PHANTOM IN THE RIVER

The Flight of Linfield Two Zero One

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I dedicate this book to Charles Everett Southwick and
David John Rollins; and also to my father, John William Foster,
who never flew a fighter jet but knew how to design one.

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Contents

Acknowledgments

THE PHYSICAL ORIGINS OF THE STORY OF THE flight of Linfield Two Zero One are found in Hanoi, Vietnam with the wreckage of a U.S. Navy F-4B Phantom II jet fighter. Official and unofficial written documents provide much of the historical background for the narration. I found, however, that informational gaps existed. Personal and telephone interviews filled those gaps. The interviews not only corrected informational deficiencies, they provided color that is lost in official records. As time progressed, I became more knowledgeable about the topics. I learned how to ask better questions or seek specific facts. After awhile, information became abundant. Gradually, over a long period of time, using the information obtained from so many sources, the story came together.

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Preface

THE WAR IN VIETNAM—THE LONGEST RUNNING war in United States history—ended with the fall of Saigon to the North Vietnamese in the spring of 1975. Bitterly fought, collectively, antagonists though they were, the United States of America and the Socialist Republic of Vietnam, more commonly known then as North Vietnam, mobilized millions of people to fight in a country not quite the size of California. The United States, in particular, ordered the might of its air force to Southeast Asia and its aircraft carrier force to the Gulf of Tonkin to compromise the war-making capabilities of North Vietnam. Bolstered by support from Russia and China and other Soviet Bloc countries, North Vietnam fought back.

History often conceals the underlying accumulation of solitary accounts that, randomly or not, contribute to a larger, overall event. Sadly, many of these "small" accounts are often ignored, discarded as unimportant or perceived to be of little value. A staggering number, more than three thousand U.S. fixed wing aircraft were lost during the Vietnam War. Each incident, subsumed by the larger statistic, has a story.

This story, based on real events, salvages an isolated incident from the scrapheap of untold mini-histories. Condensed, the story is simple. On 14 May 1967, two American Navy airmen, Charles Everett "Ev" Southwick and David John "Jack" Rollins, launched from the USS *Kitty Hawk* in their F-4B Phantom II aircraft. They did not return to their carrier.

Intentionally unburdened with jargon or military rhetoric or vernacular, technical descriptions and details necessary for the reader to understand various situations or circumstances are explained in basic terms. To reach beyond these fundamental explanations would mire the story and encumber it too much. I have speculated only where prudent or where such speculation can be reasonably deduced from research or others' accounts. While any mistakes found are mine alone, I argue the essence of this story should be neither lost nor forgotten.

Gary Wayne Foster
Muscatine, Iowa

Chapter 1

Phantom in the River

ON BOARD THE USS *KITTY HAWK*, maneuvering in the Gulf of Tonkin on a Sunday in mid-May 1967, F-4 Phantom IIs and other American combat aircraft of Air Wing Eleven were being readied for another day of strikes against targets in North Vietnam.

The USS *Kitty Hawk*, with the number "63" heroically emblazoned on each side of her tall island, was one of four United States attack aircraft carriers operating in or transiting to or from the Gulf of Tonkin at that time. She and her air wing were nearing the end of a second combat cruise. *Kitty Hawk* and her air wing, having arrived in the Gulf just after Thanksgiving 1966, had seen their fair share of the air war over North Vietnam. They were scheduled to return to San Diego within a few weeks.

Meanwhile, on land, as *Kitty Hawk* steamed off the coast below the horizon, the sleepy town of Thanh Hoa, situated on the banks of the Song Ma, went about its daily business. Accustomed to its unspoken role of guardian for more than hundreds of years, Thanh Hoa protected a narrow isthmus in the Song Ma. Across this isthmus, which constricted the flow of the muddy waters that spilled from the hinterlands of North Vietnam toward the Gulf of Tonkin, sat a steel structure that connected the opposite banks. The structure was known as Cau Ham Rong.

The air this day, unusually clear, was heavy with humidity that sapped the strength of the villagers who worked in the fields or along the riverbank. The sun, now past its apex, beat its relentless heat down on the quiet streets and empty buildings of Thanh Hoa. Its rays bounced off the earth, causing heat waves in the air to distort shapes and make them shimmer in the distance across the surrounding rice paddies. The foliage of the lush vegetation was transformed into deep verdant hues by the mid-afternoon sun as its

light glinted off the translucent greenery. Adding to the pastoral scene, big black water buffalo marched ponderously across the soggy paddies pulling plows as their masters walked behind them in the black soil.

Offering some relief, a gentle breeze blew in from the sea causing the bright green fronds of the tall palm trees to sway wistfully. The soft hum and the lazy, alluring rustle emanating from the wild bamboo stands at the edges of the rice paddies could be heard throughout the flatland. These soothing sounds seemed not to disrupt but rather to enhance the pervasive silence along the Song Ma.

Nguyen Minh Huan (pronounced, *when ming whan*) and his longtime companion Ho Van Phong (pronounced, *ho van fong*) sat on their haunches—the crouching position typical of Asians—in the shade of a tree downstream of Thanh Hoa. They could see the other side of the river clearly. Sometimes the atmosphere was so opaque that only the outlines of the trees in the distance could be discerned. Not this day. The clear atmosphere provided a grand panorama of the river valley's flat, sweeping terrain. The geographic details on the opposite bank were clearly distinguishable and Nguyen could make out the hull of a boat that had been abandoned across the river many years before. He could see small fishing dugout canoes being paddled against the current while other small boats floated lazily downstream in the opposite direction. The shadows of a few billowy, white clouds danced across the river as the clouds passed overhead.

