

A War Too Long

***The USAF in Southeast Asia
1961-1975***

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The Air Force instinctively disliked the slow, gradual way the United States prosecuted its war against the Vietnamese communists. While Americans undoubtedly delayed a communist victory in South Vietnam, Laos and Cambodia long enough to spare Thailand and other Southeast Asian countries a similar fate, the American public grew very tired of this war years before its dismal conclusion. Due to questionable political policies and decision-making, only sporadic and relatively ineffective use had been made of air power's ability to bring great force to bear quickly and decisively. The United States and its Air Force experienced a decade of frustration made more painful by the losses of its personnel killed, wounded, or taken prisoner. Fighting resolutely and courageously, the Air Force played the decisive role in forcing North Vietnam to the peace table in 1973. The demands of the Vietnam War forced new developments such as laser-guided-bombs that would eventually radically transform the shape of air warfare.

The Communist Challenge

When President John F. Kennedy took office in January 1961, communist-led wars of national liberation loomed on the horizon. Earlier that month, Nikita S. Khrushchev, the Soviet leader, had endorsed this kind of warfare before a world communist conference in Moscow, and Kennedy interpreted the speech as a warning to the West and a definitive statement of Soviet policy. Consequently, the new Chief Executive could not help but be concerned about the attempt of one communist faction, the Pathet Lao, to seize control of the kingdom of Laos and the attempt of another communist force, the Viet Cong, to overthrow the government headed by Ngo Dinh Diem in the Republic of Vietnam, also called South Vietnam. Although warned by his predecessor, Dwight D. Eisenhower, that Laos held the key to control of Southeast Asia, Kennedy soon became convinced otherwise, for close study revealed that the kingdom was sorely divided with no strong anticommunist leadership. He quickly concluded that the best the United States could hope for in Laos was neutrality, however fragile, in which the communist and noncommunist factions offset each other politically and militarily.

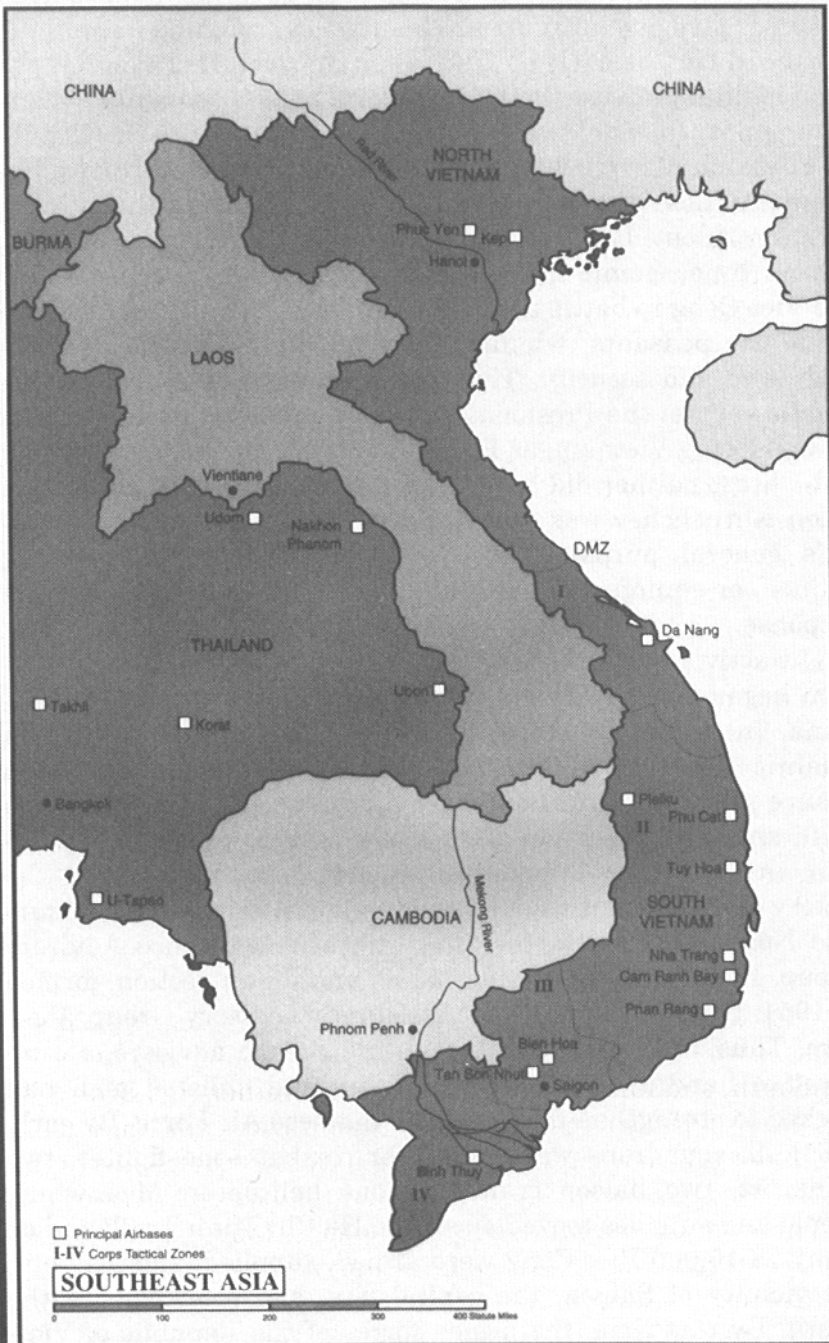
Kennedy and his advisers concluded that, in comparison to Laos, South Vietnam afforded a more favorable battleground in what they viewed as a worldwide struggle against communist-inspired insurrections. President Diem, despite challenges by armed political factions and mutinous army officers, had remained in power since 1954 as prime minister or president, and American military advisers already were in place with the South Vietnamese armed forces. Moreover, Kennedy believed, incorrectly as was soon revealed, the Southeast Asia Treaty Organization had a special interest in the independence of the Republic of Vietnam. Logic therefore persuaded the youthful Kennedy to choose the more stable nation of South Vietnam as the site of a major American effort to contain communism.

