 1860-1939. In P. B. Bousquet Gisèle Luce and Brocheux, *Việt Nam Exposé: French Scholarship on Twentieth Century Vietnamese Society* (pp. 140-186). Ann Arbor : University of Michigan Press.

Monnais-Rousselot, L. (2003). *Médecine et Colonisation. L'Aventure Indochinoise, 1860-1939.* Paris: CNRS Éditions.

Morgan, T. (2010). *Valley of Death: The Tragedy at Dien Bien Phu That Led America into the Vietnam War.* New York: Random House.

Moseley, J. E. (1981). Travels of Alexandre Yersin: Letters of a Pastorian in Indochina, 1890-1894. *Perspect Biol Med*, 24:607-618.

Murray, A. T. (1924). *The Iliad with an English Translation.* Cambridge: Harvard University Press.

Ngạn, V. V. (1977). Le Service Sanitaire de l'Armée et l'Alliance des Deux Médecine Traditionnelle et Moderne". *Études Vietnamiennes* , 50:30-38.

Nguyễn, T. T. (2014). *L'imaginaire Colonial Français de L'Indochine 1890-1935.* Tours: Université François – Rabelais de Tours.

Nicol, M. B.-B. (1953). Introduction des Méthodes de Laborit dans le Traitement des Chocs de Guerre en Indochine. *Mem Acad Chir (Paris)*, 79:392-398.

Nicol, M. M.-B. (1953). Introduction des Méthodes de Laborit dans le Traitement des Chocs de Guerre en Indochine. *Mém Acad de Chir* , 79:392-398.

Ninh, B. (1993). *The Sorrow of War.* New York: Riverhead Books.

Pavie, A. (1901). *Mission Pavie: Indochine 1879-1895, Géographie et Voyages, Volume I.* Paris: Ernest Leroux.

Pavie, A. (1901). *Mission Pavie: Indochine 1879-1895, Géographie et Voyages, Volume IV.* Paris: Ernest Leroux.

Pavie, A. (1921). *A la Conquête des Cœurs: le Pays des Millions d'Éléphants et du Parasol Blanc, les Pavillons Noirs, Deo-van-tri,.* Paris: Bossard.

Pearson, Q. (2016). "Womb with a View": The Introduction of Western Obstetrics in Nineteenth Century Siam. *Bull Hist Med*, 90:1-31.

Pédoussaut, P. (2000). Témoignage du Médecin-Capitaine Pédoussaut . *Trait d'Union (Numéro Spécial Commémoration)*, 1-14.

Péricard, J. (1933). *Verdun 1914-1918.* Paris: Librairie de France.

Perkins, M. (2005). *Hanoi, adieu.* Sidney: Fourth Estate.

Petchot-Bacque, A. L. (1953). Quelque Réflexions sur la Médecine de l'Avant aux T.F.E.-O. " . *Rev Corps Santé Mil* , 9:79-87.

Phương, N. (2002). *Tôn Thất Tùng: Cuộc Đời Và Sự Nghiệp (1912-2002)* . Hà Nội: : Nhà Xuất Bản Y Học,.

Plisson, M. (1917). Un Groupe Chirurgicale Mobile. *Bulletin de l'Académie Nationale de Médecine*, 78:362-366.

Poitevin, M. (2011). *Quelques Témoignages sur la Guerre d'Indochine de 1946 à 1954.* Toulouse: Société d'Histoire de Revel Saint-Ferréol,.

Pratt, J. C. (2008). *Vietnam Voices: Perspectives on the War Years, 1941-1975.* Athens: University of Georgia Press.

Regnault, J. (1902). Médecins Missionaires. *Revue Scientifique*, 18:641-647.

Reilly, J. R. (1934). Hémorragies, Lésions Vasculaires et Lymphatiques du Tube Digestif Détermines par l'Injection Péri-Splanchnique de Substances Toxiques Diverses. *Compte Rendus des Société Biologie*, 116:24-26.

Remba, S. J. (2010). Dominique-Jean Larrey: The Effects of Therapeutic Hypothermia and the First Ambulance. *Resuscitation*, 81:268-271.

(1969). *Revolution in Laos: The North Vietnamese and the Pathet Lao.* Santa Monica: RAND Corporation.

Rouffiandis, V. (1905). La Peste Bubonique au Tonkin. *Annales d'Hygiène et de Médecine Coloniales* , 8:609-630.

Roy, J. (1963). *The Battle of Dienbienphu.* New York: Carroll & Graf.

Salemink, O. (1995). Primitive Partisans: French Strategy and the Construction of a Montagnard Ethnic Identity in Indochina. In H. Anlov, *Imperial Policy and Southeast Asian Nationalism, 1930-1957* (p. 262). Richmond: Curzon Press.

Sams, B. F. (1988). Black Tai and Lao Song Dam. *J Siam Society*, 76:11-120.

Sand, G. (1871). *Journal d'un Voyageur Pendant la Guerre.* Paris: Michel Lèvy Frères.

Santayana, G. (1920). *The Life of Reason.* New York: Charles Scribner's Sons.

Selye, H. (1936). A Syndrome Produced by Diverse Nocuous Agents. *Nature*, 138:32.