It was a quiet afternoon. Nguyen and Ho, relishing a break from the endless toils of plying the Song Ma in their boats, relaxed and enjoyed their hand-rolled cigarettes.

Nguyen had walked to this spot along the levee from his home for a moment of respite from the close quarters of his village and to meet Ho whose small boat was moored not far away. The services of both men and their boats were required often to provide river transportation for the replenishment of munitions for the antiaircraft guns at Cau Ham Rong. They would pick up ammunition from some point down river and ferry it upriver to the air defense crews where, at some hidden landing, the cargo would be offloaded from the boats. Many times the boats were so heavily laden that there were only a few inches of freeboard. Replenishment was usually performed late at night. But Nguyen had been relieved of his duty the night before. He hoped this break would continue for a few days. He could rest and perform badly needed maintenance on his boat.

The two friends exchanged stories of the previous week and reminisced about events from years past, such as the time Ho Chi Minh (pronounced, *ho chee ming*) had visited Thanh Hoa and had dedicated the new Cau Ham Rong on his birthday in May of 1964.

Ho, who enjoyed having the same name as the leader of his country, had arrived from Sam Son, located near the mouth of the river, to pick up some military cargo just downstream of Thanh Hoa. Pressed for time, Ho explained to Nguyen that he needed to leave; he was running late and he needed to conceal his boat from view during the rest of the day. Ho rose from his crouching position and walked to his boat. Nguyen watched as he unmoored the craft and started the tiny engine. The old wood craft floated away and then, as the motor labored, made its way upstream.

While watching his old friend depart, Nguyen thought about his childhood, about his own children, who were now grown with kids of their own and about the days when he and Ho had fought the French. Now they found themselves in the middle of a new war. Sadly for Nguyen, he and his friend were too old to fight; but they did what they could.

Nguyen enjoyed watching the river and the flat scenery around him that was his homeland. He never tired of the serenity of the Song Ma. Nguyen had lived on the banks of the Song Ma his entire life. He enjoyed the easy setting of the area, the soft scenery around Thanh Hoa and the calming effects of the river. Nguyen loved it; he knew no other life and was perfectly content.

Nguyen's ancestors, having arrived from the environs of Hanoi hundreds of years before, had passed down lore and had taught the trades of the river. Each generation learned about the river and the life that it shaped for its inhabitants. Nguyen's father had worked on the river, carrying sand in barges to Thanh Hoa and to smaller villages farther up the river. Sometimes he ferried giant logs, which had been felled in the mountains, down the river to waiting ships bound for distant, foreign destinations.

Nguyen had used the river knowledge and navigational skills he had gained from his father in the war for independence against the French. He had also learned river trading from his father and he had become an astute negotiator.

Nguyen and his extended family lived in a small three-room home with a low ceiling and a tiny kitchen in the back. Their home was situated on the perimeter of a small square in a village on the backside of the levee that protected the village from the floods of the Song Ma. Constructed over many

decades, perhaps as long ago as a hundred years, the levee was maintained and strengthened by the local inhabitants every year.

Nguyen owned some chickens and some small pigs and a small parcel of property nearby on which he grew rice. His two water buffalo nourished his family and allowed him to take his meager products to market in nearby Thanh Hoa. But because of the American air attacks around Thanh Hoa, and the government decree that the town's citizenry should take refuge in the hills, the population of Thanh Hoa fell as did the daily and weekly market activity.

Content in his solitude, Nguyen now sat alone contemplating the calm beauty of the Song Ma as it glided silently past him.

While Nguyen enjoyed the serenity of this lazy afternoon, not far away, to the northwest, in the direction of Cau Ham Rong, a portentous event was unfolding. The tranquility of Nguyen's surroundings was shattered. It began with the roaring, resonating sound of jet aircraft.

Startled, Nguyen knew the pride of his region, the symbol of Thanh Hoa, was under attack again. The Americans were trying to destroy Cau Ham Rong, the very bridge that Ho Chi Minh had dedicated just three years before. Nguyen, still crouching, saw American airplanes streak through the skies toward the bridge from the north. He heard the screaming of the jets, flying at steep, downward angles, their engines trailing black exhaust, as they dived for the bridge. He could see small puffs of white and black smoke, suspended motionless, dotting the sky. The antiaircraft guns that protected the bridge were in heavy action, leaving a trail marked by these small puffs of smoke.

Nguyen heard the sharp explosions of the multiple-impact of rockets. The rockets, as they flew toward their targets, left behind their telltale trail of smoke. After the planes from the north had passed, the horizon filled with thick smoke that rose but did not seem to drift away. Almost immediately, more planes, this time from the south, dived earthward and then, briefly hidden by the smoke, would reappear in a steep climb north of Thanh Hoa. Nguyen heard the deeper, rumbling, attenuated explosions of bombs, like muted thunder, rolling across the paddies. The explosions increased in tempo and with such intensity that it seemed they might never cease. More greasy, black smoke broiled angrily into the sky. Nguyen's world was coming undone.