Although the Diem regime seemed strong in comparison to the government of Laos, the Viet Cong posed a far greater threat than the Pathet Lao. Like the Kennedy administration in the United States, the leadership of the Democratic Republic of Vietnam, or North Vietnam, nudged Laos into the wings and thrust South Vietnam to center stage for the next act of a

drama that began in 1946 with the uprising against the French. The North Vietnamese intended to unite all of Vietnam under the control of the communist regime at Hanoi, thus winning the victory denied them by the Geneva Conference of 1954, which resulted in two Vietnams, North and South. North Vietnam's principal instrument for that purpose was the Viet Cong, the name a contraction of a term that meant Vietnamese communists. Originally composed mainly of South Vietnamese, some trained in the North, the nature of the revolutionary forces changed over time, for the Hanoi government in the spring and summer of 1959 established routes of supply by sea along the coast and overland through southern Laos to sustain the war. The maze of roads and trails in Laos came to be called the Ho Chi Minh Trail, after the leader of North Vietnam, and served not only to supply and reinforce the Viet Cong, but also, later in the war, to introduce combat units of the North Vietnamese Army into the South. The North Vietnamese, however, had not yet taken over the fighting; during 1960 the Viet Cong waged war with perhaps 4,000 full-time soldiers backed by twice as many part-time guerrillas, but the numbers were increasing.

The presence of so large a force, and its ability to carry out ambushes and assassinations with near impunity, testified to a deep-rooted dissatisfaction with the Diem government. To a typical peasant, the Saigon regime seemed a far-off entity that imposed taxes and enforced arbitrary rules, but failed to address issues, like the ownership of land, that were truly vital to rural villagers. However stable it might appear in comparison to Laos, Diem's Republic of Vietnam was beset by rivalries—the landless against those who owned the land, Catholics (among them Diem) against the more numerous Buddhists, persons who had fled the communist North against natives of the South, and finally Diem's family (his brother Ngo Dinh Nhu and Nhu's wife) against the nation's politicians and the American diplomats and military advisers in what became a struggle for the ear of an increasingly suspicious and arbitrary ruler.

Whatever his failings, Diem headed a functioning government, and this fact helped South Vietnam obtain the support of an American administration that had twenty Vietnams a day to handle, according to Attorney General Robert Kennedy, the President's brother. Nonetheless, not even crises of the magni-



tude of the Soviet threat to force the West from Berlin obscured the serious shortcomings Diem and his government displayed in their struggle against an insurgency sustained from the North. In fact, as early as 1961, Gen. Maxwell D. Taylor (at the time, military adviser to the President, but subsequently Chairman, Joint Chiefs of Staff, and U.S. Ambassador to the Republic of Vietnam) argued for sending American ground troops, but Kennedy chose not to involve the United States to that extent. The President believed that Diem, with American advice, backed by economic aid and military assistance, could defeat the Viet Cong in battle and embark on programs to improve the lot of the peasants, winning their loyalty by providing them both land and security. This executive decision represented a middle course: the President did not want to risk charges that he was losing Vietnam, as President Harry S. Truman allegedly lost China; neither did he want a major war in Southeast Asia when Khrushchev was exerting pressure elsewhere and America's general purpose forces were not yet fully organized, trained, or equipped in accordance with the doctrine of flexible response.

The activity of the U.S. Air Force in what became South Vietnam began during France's struggle to retain control of Indochina. In return for active French participation in the North Atlantic Treaty Organization, the United States supported France's ambitions in Southeast Asia, sending munitions, aircraft, and mechanics and other technicians to repair and maintain the American-supplied equipment. In 1955, after the victory of the communist Viet Minh and the division of Vietnam into North and South, the U.S. Military Assistance Advisory Group, Indochina, active since 1950, and its air section, formed in 1951, became the Military Assistance Advisory Group, Vietnam. Thus, since the departure of the French advisers, a comparative handful of Air Force officers and enlisted men had worked to strengthen the South Vietnamese Air Force. By early 1961, six squadrons were ready for combat—one fighter, two transport, two liaison craft, and one helicopter. Meanwhile, people and supplies moved down the Ho Chi Minh Trail; and as many as 15,000 Viet Cong were armed, supplied, and active in the vicinity of Saigon, the capital city, and elsewhere in the South. By this time, the armed forces of the Republic of Vietnam resembled their American models with ground, sea, and

(as the existence of the six squadrons testified) air components, but the Viet Cong still fought exclusively as a guerrilla army, organized and trained to strike swiftly, preferably from ambush, and to engage in calculated acts of terrorism.

General Taylor conceded that his recommendation to send combat troops carried the risk of depleting the Army's strategic reserve and setting the nation on a course of action with an unpredictable outcome. Consequently, the Kennedy administration chose to encourage the development of a stable society and a self-sustaining economy as prerequisites for the defeat of communism in South Vietnam, but took a few military measures in 1961 to signal American support for the Diem government, to increase the effectiveness of the South Vietnamese armed forces, and to lay the foundation for future American deployments, should they become necessary. Among these measures, a Combat Development and Test Center at Saigon evaluated equipment and techniques for counterinsurgency and some 400 soldiers of the Special Forces, the Army's counterinsurgency arm, built defensive outposts along the border with Laos to challenge the infiltration of men and supplies over the Ho Chi Minh Trail.