Shrader, C. R. (2015). *A War of Logistics: Parachutes and Porters in Indochina 1945-1954.* Lexington: University Press of Kentucky.

Sĩ Liên, N. (1993). *Đại Việt sử ký toàn thư (A Complete History of the Great Viet) [transl. Vietnamese Institute of Social Sciences].* Hanoi: Social Sciences Publishing House.

Simpson, H. R. (1994). *Dien Bien Phu: The Epic Battle America Forgot.* Washington DC: Potomac Books.

Singer, B. L. (2004). *Cultured Force: Makers and Defenders of the French Colonial Empire.* Madison: University of Wisconsin Press.

Soubiran, A. (1966). *Le Baron Larrey: Chirurgien de Napoléon* . Paris: Fayard.

Stein, L. (1993). *Les Soldats Oubliés: De Cao Bang aux Camps de Rééducation du Viêt-minh.* Paris: Albin Michel.

Syrmen, E. (1919). L'organisation Actuelle du Service de Santé en Campagne. *Mercure de France*, 132:639-640.

Tài, H. T. (1992). *Radicalism and the Origins of the Vietnamese Revolution.* Cambridge: Harvard University Press.

Thompson, C. M. (2012). Setting the Stage: Ancient Medical History of the Geographical Space that is now Vietnam. In T. C. Monnais. L., *Southern Medicine for Southern People: VIetnamese Medicine in the Making* (pp. 21-60). Newcastle-upon-Tyne: Cambridge Scholars.

Thompson, C. M. (2015). *Vietnamese Traditional Medicine.* Singapore: NUS Press.

Thompson, M. (2003). Medicine, Nationalism, and Revolution in Vietnam: The Roots of a Medical Collaboration to 1945. *EASTM*, 21:114-148.

Thuries, J. H. (2004). *Merci Toubib: Dien Bien Phu: Trois Médecins Racontent (Paris: , 2004).* Paris: Éditions Italiques.

Timbal, J. (2005). L'ambulance Medico Chirurgical de l'Air 401 d'Alger à Mengen. *Med Aero et Spatiale*, 46:9-13.

Timbal, J. (2008). Le Service de Santé de l'Armée de l'Air Pendant la Deuxieme Guerre Mondiale. *Rev Hist des Armées*, 250:108-119.

Trâm, Đ. T. (2007). *Nhật Ký Đặng Thùy Trâm (The Diaries of Đặng Thùy Trâm)* . New York: Nhà Xuất Bản Hội Nhà Văn, (Harmony Books).

Trình, V. T. (2004). *Les Compagnons de Route de Hồ Chí Minh* . Paris: Éditions Karthala.

Tuệ, Đ. Đ. (2010). *Dien Bien Phu Vu d'en Face: Paroles de Bô Dôi.* Paris: Nouveau Monde Éditions.

Tùng, T. T. (1980). *Reminiscences of a Vietnamese Surgeon.* Hanoi: Foreign Languages Publishing House.

Turner, S. (2009). Hanoi's Ancient Quarter Traders: Resilient Livelihoods in a Rapidly Transforming City. *Urban Studies*, 46:1203-1221.

Văn Kháng, M. (2022). Đọc Phù Sa Ký Ức Của Nhà Thơ Nguyễn Thị Kim. In N. Thị Kim, *Phù Sa Ký Ức* (pp. 5-13). Hà Nội: Nhà Xuất Bản Hội Nhà Văn.

Vann, M. G. (2012). Hanoi in the Time of Chloera: Epidemic Disease and Racial Power in the Colonial City. In L. Monnais, & H. J. Cook, *Global Movements, Local Concerns: Medicine and Health in Southeast Asia* (pp. 150-170). Singapore: NUS Press.

Velpeau, L. (1848). Gravity and Treatment of Gunshot Wounds. *Lancet*, 8:179-181.

Vialet, M. (1902). Médecine et Chirurgie Indigène au Tonkin. *Archives de Médecine Navale*, 77:34-55.

Wahlberg, A. (2014). Herbs, Laboratories, and Revolution: On the Making of a National Medicine in Vietnam. *EASTS*, 8:43-56.

Warren, J. C. (1894). *Surgical Pathology and Therapeutics.* Philadelphia: W.B. Saunders.

Welch, W. (1916). Medicine in the Orient. *Bull Med Chir Faculty of Maryland*, 8:196-206.

Windrow, M. (2004). *The Last Valley: Dien Bien Phu and the French Defeat in Vietnam.* Cambridge: Da Capo Press.

Wong, B. K. (2012). *The Hmong Diaspora and the Struggle of an Identity.* Maxwell Air Force Base, AL: Air Command and Staff College.

Zola, É. (1895). *Au Bonheur des Dames.* Paris: C. Charpentier & E. Fasquelle.

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In *The Final Days of Empire*, author Thomas S. Helling MD explores the dying vestiges of France's bid for colonial greatness in Indochina through the lens of the doctors and nurses as they attempted to save the wounded and maimed. The hills of northern Indochina were the backdrop to the death throes of France's imperial designs of domination. In an ugly war filled with contempt, treachery, and sabotage, the medical lesson learned on both sides was the vital importance of early care by virtue of proximity and quick evacuation to medical facilities.