Nguyen, being so far away from Cau Ham Rong and Thanh Hoa, perceived he was in no danger and continued to rest on his haunches. He watched the smoke rise above the horizon, obscuring his vision of the mountains far behind the bridge. He surmised that he and his river barge, one of the largest on the river, would be in demand to deliver munitions to the defenders of Cau Ham Rong and to bring out the wounded. If this was a big strike, he knew his services would be called on again soon, probably that very night. Nguyen knew the break he needed would be postponed. He would be ready.

Then, out of the corner of his eye, Nguyen caught sight of something huge, something strange, coming toward him, flying through the lazy afternoon sky. It seemed like a big, black prehistoric bird, but as it came closer, he knew it was a *may bay my* (American airplane). It loomed large and threatening. For an instant, Nguyen thought he was being attacked. But, he reasoned, why would an American jet attack an old man sitting beneath a tree smoking a hand-rolled cigarette? Not alarmed, but with his gaze now fixed on the monster zooming toward him, Nguyen remained motionless and watched. The aircraft trailed dark smoke and made shrill, metallic, grinding sounds. The sun's bright afternoon rays bounced off the angles and surfaces of the plane, making it difficult to recognize any distinct feature.

Nguyen had seen only the wreckages of American planes, never an undamaged one, and never up close—nothing like this. The foreboding plane was knifing through the air toward him, growing in ominous size as it approached. The plane flew so low, just above the horizon, that it seemed to Nguyen he could reach up and touch it. Making its frightening, whirring sound, the monstrous jet was closing the distance to Nguyen with astonishing speed. It seemed first to be flying south, then it angled a little more easterly, and finally southeast directly at him.

Suddenly, Nguyen heard and saw explosions in the top of the plane as it passed just over the tops of some trees. He watched in awe as dark objects were thrust upward from it; two bundles hurling into space. Almost immediately, he caught a momentary glimpse of the blossoming of what he knew to be a parachute just above the ground. But while Nguyen knew a man was suspended beneath the parachute, his eyes did not follow the fleeting image. He was too captivated by the enormity of the American plane that was now streaking through the air at treetop level with its horrifying, growling noise.

Nguyen stood immediately to his feet. The sinister-looking American warplane kept coming at him, almost severing the treetops, its shadow ripping across the ground. Nguyen was fixated. He could not take his eyes off the aircraft as it flew directly overhead and downstream away from him, its noise growing then fading. Watching the underside of the American air giant, Nguyen noted the width and angularity of its large wings and the cylindrical protrusions beneath them, the odd juxtaposition of the trailing smaller wings, the large, round, pointed elongated tube beneath its fuselage, and the black smoke that trailed from the darkened tail. The plane's rich exhaust, repugnant to Nguyen's senses, immediately settled down through the trees to ground level. Nguyen could smell the unfamiliar, acrid odor of the fumes as they permeated the atmosphere.

With a loud, violent crash—like that of a train wreck—the gigantic plane hit the mud flats and torturously skidded to a halt. The impact threw mud in all directions, momentarily concealing the plane from Nguyen's view. The plane landed near an island on which he had played as a child. The thunderous sound seemed to reverberate up and down the river for many seconds.

Not oblivious to the two bundles that had ejected and landed not far from him, Nguyen, eyes wide in amazement, was more awestruck by the sight of the American war machine that, like a comet from deep space, had come too close. He stared disbelievingly at the stationary plane, now in steaming ruins not more than four or five hundred meters from where he had been smoking his cigarette. The giant American plane, which had seemed invincible in the air just moments before, now sat lifeless, silent in the dark mud at the edge of the Song Ma.

Although the aircraft, still smoking, sat motionless, the mud seemed to be moving all around it. Nguyen soon realized that he was seeing mud crabs scurrying away in all directions from the impact of the alien, metal behemoth.

Nguyen heard loud shouting and screaming behind him. He turned to see the commotion of villagers running toward what he knew would be the American airmen. But, in continuing disbelief at what he had just witnessed, he turned back to stare at the *may bay my*. Nguyen realized that something extraordinary had just happened. He would never forget the approximate time of day or the day itself. The incident occurred mid-afternoon on Sunday, the 14th of May 1967.

Chapter 2

Thanh Hoa and Cau Ham Rong

VIETNAM, WITH ITS HEAD IN THE NORTH AND its long, crooked tail streaming south, is a narrow country that has been likened to a dragon, or perhaps a seahorse. Its entire eastern edge is bounded by the South China Sea and, to the north, more specifically, by the Gulf of Tonkin. Vietnam shares borders to the west with remote parts of Laos and Cambodia and to the north with China.

Northern Vietnam can be generally divided into three geographic strata: coastal flats with a sloping rise to the west to the jagged piedmonts, which rise further into sharp, angular, sheer limestone mountains with deep valleys and ravines. The precipitous mountains are the result of geologic uplift and tectonic action. It is from these mountains that the rivers rise to flow eastward to the sea. The northern land generally drains from northwest to southeast as the rivers empty into the Gulf of Tonkin.

Although much of Vietnam is covered with rugged, sometimes steep mountains, the Vietnamese, as they are known today, were not originally a mountain people per se. It's not known precisely from where their culture sprang but there is enough evidence to suggest that very early people lived in limestone caves along the northern rivers and may have come from various Australasian islands.