The Air Force buildup during 1961 had the same basic purposes of symbolizing American concern, improving the military skills of the South Vietnamese, and preparing for a possibly greater involvement by the U.S. Air Force. In September, the first permanent unit, a combat reporting post, with sixty-seven officers and airmen assigned, installed radars at Tan Son Nhut Air Base, which also served as Saigon's airport, and began monitoring air traffic and training South Vietnamese to operate and service the equipment. This organization formed the nucleus of what became a tactical air control system for a vast fleet of South Vietnamese and American aircraft. During the following month, four RF-101s and a photo processing unit joined the combat reporting post, with the reconnaissance craft flying photographic missions over South Vietnam and Laos within a few days of their arrival. The aircraft soon began working with a similar photo reconnaissance detachment based at Bangkok, Thailand.

The assignment of advisers and the various other measures taken in support of the Republic of Vietnam had little military effect. Clashes with the Viet Cong became more frequent, and

the enemy began using battalions in pitched battles instead of dispatching small raiding parties or lashing out from ambush. Consequently, the American involvement in South Vietnam changed from giving advice and technical assistance to serving as a partner in prosecuting the war. The President demonstrated this limited partnership in October 1961 when he sent a special Air Force detachment to South Vietnam that flew combat missions even as it trained Diem's air arm. By mid-November this Air Force counterinsurgency unit, called Farm Gate, had assembled a collection of elderly C-47s, T-28s, and B-26s at Bien Hoa Air Base near Saigon. The transports conducted reconnaissance or psychological warfare missions; the bombers and armed trainers attacked the Viet Cong, ostensibly to train South Vietnamese airmen. Soon, U.S. Army helicopters carried South Vietnamese troops into action, as American door gunners fired at the enemy and Farm Gate bombed and strafed in support of the operation.

The Kennedy administration was not yet ready, however, to acknowledge how rapidly the American share in the partnership was expanding. Besides being limited, with comparatively few Americans performing certain carefully defined duties, the new activity was deniable. Until forced to do so by casualties and reports in the press, spokesmen for the administration refused to acknowledge that Americans were fighting the Viet Cong except unavoidably and in the course of their training duties. To preserve the illusion that combat was somehow a by-product of the training function, Farm Gate aircraft wore South Vietnamese insignia and usually carried a South Vietnamese, nominally a trainee, when conducting strikes or other combat missions. Moreover, Farm Gate received instructions to undertake only those combat operations beyond the ability of the South Vietnamese Air Force with its C-47s and T-28s supplied by the U.S. Air Force or Douglas AD6 attack bombers (later redesignated A-1Hs) obtained from the Navy. Separate organizations directed Farm Gate's two missions. The Air Force section of the Military Assistance Advisory Group, Vietnam, supervised the training function, while the 2d Advance Echelon, organizationally an element of the headquarters of the Thirteenth Air Force, controlled combat operations. In November 1961, Brig. Gen. Rollen H. Anthis, vice commander of the Thirteenth Air Force, became the first head of the 2d Advance Echelon.

Following the creation during February 1962 of an American unified command, the U.S. Military Assistance Command, Vietnam, under Gen. Paul D. Harkins of the Army, Anthis became the air commander in Vietnam as well as the representative of the Pacific Air Forces for all Air Force matters throughout Southeast Asia. Despite the increased responsibilities given Anthis, the strong Army orientation of the staff of the new assistance command upset Air Force leaders at every level and presaged difficulties for the Air Force in its future efforts to organize air power in Southeast Asia in the way that it considered most efficient.

Shortly after these organizational changes in South Vietnam, the major powers concerned with the fate of Laos the United States, the Soviet Union, and the People's Republic of China agreed at Geneva in July 1962 to respect the neutrality of the kingdom, damping the violence there. In the future, however, warfare would erupt in northern Laos, where neither the United States nor the Democratic Republic of Vietnam chose to invest the resources necessary for a clear-cut victory, and in the southern part of the country, where the Ho Chi Minh Trail came under sustained attack as an extension of the fighting in South Vietnam.

LeMay Ignored

Despite the neutralization of Laos and encouraging reports from South Vietnam, the new Air Force Chief of Staff, Gen. Curtis E. LeMay, grew skeptical of existing policy, questioning the effectiveness of the existing partnership in a war being fought exclusively against the Viet Cong. He believed that the limited scope of the fighting and the emphasis on economic and political reform represented a quick fix, which merely postponed the day of reckoning. In contrast to Taylor, who proposed sending ground forces into South Vietnam, the Air Force officer argued that the war in the South could be won and the tensions in Laos resolved only through prompt and firm military action directed against North Vietnam. Reversing the frequently heard argument that political and economic reform in the Republic of Vietnam would provide the foundation for a military victory there, LeMay maintained that only the removal of the

threat from the North could produce the conditions that would result in stability, prosperity, and assured independence.