Vietnam is, historically, an agrarian country with rice being the primary crop for many hundreds of years. The country is host to two large river delta systems: the Mekong River in the south and the Red River in the north. Over the last many thousands of years, as the Chinese began to descend south into Vietnam, the culture evolved further. As a result, civilizations, benefiting from the rich soil deposited by the rivers over millions of years, flourished in the coastal regions. It was along the coastal plains, that the Vietnamese proliferated, jumping estuary by estuary, river by river, onto the soggy plains of southern Vietnam.

One such river, the Ma River—or Song Ma in Vietnamese—follows the typical drainage pattern, northwest to southeast. Beginning in the mountains of the western provinces, the Song Ma collects rain water from its drainage basin and its tributaries and carries it to its mouth, where the fresh, but muddy water from the river blends with the saltwater of the sea.

Nestled beside the Song Ma, many hundreds, or perhaps as long ago as a thousand years, the town of Thanh Hoa was founded. Located about a hundred fifty kilometers south of Hanoi, Thanh Hoa, now capital of the province of the same name, was once a small kingdom that grew into a commercial and agricultural center of some repute. Thanh Hoa boasts of several interesting features such as the Ba Trieu Temple, the Ho Dynasty Citadel, built from large blocks of green granite and, not far away, the Dao Grotto.

In the mid-1960s, remains of early human activity were discovered on a mountain in Thanh Hoa Province. Although subject to debate, the finds from that site have been dated as far back as 30,000 years. These artifacts may have been the result of the first settlement in Vietnam. Today, Thanh Hoa is best known for its porcelain and *nem*, a sort of sausage wrapped in banana leaves in the shape of a neat, tiny box. Thanh Hoa is bounded to the east by the flat plains that meet the sea and to the immediate west by a long, jagged, forested splinter of the Annamite Range.

Thanh Hoa is reached from Hanoi by *Quoc Luong* (National Highway) 1 or by a parallel narrow-gauge (one meter) railway. The two modes of transportation combined constitute the main north-south transportation artery connecting quaint, staid Hanoi in the north with busy, cosmopolitan Saigon (now Ho Chi Minh City) in the south. The road and railroad cross each of the eastward flowing rivers, sometimes in quick succession.

Beginning in Hanoi, the railroad originally reached only as far south as the tiny town of Vinh, which had an important port. The line south to Vinh was constructed in three sections: Hanoi to Nam Dinh, Nam Dinh to Thanh Hoa, and Thanh Hoa to Vinh. While the French Colonies Public Works Committee decreed construction was to begin on the Hanoi to Nam Dinh and Thanh Hoa to Vinh sections in 1899, initiation of construction for the middle link connecting Nam Dinh with Thanh Hoa would have to wait for a work decree to be issued one year later.

While rivers of lesser width were easily crossed, spanning the Song Ma presented a very different problem for French engineers. Railway alignment and

geotechnical analysis of the area indicated that the only feasible place to cross the Song Ma was at a narrow isthmus a few kilometers northwest of Thanh Hoa near a small village located on the north side of the river.

Positioning of the bridge could be viewed as a study in engineering economics. Although the railway ran north-south, the bridge would cross the river in an almost due east-west direction. Construction of the bridge would take advantage of the geographical layout and it would be as short as possible.

Historically, three bridges were built at this location. French designers chose a special concept for the first bridge. Designed and constructed as a double steel arch with vertical steel members supporting the deck, the Song Ma was finally spanned in the 1930s. The arch was articulated or hinged at three points: at either end and in the middle. The apex of the bridge's arch rose twenty-five meters above the deck. The bridge crossed the Song Ma in one clear span of one hundred sixty-two meters and was ten meters wide. Serving primarily the railroad but with roadways for vehicles on each side, the structure was christened Cau Ham Rong; Ham Rong Bridge

The name Ham Rong was derived from two geologic formations, one each located on either bank of the river. Nui Rong, a sharp, jagged mountain, stands on the south (or west) side of the river and resembles a jawbone of a long mythological serpent whose body and tail were represented by the spiny mountain ridge that tapered southward. On the opposite bank, a small, elongated hillock referred to as Nui Ngoc (meaning "jade mountain"), the other jawbone, juts upward in solitary isolation. Both geologic features serve as silent sentinels protecting the narrow isthmus and the approaches to Cau Ham Rong, the name of which, when translated into English, literally means "dragon's jaw bridge."

Built with Vietnamese—some may argue, slave—labor, the elegance of Cau Ham Rong's sweeping steel arch and vertical steel stays compelled people from all over Southeast Asia to come to Thanh Hoa just to marvel at the bridge. To some, it was one of the most beautiful structures ever to adorn French Indochina.

Cau Ham Rong, the first bridge that dared to cross the Song Ma, quickly became the pride of Thanh Hoa. But to some Vietnamese who had developed more nationalistic leanings later on, Cau Ham Rong carried a more invidious implication: the bridge represented the repression exacted by the colonial rule of France. To deny the French use of their railway, and to com-

promise this symbol of colonial arrogance, the Vietminh—nationalist armed forces led by Ho Chi Minh—destroyed the bridge in 1945.

The second and third Ham Rong bridges, not as dramatic but held in no less esteem, were designed by a structural engineer from Hanoi named Nguyen Dinh Doan. Construction of a second Cau Ham Rong began in the 1950s and took many years to complete. It was this second bridge—of a more basic design than its predecessor—that, depending on one's point of view, became the most famous or infamous of all the bridges.

Simple steel bridges, the original, exotic steel-arched bridge of Cau Ham Rong notwithstanding, were commonly either of the longitudinal steel beam system with transverse supporting members, or a drive-through truss design, typical of the Warren truss developed in Britain and patented by James Warren in the mid-nineteenth century. The Warren truss gained rapid popularity and was exported throughout the world. But this bridge type was suitable for relatively short spans or for crossings where many supporting piers could be constructed. Recognizing relatively scarce material resources and the limitations of construction techniques that existed in Vietnam in the 1960s, Nguyen Dinh Doan reverted to the simple drive-through Warren steel truss to re-span the Song Ma.

In stark contrast to the original Cau Ham Rong, which spanned the river in an elegantly spectacular arch, the river crossing was beyond the structural capacity of a single Warren truss-type bridge. Two trusses would be required to span the river. One end of each Warren truss was supported on the opposite banks of the river by massive abutments. The free ends of each truss that met over the middle of the river were supported by a large oval-shaped concrete pier. The overall length of the bridge was one hundred sixty-five meters, not much longer than the original arch bridge.

The second Cau Ham Rong was dedicated personally by Ho Chi Minh on his birthday on 19 May 1964. To commemorate the second bridge's dedication, North Vietnam's Tien Bo Printing House issued to the public a postage stamp designed by Do Viet Tuan (pronounced, *zo vyet twan*), a well-known artist and illustrator of Vietnam's history. Printed in soft tri-colors, Cau Ham Rong, depicted in a tranquil setting, is seen obliquely from the north side looking east toward the small hillock called Nui Ngoc.

Cau Ham Rong, a dominant feature in an otherwise featureless area of Thanh Hoa Province, facilitated North Vietnam's military re-supply effort to South Vietnam and was, in general, an essential element of the north-south transportation network of North Vietnam.

Cau Ham Rong, the Ham Rong Bridge (which the Americans referred to as the Thanh Hoa Bridge), became a primary target of American military planners. The Americans tried to sever North Vietnam's capability to send men and war materiel south to Vinh and eventually farther south along the Ho Chi Minh Trail to South Vietnam. Perhaps an argument could be made that the Ham Rong Bridge had little strategic value, given that other bridges crossing other rivers could be more easily destroyed or that goods and material crossed the Song Ma by other means.

The bridge was the pride of the citizens of Thanh Hoa. If not considered the most famous bridge in North Vietnam, it became an icon for the North Vietnamese. The Ham Rong Bridge represented national pride and the symbol of resistance for the North Vietnamese. It rose in stature in the collective conscience of the country's citizenry. From the North Vietnamese perspective, the Ham Rong Bridge represented Ho Chi Minh, Vietnam, and the struggle against foreign intervention. Because of this symbolism, from the American perspective, destruction of the bridge may have become all the more important. Influenced by these ideas, it soon became incumbent on the antagonists on the one hand to obliterate it and on the other to protect it. While it was this second Ham Rong Bridge that the United States Government sought to destroy, it was this same bridge the Vietnamese vowed would never be destroyed.

Realizing the bridge's attractiveness to American military planners, the Vietnamese, using a sophisticated array of antiaircraft weaponry, passionately defended the pride of Thanh Hoa. Primarily because of the Ham Rong Bridge, Thanh Hoa found itself thrust into new historical circumstances and a new role at odds with the picturesque serenity of the province: fending off American attacks from the air and protecting its only bridge from destruction. Destruction of the second Ham Rong Bridge would eventually happen but only at great cost to both sides.

Nguyen Dinh Doan became famous for his design and re-construction of the Ham Rong Bridge. He received multiple accolades from his government.

At about the same time that Nguyen Dinh Doan was laboring with his concept and calculations in Thanh Hoa and Hanoi to design the second Ham Rong Bridge, half a world away in St. Louis, Missouri, another engineer was equally hard at work putting finishing touches on the design of a new military aircraft, the F-4 Phantom II.

Chapter 3

The Air War over North Vietnam

THE FRENCH INDOCHINA WAR, FOUGHT FROM about 1945 to 1954 between French colonial forces and Vietnamese revolutionaries, ended with a long, bloody siege at a large French military installation in the mountains west of Hanoi called Dien Bien Phu. The French Union's intent at Dien Bien Phu, had been to draw out Vietminh forces for a quick defeat, but embarrassing blunders led to the French Union's defeat instead.

General Vo Nguyen Giap (pronounced, *vo when jiap*), the architect of the siege of the French garrison, and his army of tens of thousands of Viet Minh soldiers hauling heavy artillery through narrow passes and up the sides of steep mountains completely surrounded the French. General Christian de Castries, overwhelmed, his troops badly mauled, finally surrendered to the Viet Minh.

After the fall of Dien Bien Phu, the Geneva Convention drew up the Geneva Accords, which called for France's withdrawal from Indochina and for a temporary demarcation between the communist Vietminh in northern Vietnam and those Vietnamese loyal to French rule in the south, until elections in 1956 could establish reunification. The demarcation occurred at the Ben Hai River or what was more commonly known, due to the river's approximate latitude, as the 17th Parallel.

America's loose, somewhat tacit involvement in the early sixties and its eventual investment in Vietnam resulted from the residual effects of the debacle at Dien Bien Phu and the subsequent partitioning of the country. Step by step, America became more deeply embroiled in a seething conflict from which there seemed little chance of withdrawal. The promised 1956 elections never materialized, and conflict only intensified for years afterward, eventually breaking into the Vietnam War, as it came to be called in America; or conversely, what the Vietnamese referred to as *Chien Tranh Chong My*, or, loosely translated, the American War.