During January 1962, as LeMay offered this approach to the war, a detachment of a dozen Fairchild C-123 transports arrived in South Vietnam to deliver supplies to distant outposts, like those established by the Army Special Forces along the border with Laos, and to drop South Vietnamese parachute troops in operations against the Viet Cong. Called Mule Train, the unit operated ten C-123s from Tan Son Nhut Air Base and two from Da Nang. In March, however, control of the detachment's aircraft passed to the recently formed assistance command, and a combination of factors altered the original mission. The head of the assistance command, General Harkins, preferred the Army's newer but slightly smaller de Havilland CV-2 Caribou transports for supplying distant outposts, taking one of Mule Train's jobs. The other mission, dropping paratroops, was important at first but faded as the helicopter replaced the parachute as the preferred method of airborne attack. For a time, five of Mule Train's C-123s, six C-47s flown by Americans, and 500 South Vietnamese paratroops formed a task force for immediate employment by an air operations center of the tactical air control system, but this fire brigade had disbanded by the time the detachment made its first drops in December 1962 and January 1963. Meanwhile, Viet Cong ambushes disrupted travel by highway, so the C-123s inherited the vital task of carrying passengers and cargo throughout the country. By June 1962, when a second detachment of Air Force transports arrived at Tan Son Nhut, the number of monthly sorties had risen to more than 1,100 from the 296 of January, almost a fourfold increase since Mule Train first went into action.

Three C-123s equipped for defoliation missions using herbicides believed to be harmless to people and animals had accompanied the original Mule Train detachment. In January 1962, the aircraft tried unsuccessfully to destroy the foliage along a highway near Bien Hoa Air Base that might conceal Viet Cong ambush parties. During the following month, one of these aircraft crashed while on a training mission, causing the first Air Force fatalities of the war Capt. Fergus C. Groves II, Capt. Robert D. Larson, and SSgt. Milo B. Coghill. In the meantime, investigations determined that the Bien Hoa mission had failed

because the herbicide was effective only during the growing season. The schedule for spraying was revised accordingly, and a second test, conducted during September and October in the Ca Mau peninsula, killed ninety percent of the vegetation along a waterway. President Kennedy thereupon approved aerial spraying of herbicides to deprive the enemy of concealment, but he prohibited the aircraft from attacking the Viet Cong's food crops, which were believed also to feed peasants whose loyalty might yet be gained by the government at Saigon. Before the defoliation missions ended in 1971, crops, too, were sprayed in both Laos and South Vietnam, and a bitter controversy had begun concerning the effects of the most widely used defoliant, agent orange, on human beings.

With the proliferation of aircraft during 1962, the Air Force attempted to bring them all under its tactical air control system. From the viewpoint of the Air Force, the most efficient use of aircraft, conventional and helicopters, was with a single operations center that shifted them around to keep pace with a changing situation; the least efficient was assigning them permanently to a unit or geographic area. In January of that year, the 2d Advance Echelon (which became the 2d Air Division in October) opened an air operations center at Tan Son Nhut and ancillary air support operations centers at Da Nang and Pleiku. Theoretically, the Vietnamese, with American assistance, were to learn to run the centers, which were capable of scheduling, directing, and monitoring all flights in the country, but attempts to encourage Vietnamese participation encountered obstacles. President Diem, who had thwarted a military coup in 1960 and survived a 1962 bombing attack on the presidential palace by dissident members of his air force, insisted on a decentralized military structure with loyal officers in key positions to prevent a coordinated uprising by the military. He parceled out control of South Vietnamese aircraft among the four corps commanders, who grew used to having their own air support and resisted centralization. With the corps commanders inserted into the control mechanism, the comparatively junior officers of the South Vietnamese Air Force dared not alter the system. As a result, the Americans simply took over the control centers, imposing on their own initiative the slight degree of centralized control, mainly over air traffic rather than air strikes, that did exist. The actual direction of air strikes was

the job of South Vietnamese forward air controllers, but they, too, were junior officers hesitant to give advice to the more senior ground commanders. Moreover, the communications network that held the tactical air control system together was at first inadequate; not until late 1962 did the Americans install truly reliable radio and teletype links.

The U.S. Military Assistance Command opposed placing the Army's helicopters and other aircraft under a control system operated by the Air Force. Basically, General Harkins rejected centralized control for the same reason that General Anthis recommended it to promote efficiency and effectiveness. Air Force officers tended to think of these qualities in terms of the ability to manipulate scarce resources to meet changing needs, but for an Army officer, placing the necessary tools, including helicopters, in the hands of the troop commander who would use them increased efficiency and effectiveness. Acting consistently with his service's doctrine, Harkins assigned his helicopters to the senior Army officer in each corps area.

Throughout 1962 the Air Force supported the South Vietnamese by attacking Viet Cong training areas, troop concentrations, supply depots, and sampans; by bombing and strafing in support of ground operations; and by improving aerial reconnaissance. The Department of State vetoed plans to provide South Vietnam with a few jet reconnaissance craft, viewing the move as a violation of a prohibition in the Geneva Accords of 1954 against South Vietnam's acquiring jet aircraft. In retrospect, given the buildup that later occurred, this concern seems trivial, but in 1962, the United States was moving slowly into the unknown, gradually strengthening its commitment, and seeking to justify its every act. Opposition from the diplomats prevailed, and the South Vietnamese air force began to activate a reconnaissance squadron of modified C-47s at Tan Son Nhut. During the two years that passed before the converted transports became fully operational, the U.S. Air Force filled the gap with its own RF-101s.

When 1962 ended, more than 11,000 Americans served in South Vietnam, a third of them members of the Air Force, and during the first seven months of 1963, several additional Air Force units entered the country. In April, for instance, a third Mule Train unit of C-123s began flying out of Da Nang, and in July, a new tactical air support squadron at Bien Hoa began

training South Vietnamese forward air controllers in Cessna O-1 observation craft. At midyear, roughly 5,000 Air Force personnel were in South Vietnam, about a third of the total American military strength in the country, the same ratio as in December of the previous year. In May, however, as the total number of Americans approached 15,000, Secretary of Defense Robert S. McNamara announced that some advisers would leave South Vietnam by the end of that year.