The Vietnam War consisted of two distinct conflicts. First, there was the war in South Vietnam fought primarily on the ground with support from the air. This was often referred to as the ground war. The second conflict consisted of the aerial bombing campaigns, interdiction, air defense and dogfights over North Vietnam, collectively called the air war. As the Vietnam War escalated, so too did the air war escalate in a manner and to an extent some may feel was disproportionate to the size of the conflict.

As North Vietnam snubbed its nose at the might of America, it was this same might that America invoked to protect South Vietnam, tenuously allied to the United States and vulnerable to its aggressive northern neighbor. But quelling the North Vietnamese, who aligned with communist dogma and rhetoric and were supported by regimes in China and the Soviet Bloc countries, was not without its challenges.

To compromise North Vietnam's war-making capabilities and in an attempt to hammer it into submission, the United States, turning to its two major air arms, attacked the enemy from land bases and from the sea. This air war was conducted and fought solely by squadrons of the U.S. Air Force, U.S. Navy and U.S. Marine Corps, and opposed by various air defenses of the North Vietnamese.

The first American air loss in the escalating Southeast Asia conflict occurred over Laos in the spring of 1961 when a C-47 from Vientiane sustained enemy ground fire and crashed, killing its crew. The first recorded loss in Vietnam (north or south) occurred with the crash of a C-123 during a training flight in early February of 1962. The first combat loss occurred at the end of August 1962 when a T-28 was shot down south of Soc Trang in southern Vietnam. In all, ten propeller-driven aircraft were lost in Southeast Asia in 1962.

The air war escalated incrementally, insidiously. During the following year, 1963, American aircraft losses totaled about sixteen, many of which were C-123s, B-26s, T-28s; and two O-1s. These were all propeller-driven aircraft. No jet aircraft were lost in 1962 or 1963.

With its decision in the spring of 1964 to increase air support in Southeast Asia, the United States deployed in the intervening months and at different line periods, overall, four attack aircraft carriers to the south western Pacific. These included the USS *Ticonderoga* (CVA-14), USS *Bon Homme Richard* (CVA-31), USS *Constellation* (CVA-64) and the USS *Kitty Hawk* (CVA-63).

The USS *Kitty Hawk* was the first U.S. carrier to launch combat sorties in Southeast Asia (over Laos) and the first carrier to sustain the loss of an aircraft from her air wing. During the first week of June 1964, an RF-8 reconnaissance Crusader from *Kitty Hawk* was shot down over the Plain of Jars and became the first jet aircraft of the conflict to be shot down. The next day, an F-8, also from *Kitty Hawk*, was shot down over Laos as it escorted an RF-8 during a reconnaissance mission.

In response to what came to be called the Gulf of Tonkin Incident, involving American and much smaller North Vietnamese naval forces on 2 August 1964, F-8s from the USS *Ticonderoga* (one of which was flown by Charles Everett Southwick) responded to North Vietnam PT boat attacks on the USS *Maddox* (DD-731), a destroyer. This engagement may have been the first officially recorded combat mission by U.S. jet aircraft in North Vietnam.

It was on 5 August 1964, during a limited air operation called *Pierce Arrow*, that North Vietnamese land targets suffered the first major strike by U.S. aircraft launched from the USS *Ticonderoga* and USS *Constellation*. Navy strike aircraft from *Constellation* attacked the torpedo boat base at Hon Gay and another base at Loc Chao. Other launches originating from *Ticonderoga* struck bases at Quang Khe and Ben Thuy, and at the oil storage depot at Vinh. During these strikes the U.S. Navy lost two planes from *Constellation*: a propeller-driven A-1H Skyraider, its pilot killed, and an A-4C Skyhawk, its pilot, LTJG (Lieutenant Junior Grade) Everett Alvarez, captured.

Alvarez spent more than eight years in captivity, making him the second longest held American prisoner of war (POW) in U.S. history and the longest held in Hanoi. His A-4C was the first jet aircraft lost to combat over North Vietnam. On the same day, an F-8 from the USS *Bon Homme Richard* was lost during a training flight and a U.S. Air Force B-57B Canberra was lost due to bad weather and subsequent collision with another plane near Bien Hoa in South Vietnam.

By mid-August 1964, the U.S. Congress had passed the Gulf of Tonkin Resolution. As a result, American armed forces transitioned from an advisory role to one of more direct combat involvement. The American military buildup in Southeast Asia began in earnest.

The twin-engine B-57 Canberra bombers stationed at Bien Hoa near Saigon in 1964 were soon joined by tactical aircraft, namely the U.S. Air Force F-100 Super Sabre (America's first supersonic jet fighter). The tempo of the war was increasing.

Super Sabres had been operating from Thailand and South Vietnam on temporary rotation since 1962. The first F-100 Super Sabre was shot down over Laos in mid-August 1964. Although a very capable fighter and effective ground support aircraft, armed with four machine guns mounted just below the nose intake, the Super Sabre was phased out and replaced by the much larger F-105 Thunderchief.

"Thuds," as the F-105s were commonly called, began to arrive in Southeast Asia. The F-105s carried much of the brunt of the U.S. Air Force's combat activities against North Vietnam.

Pilots of the Thunderchiefs found themselves in an unfamiliar role since the Thunderchief was originally intended to be a quick-response weapon based primarily in Western Europe. It was developed as a super high-speed, low-level, air-to-ground delivery system of nuclear weapons, one of which was concealed in its enclosed bomb bay. With supersonic speed and stability at low levels, the Thunderchief was designed to penetrate the airspace of the Soviet Union and deliver its nuclear weapons with precision and with hopes that it could not be detected by the Russians until it was too late. For survival, the pilots relied on the lightning speed of the aircraft. One pilot observed, "*It couldn't turn very well but, my God, was it ever fast*!"

With combat resources from the U.S. Air Force and U.S. Navy now committed, the air war in Vietnam changed significantly.

U.S. Marines arrived in South Vietnam on the beaches of Da Nang. Military bases began to proliferate around the country. Due to the high exposure of aircraft to ground attack, the U.S. Air Force operated most of its aircraft from bases in Thailand.

Gargantuan eight-engine B-52 Stratofortress bombers were stationed at bases in Thailand, Guam, and the Philippines and began their famous "arc light" raids against concentrations of enemy forces in South Vietnam and Laos.

Eventually the U.S. Air Force deployed a special variable swept-wing, two-man fighter bomber, the F-111. Called the Aardvark, the F-111 was technologically advanced, but its sustained effectiveness proved questionable. After only about sixty missions and a few losses, the Aardvark was withdrawn from service in Southeast Asia for several years.

The Cobra helicopter gunship was developed for the U.S. Army to support ground troops. The Korean-vintage Skyraider, a very large, brutish, single-propeller-driven aircraft, became famous. It could stay on station over

its target for a long time and deliver massive amounts of various ordnance. But the Skyraider's slow speed and low altitude missions made it vulnerable to ground fire.

The highly secret Blackbird flew high altitude aerial reconnaissance missions. Giant propeller-driven aircraft such as the Lockheed Constellation provided continuous airborne liaison and airspace control to all American air combatants. Converted Boeing 707s flew air-refueling missions.

Aging DC-3s and the four-engine C-130 Hercules turboprop aircraft were converted into gun ships. Protruding from the left (or port) side of the fuselage, the machine guns mounted in these modified planes could fire ammunition at astonishing rates. Their rate of fire was so fast that no single detonation could be discerned. It was an uninterrupted, continuous, clamoring chain of sound.

Douglas Aircraft Company's DC-8s and Boeing's 707s, operated by private air transport companies, flew into and out of South Vietnam from the United States. In Vietnam and elsewhere in Southeast Asia, Air America and Continental Airlines had their own fleets of strange aircraft operating nefariously under the auspices of the U.S. Central Intelligence Agency (CIA).

Not nearly as colorful as the names given each aircraft, the list of planes by their alphanumeric designations highlighted the extent to which America eventually committed its military air resources during the conflict. In an impressive pantheon of American military aviation, America's air armada, to identify some in no particular order, included the F-105, F-100, F-111, A-6, A-7, A-3, EB-66, B-26, B-57, B-52, F-5, A-1, T-34, F-101, F-102, F-106, RF-8, SR-71, OV-1, O-1, O-2, OV-10, C-47, AC-47, EC-47, U-2, C-117, C-123, C-119, C-123, CV-2, C-130, EC-121, KC-135, C-118, C-124, C-141, DC-9, C-5A, OH-6, UH-1, CH-46, CH-47, and the giant CH-53 helicopter and its cousin, the CH-54 Sky Crane.

Continuing with an operational blueprint that began in 1964 and which would be followed to varying degrees for the next nine years, America's aircraft carriers with sixty to eighty aircraft embarked on each were continuously sent to the Gulf of Tonkin. While two or perhaps three attack carriers operated simultaneously in the Gulf, as many as five carriers would operate or be in transition to or from the coast of Vietnam at any one time. Carriers rotated on and off line every few weeks. While on line, the carriers shared the day, operating in twelve hour shifts, midnight to noon and from noon to midnight. The Gulf of Tonkin, not being a particularly large geographical area in which to operate large aircraft carriers and with the carrier forces

stationed as they were, the planes would, within minutes, transition from the safety of the sea to the hostilities that awaited them in the world's most heavily defended area: North Vietnam.

The U.S. Navy deployed single-engine attack bombers, the tiny A-4 Skyhawk and the larger A-7 Corsair, and the twin-engine A-3 Skywarrior. The Navy also used an awesome attack plane called the A-6 Intruder. The dual-engine Intruder, for its size, could carry a staggering number of bombs. The A-6 caused considerable damage to North Vietnam. The Navy used the RA-5C and RF-8 for reconnaissance. For fighters, it used the coveted F-8 Crusader.

An unorthodox plane with a strange profile or appearance arrived on the scene in great numbers: the F-4 Phantom II. The F-4 may have been the most prolific combat fixed-wing aircraft during the entire Vietnam conflict. As the B-17, B-29, P-51, P-38, ME-109, or the Japanese Zero came to characterize World War II; or the F-86 and MiG-15 the Korean conflict; along with the Huey helicopter, the B-52, and the M-16 and AK-47 opposing automatic assault weapons, the F-4, with its enigmatic name, would come to symbolize to many the war in Vietnam. Even though the F-105 and A-6 carried much of the burden of the bombing campaign along with the overpowering bombing capabilities of the B-52, it is the F-4 that will most probably be associated with the Vietnam War.