As plans proceeded for at least token reductions, the Air Force contingent reorganized. Initially, most Air Force units sent to South Vietnam were ad hoc detachments like Farm Gate or Mule Train, borrowed from regularly constituted outfits in the United States or elsewhere. As commander of the 2d Air Division, General Anthis dealt with over a dozen separate major units. To remedy this, the detachments were converted in July 1963 into squadrons and assigned to a small number of groups. Farm Gate became the 1st Air Commando squadron, a component of the Pacific Air Forces. The three Mule Train units at Tan Son Nhut and Da Nang became troop carrier squadrons assigned to a troop carrier group newly established at Tan Son Nhut. The 33d Tactical Group at Tan Son Nhut and the 34th at Bien Hoa performed administrative and maintenance tasks and set up detachments at smaller, outlying airfields, the 33d assuming responsibility for Can Tho and Nha Trang and the 34th for Soc Trang and Pleiku. The 23d Air Base Group performed the same duties at Da Nang, reported directly to the 2d Air Division, and placed a detachment at Qui Nhon.

The 1963 National Campaign Plan, drafted by the military assistance command and approved by Diem, called for operations that would provide a wedge for breaking the Viet Cong resistance in subsequent years. In general, the document all but ignored aviation and emphasized rooting out the Viet Cong through many small, locally controlled ground operations. Although the plan called for closer cooperation between the military assistance command and the South Vietnamese Joint General Staff, it did not place the 2d Air Division in charge of all aerial operations in the country. In July 1963, disregarding requests from the headquarters of the Pacific Air Forces in Hawaii to bring Army aviation under Air Force control, Harkins created his own air operations section to supervise Army and Marine Corps aviation, mainly helicopters. Two separate air

control systems now existed, one for the Army and Marine Corps and the other for the Air Force. Even though the South Vietnamese air arm was theoretically subject to the Air Force system, the Vietnamese corps commanders frustrated efforts to exert centralized control. For example, the Air Force generally could not employ South Vietnamese aircraft for interdiction strikes against base areas because these missions tended to clash with the individual interests of the largely independent corps commanders.

By the summer of 1963, the Kennedy administration had discovered that Diem possessed an almost limitless capacity to disappoint. Instead of demanding a vigorous campaign against the Viet Cong, he rewarded commanders whose units suffered the fewest casualties, a move designed to maintain his popularity by shielding the populace from one of the effects of the war. Yet, even as he courted popularity in this fashion, he deepened



General Curtis E. LeMay got President Kennedy's attention for an air power demonstration at Eglin Air Force Base in Florida, but the Air Force Chief of Staff had little influence on Kennedy's thinking about Southeast Asia.

the divisions within the country by using the armed forces to suppress the Buddhists. Worse, he pushed stubbornly ahead with a program of involuntary resettlement that failed utterly to provide land ownership or security for the peasants uprooted from their villages and collected in supposedly more defensible hamlets. In November of that year, a group of army officers, with the tacit approval of the American government, overthrew Diem. President Kennedy, who had hoped, perhaps believed, that the coup would result in exile or possibly a formal trial for Diem and his brother, was shocked when the successful plotters killed the two men.

Within the eight months following the murder of Diem and Nhu on November 2, 1963, the entire South Vietnamese and American leadership changed. In the United States, President Kennedy was assassinated on November 22, and responsibility for American policy in Southeast Asia devolved on the former Vice President, Lyndon B. Johnson. In January 1964, Maj. Gen. Joseph H. Moore became the new commander of the 2d Air Division. Gen. William C. Westmoreland, advancing from the grade of lieutenant general and the post of deputy commander, took over the U.S. Military Assistance Command in June, and General Taylor stepped down as Chairman, Joint Chiefs of Staff, replacing Henry Cabot Lodge as ambassador to the Saigon government. During February, Adm. U. S. Grant Sharp assumed command of the Pacific Command, the parent organization of Westmoreland's military assistance command. Although the United States continued to support South Vietnam throughout these changes, the prospects of achieving stability and security by means of a partnership faded as the junta that had toppled Diem collapsed and one government succeeded another in dismaying succession at Saigon.

In March 1964, the Pathet Lao overran the Plain of Jars in the northern part of Laos, shattering the calm that had settled on the country after the Geneva conference of 1962. In reaction, the Johnson administration transferred some T-28s to the Royal Laotian Air Force and established an Air Force detachment at Udorn in Thailand, some forty-five miles south of Vientiane, the administrative capital of Laos, to train Laotian pilots and maintain their aircraft. After Pathet Lao gunners downed an U.S. Navy reconnaissance jet in June, eight F-100s struck an anti-aircraft position on the Plain of Jars, opening a second

Air Force war in Southeast Asia, although one that never achieved the importance of the fighting in South Vietnam.

Within South Vietnam, the early months of 1964 were a time of expansion, training, and comparative quiet. By midyear, the South Vietnamese Air Force had grown to thirteen squadrons four fighter, four observation, three helicopter, and two C-47 transport. The South Vietnamese followed the practice of the U.S. Air Force, organizing the squadrons into wings, with one wing located in each of the four corps tactical zones at Can Tho, Tan Son Nhut, Pleiku, and Da Nang. In response to the desire of his American air advisers for centralized control, Col. Nguyen Cao Ky, commander of the South Vietnamese Air Force, assigned the wings to geographical areas rather than to individual corps commanders, thereby retaining some measure of influence over their use without alienating the ground generals. The increase in the number of aircraft available to Ky was somewhat deceiving, however, for difficulty in training South Vietnamese pilots, the worn-out condition of the fighters, and the inefficiency of the air request net limited strikes to about half the number actually requested by the ground forces. The situation brightened somewhat after midyear, when A-1 Skyraiders replaced the combat-weary T-28s and B-26s in both the U.S. and South Vietnamese Air Forces. Reaction times improved with the streamlining of the air request net to reduce the number of echelons that had to approve immediate air strikes, those delivered to meet emergencies on the battlefield.