Operational statistics began to accumulate rapidly, eventually to overwhelm. During 1964, about sixty U.S. aircraft had been lost in Southeast Asia, almost four times the number lost in 1963. During 1965, the United States lost about three hundred eighty aircraft in Southeast Asia—six times the number lost the previous year. The air war grew to unbelievable proportions, an oft quoted statistic being that more than twice as many bombs were dropped in Vietnam than were released during all of World War II. There were reports that due to the high rate of expenditure of bombs in Vietnam, many missions were flown with partial loads to keep the sortie rate up, a statistic that was important to some in Washington, D.C.

America's awesome air power figured largely in strategic plans developed by General William C. Westmoreland to win the Vietnam War decisively. About halfway through the war, in 1967 and early 1968, as a result of high-level planning, General Westmoreland attempted to taunt the North Vietnamese communists with more than seven thousand U.S. Marines under the command of Marine Colonel David E. Lownds at a remote outpost on Highway Nine called Khe Sanh. Westmoreland hoped to draw out the op-

posing forces under Brigadier General Tran Quy Hai, who reported to General Vo Nguyen Giap, into an all-out attack against the beleaguered U.S. Marine base located in the deceptively soft, scenic hills just south of the DMZ (demilitarized zone or the 17th parallel) in Quang Tri Province. Colonel Lownds would summon the U.S. Air Force's giant B-52s to annihilate the enemy, thereby dealing the North Vietnamese Army a final, fatal blow. While Marines at the Khe Sanh Combat Base or those occupying various surrounding hills such as Hill 861 or Hill 881 were under a continuous rocket and artillery siege for almost eighty days, in what became known as the Battle of Khe Sanh, the all-out attack by the People's Army of Vietnam (PAVN), or more simply, NVA, and their planned subsequent destruction by U.S. bombing never happened.

Conducting the air war from the sea, the U. S. Navy's Seventh Fleet was hard-pressed to accomplish its mission without additional resources. Carriers from the U.S. Atlantic Fleet were ordered into the area. These carriers were required to make the long journey from the East Coast down around either Cape Horn (southern tip of South America) or the Cape of Good Hope (southern tip of Africa) to the Pacific Ocean. The carriers were too large to pass through the locks of the Panama Canal.

Yankee Station was the name given to that loose geographical region of the Gulf of Tonkin (generally above the 18th parallel) in which the carriers operated. Yankee Station was the final destination of a WestPac cruise. In the late sixties and early seventies, if a person was on a WestPac cruise, most certainly it meant he was on his way to Vietnam.

The air war over North Vietnam was fought in stages and, like the gridiron of a football field, by lines of latitude. Unlike lines of longitude, which converge at the poles, lines of latitude are parallel; they do not converge. Latitude and parallel became interchangeable expressions. While North and South Vietnam were separated at the 17th parallel, bombing "halts," or limits, were defined by other parallels farther north. One such bombing limitation was defined by the 20th parallel. That is, U.S. air strikes were prohibited above this latitude. But perhaps because the city of Thanh Hoa was below this parallel and so much damage was being inflicted on it, the bombing limits were moved farther south to the 19th parallel, thereby providing a theoretical shield to the city.

North Vietnam used its famed Ho Chi Minh Trail to run supplies south. The Ho Chi Minh Trail began in Vinh, trailed south, then west into Laos, and eventually slipped back east into South Vietnam. The flow of men and mater-

ial south along the Ho Chi Minh Trail was interrupted, at times severely, by intense aerial bombing but it was never stopped. By the end of the war, so confident of their abilities, the North Vietnamese had constructed a six-inch fuel line from Vinh, near the Gulf of Tonkin in North Vietnam, almost to Pleiku, in the Central Highlands area of South Vietnam, a distance of a little over three hundred fifty miles.

The United States divided North Vietnam into bombing, or operational zones that were called route packages. Route package numbers started in the southern part of North Vietnam, with Route Package I (RP-I) being the farthest south. Risk to pilots rose proportionately as the route packages increased in numerical designation. Route Package VI was most dangerous as it included the Hanoi and Haiphong areas. RP-VI was further divided into VIa and VIb, which were demarked by a north-south railway that divided Hanoi. Although from time to time there was some cross-over, the Air Force was given RP-VIa while the Navy was confined to RP-VIb.

Operation Rolling Thunder, a U.S. bombing campaign, was implemented to increase pressure on Hanoi to cease hostilities. The campaign moved north on an incremental basis, with the intention of strangling North Vietnam's infrastructure and restricting its movement. The government of North Vietnam became convinced that Hanoi would soon become the ultimate target. North Vietnam's resolve hardened, their leadership became more recalcitrant.

Bombing may have forestalled or frustrated the war-making capabilities of North Vietnam, but the military policies implemented by the U.S. government did not win the Vietnam War for America. The B-52 raids against targets around Hanoi and Haiphong, late in the war, forced negotiations that subsequently ended the war, but the intervening bombing throughout the war did not stop North Vietnam's military actions.

Although the ground war in South Vietnam would not reach its zenith until 1968, if one was a naval or air force aviator and survived 1967, statistically speaking, chances were that one would survive the war. With more than six hundred aircraft lost in 1967, not counting the twenty-two planes destroyed during a major fire aboard the USS *Forrestal* (CVA-59), more U.S. fixed-wing aircraft were downed in that year than during any other year of the conflict.