While the South Vietnamese Air Force modernized and increased in size, the unsuccessful National Campaign Plan of 1963 gave way to the following year's National Pacification Plan, designed to extend security by working outward from the areas held by the government. General LeMay, impatient with yet another slow and limited strategy, still preferred immediate interdiction strikes in South Vietnam, air attacks on the guerrillas in Laos, and the bombing of North Vietnam and the mining of its harbors. As the latest scheme for pacification lost momentum and the South Vietnamese encountered stronger resistance, the administration gave ideas like LeMay's more consideration.

In July 1964, planners from the Joint Chiefs of Staff and the Hawaiian headquarters of the Pacific Command prepared a three-phase contingency plan for aerial attacks on North Viet-

nam. Although the United States continued to emphasize operations on the ground, the plan for air action was ready if needed. Under the plan, the Commander in Chief, Pacific, would direct the air war against the North from Hawaii rather than the Commander, U.S. Military Assistance Command, Vietnam. That contingency planning of this sort seemed necessary reflected a growing American conviction that the partnership with the armed forces of South Vietnam was not winning on the battlefield.

During the months immediately following the murder of Diem, no strong leader emerged from among the various military men trying unsuccessfully to unite the populace and govern the country. As a consequence of the recurring political upheaval, the tempo of the war against the Viet Cong slowed, but the enemy could not take full advantage of the chaos, for the overthrow of Diem and the collapse of the resettlement program satisfied the grievances that had motivated many peasants to support the insurgency. Ho Chi Minh and his advisers became convinced that if South Vietnam were to be absorbed quickly into the North, regulars from the North Vietnamese Army would have to march south and reinforce the Viet Cong, interjecting discipline and improving effectiveness. At almost the same time that North Vietnam considered escalating the conflict, the Johnson administration lost patience with South Vietnamese progress and started to search for a means to shore up the government at Saigon or, failing that, for some unilateral means to confront Ho Chi Minh and make him blink, as Khrushchev had blinked at the height of the Cuban missile crisis.

The summer of 1964, however, seemed a poor time to take independent action against North Vietnam. The President, who faced an election in November, had cast himself as advocate of peace in contrast to his probable Republican opponent, Senator Barry M. Goldwater of Arizona, who was both a major general in the Air Force Reserve and a vocal advocate of stronger military action in Southeast Asia. Like President Kennedy, who had wanted neither the blame for losing Vietnam nor a major war on his hands, Johnson sought to contain communism without becoming involved in a conflict that drained the treasury and crippled the social programs he intended as his legacy to the nation. Moreover, the exact scope of the struggle for South-

east Asia defied prediction, especially since the administration was largely unaware of either the widening fissure in what was still described as the Sino-Soviet bloc or the historic rivalry between China and Vietnam. Therefore, the President and his advisers, both military and diplomatic, remained wary lest China, if the survival of North Vietnam were threatened, intervene as it had in Korea in 1950. Johnson hoped for a national consensus about America's role in Southeast Asia, a widely shared support for a manageable course of military action that would serve as a deterrent to Hanoi. Ironically, the navy of North Vietnam inadvertently helped shape public opinion much as Johnson desired.

Attitudes among voters toward the nation's involvement in Southeast Asia became more supportive after North Vietnam unexpectedly challenged the presence of American warships in waters off its coast. The North Vietnamese Navy reacted as an American destroyer, the USS *Maddox*, conducted a routine reconnaissance mission at the same time that South Vietnamese naval craft were harassing installations on the coast of North Vietnam. On the afternoon of August 2, 1964, three torpedo boats attacked the *Maddox*, scoring a hit with a single machinegun bullet, but missing with torpedoes. Gunfire from the destroyer and attacks by aircraft from the aircraft carrier *Ticonderoga* sank one of the boats and badly damaged another. After this action, the *Maddox* joined another destroyer, the USS *C. Turner Joy*, and resumed the patrol, both to obtain intelligence and to demonstrate American insistence on the right of free passage in international waters. At no time did any American reconnaissance ship steam closer than five miles to North Vietnamese territory, a distance significant because the French, when they ruled the area, had claimed territorial waters extending just three miles, and North Vietnam had not announced different restrictions. On the night of August 4, as the two destroyers continued the patrol, torpedo boats again appeared, shadowed the American warships, then closed at high speed.

In a confused action that lasted beyond midnight, two of the attacking boats were believed sunk and one badly damaged, but both destroyers emerged unscathed. Besides ordering carrier aircraft to bomb the bases used by the torpedo boats, President Johnson, in the event of future attacks by North Vietnam,

obtained congressional authorization for appropriate retaliation in the Tonkin Gulf Resolution, which passed the House of Representatives unanimously and encountered only two dissenting votes in the Senate. He also ordered a force of Air Force jets into Southeast Asia in the event of a North Vietnamese or Chinese response to the carrier raids. The actions in the Gulf of Tonkin and their immediate political consequences did not at once change the course of the war; indeed, events unfolded so slowly and logically that only in retrospect can the resolution be seen as a major turning point, a grant of authority that made the President solely responsible for the conduct of American policy in Southeast Asia and enabled him, as long as the North persisted in trying to conquer the South, to use force as he saw fit.

The aircraft dispatched by the Air Force as part of the American reaction to the fighting in the Gulf of Tonkin reached their new bases quickly. Within the space of days, twelve F-102s arrived in South Vietnam, their number divided between Tan Son Nhut and at Da Nang; eight F-100s joined the F-102s at Da Nang, and two squadrons of B-57 bombers landed at Bien Hoa. More aircraft flew to other locations in Southeast Asia and the western Pacific: in Thailand, ten F-100s went to Takhli Air Base and eight F-105s to Korat; F-100s arrived in the Philippines; RF-101s deployed to Okinawa; forty-eight C-130 transports were apportioned between Okinawa and the Philippines; and the Strategic Air Command flew forty-eight KC-135 tankers from Hawaii to Guam to refuel the jet fighters should they go into action.

Despite the arrival of reinforcements in the Far East, combat operations remained restricted to South Vietnam, carried out by air commandos in propeller-driven aircraft well suited for fighting insurgents. The deployment of the jets served, therefore, as a demonstration of American resolve, not unlike the reinforcement of tactical aviation units in Europe at the time of the Berlin crisis. Of greater tactical importance was the arrival a squadron of twenty-five A-1Hs, obtained by the Air Force from the Navy, which joined the original Farm Gate detachment at Bien Hoa, and the deployment of another squadron of sixteen C-123s to Tan Son Nhut.

Whatever their immediate military value, the B-57s deployed to Bien Hoa afforded a tempting target. On November 1,

1964, Viet Cong guerrillas with mortars infiltrated the base during darkness, killed four American servicemen, wounded seventy-two, and destroyed five and damaged thirteen of the eighteen B-57s located there. Ambassador Taylor called for prompt retaliation, though not necessarily for the kind of sustained bombing campaign outlined during July in Hawaii, for he worried that such an air offensive might well trigger a communist offensive on the ground that would overwhelm the feeble South Vietnamese government. Unlike an extended air campaign, a sharp retaliatory blow might serve as a warning to the North without undue risk to the South as well as a prod to move the Saigon regime toward greater cohesiveness and efficiency. In short, the United States might attack the North to retaliate for the assault on Bien Hoa and then promise continued bombing in return for political, economic, and military reforms on the part of the leadership at Saigon. The Joint Chiefs of Staff, however, disagreed with Taylor and recommended a series of strong and immediate actions to increase American participation in the war. Their recommendations included air attacks against the infiltration route through southern Laos; strikes by carrier aircraft, Air Force fighter-bombers, and B-52s against airfields, the oil storage tanks at Hanoi and Haiphong, and then, in rapid succession, the remainder of a list of ninety-four North Vietnamese targets identified by American planners; and the immediate deployment of marines and soldiers to defend Da Nang, Tan Son Nhut, and Bien Hoa against future hit-and-run attacks. Since the Presidential election would take place on November 3, Johnson chose to do nothing. Although he had retaliated after the Tonkin Gulf incident, a response to the attack on Bien Hoa could have suggested further involvement, defaced his image as a man of peace, and reinforced Goldwater's claims that the United States was already in a shooting war and should do whatever was necessary to win.

Once reelected, Johnson initiated planning for a tougher program of gradually escalating military action to begin, if necessary, early in 1965. As was so often the case, the administration's proposed course of action represented a mean between two undesirable extremes. Just as Kennedy had chosen assistance to the South Vietnamese as a compromise between sending American ground forces and losing the country to the Viet Cong, Johnson now tried to find a middle way between mobiliz-

ing the United States and intervening with every conventional weapon available to the general purpose forces (a worst-case scenario far beyond what the Joint Chiefs of Staff recommended) and withdrawing from South Vietnam, an alternative that no recent administration had seriously entertained. Moreover, the threat of escalation had worked during the Cuban missile crisis. Although the announcement and enforcement of a quarantine had been enough, a succession of other options remained, but Khrushchev blinked before it became necessary to bomb the missile sites, invade Cuba, or, if missiles actually were launched from the island, to retaliate with nuclear weapons against the Soviet Union.

When President Johnson at last approved action to discourage the increasing aggressiveness of the communist forces in the South, he authorized an aerial attack against the Ho Chi Minh Trail to signal Hanoi of America's determination to sustain South Vietnamese independence. On December 14, some six weeks after the attack at Bien Hoa, F-100s, RF-101s, and F-105s based in Thailand hit the infiltration route in a section of the Laotian panhandle nicknamed Barrel Roll, but the bridge that the fifteen aircraft tried to destroy escaped damage. The Air Force had now embarked on its third air war in Southeast Asia; bombing in the southern panhandle of Laos, essentially an extension of the fighting in South Vietnam, joined the air wars in South Vietnam and northern Laos.

Attacks against Americans in South Vietnam continued. On Christmas Eve 1964, the bombing of a residence for American officers at Saigon brought the United States again to the brink of bombing the North. Taylor's deputy ambassador, U. Alexis Johnson, joined Westmoreland in urging retaliation despite the obvious weakness of the South Vietnamese government, but once more the President demurred. He agreed, however, that Air Force jets, either based in South Vietnam or rotating to airfields in Thailand, could carry out strikes within South Vietnam (heretofore they had attacked only in Laos), provided that Ambassador Taylor approved each mission and the South Vietnamese could not hit the particular target.

Fully Engaged

The administration's reluctance to engage the North ended on February 7, 1965, when the Viet Cong attacked an American detachment near Pleiku, killing eight and wounding 104 American soldiers. Johnson removed all remaining restrictions on the use of jets in South Vietnam and ended the requirement, dating from the time of Farm Gate, that a South Vietnamese observer or trainee must be on board an aircraft during combat operations. More important, when Air Force and Navy aircraft bombed North Vietnamese military installations on the 7th and 8th, the United States at last retaliated directly against North Vietnam for an attack in the south. On February 10, terrorists killed 23 Americans when they blew up a barracks at Qui Nhon, triggering a second wave of bombing against the North. Finally, on the 13th, President Johnson approved an operation called Rolling Thunder, a limited and carefully paced program of air strikes that more closely resembled the graduated response to the presence of Soviet missiles in Cuba than the current recommendations of the Joint Chiefs of Staff for a vigorous and extensive bombardment. Despite the reliance on gradual escalation, the Johnson administration struck directly at the North in an attempt to save South Vietnam unilaterally, regardless of the weakness or incompetence of the government at Saigon, abandoning a policy of partnership with the South Vietnamese that worked toward political stability and economic progress as conditions leading to a military victory in the South. The Air Force now had four distinct air wars on the mainland of Southeast Asia, as the offensive against North Vietnam took its place alongside the attacks in South Vietnam and in northern and southern Laos.

The air war inside South Vietnam, the oldest of the four, changed dramatically in the spring of 1965 when American ground troops began to enter the country. These troops would soon clash with the recently arrived North Vietnamese regulars of the people's army, who had gone into action in late December 1964, defeating the South Vietnamese at Binh Gia. The government in Hanoi had not reacted to the initial bombing of military targets in the North as Johnson had expected, for instead of blinking, Ho Chi Minh continued to infiltrate men and supplies into the South and exerted increasing pressure against

the Saigon regime. Nevertheless, the administration believed that South Vietnam could be saved in spite of its weakness; the means of salvation would be gradual intensification of the air war against the North and introducing American soldiers and marines into the South.

The first American troops to land were marines who came ashore in March; but this contingent was soon reinforced, and the first Army unit, an airborne brigade, arrived in May. By the end of June, the administration had approved a force of forty-four combat battalions for service in South Vietnam. The troops, however, did not have a definite mission. Ambassador Taylor believed they should protect the airfields, which he considered to be prime targets for the Viet Cong now that Rolling Thunder had begun, and provide secure bases for use by revitalized South Vietnamese forces in operations against the enemy. He argued that by adopting his enclave strategy, the United States would remain the partner of the South Vietnamese, encouraging them with advice and material assistance to take an increasingly active, ultimately decisive role in preserving their independence. In contrast, Westmoreland, disturbed by a succession of South Vietnamese reverses, intended to take advantage of American mobility and firepower to engage the North Vietnamese and the conventional or main force units of the Viet Cong anywhere within the nation, creating a shield behind which the South Vietnamese could train and organize, provide for the security of airfields and other installations, and pacify the countryside, earning the loyalty of the peasants. Westmoreland's strategy, which came to be characterized as search and destroy, had the unfortunate effect of relegating the armed forces of the Republic of Vietnam to at most a nominal partnership in the defeat of the communists. The general proposed to break the insurgency with American forces, while training the South Vietnamese to finish off any remaining opposition and then provide for the security of their nation.

The establishment of enclaves may well have placed the American forces permanently on the defensive, depriving them of their mobility; but the most telling arguments against such a strategy were practical and immediate. There simply was no time to invigorate the South Vietnamese. In mid-1965, the communist forces seemed on the verge of attacking from the highlands on the Laotian border to the coast, cutting the republic in

half. To meet this danger, Westmoreland's idea was adopted, but its execution required air support and large numbers of troops. As the size of the American ground forces rose steadily from 23,000 at the end of 1965 to 536,000 four years later, the mission of the Air Force shifted from advising and training, while carrying out those combat missions beyond the capability of the South Vietnamese, to full-scale combat in support of American and South Vietnamese ground troops in an open, if undeclared, war against the North Vietnamese and Viet Cong.

The deepening of the American commitment in 1965 coincided with the appearance at Saigon of stable, though not necessarily incorruptible, leadership. One of the ruling generals, Nguyen Van Thieu, became chief of state in June, and another, Nguyen Cao Ky, commander of the South Vietnamese Air Force, took over as premier. The flamboyant Ky, with his pistols and self-designed uniforms, seemed the dominant figure, overshadowing Thieu, who occupied a basically ceremonial office. Appearance did not reflect reality, however, for Thieu eased Ky into the vice presidency in 1967 and became the only candidate for president. Four years later, he frustrated Ky's bid for the presidency, remaining in office until 1975, when he fled as his nation collapsed. For almost a decade, Thieu clung to power and, according to his enemies, amassed a fortune in the process.

As General Westmoreland moved ahead with his plans for search and destroy operations, he avoided creating a combined South Vietnamese and American military command. Such an idea did not appeal to the Saigon government, which refused to entrust its troops to foreigners, although at times American advisers took over even large units, in fact if not officially, and Westmoreland and his generals saw few, if any, South Vietnamese competent enough to assume responsibility for American lives. In arguing against a combined American and South Vietnamese command arrangement, Westmoreland warned that it would give credence to communist claims that the South Vietnamese were puppets of the United States, stifle South Vietnam's ability to develop military leaders of its own, and impede the aggressiveness of American commanders. Consequently, the South Vietnamese retained their own military structure in which their air force was responsive mainly to their army.

The United States Air Force was not fully equipped, suitably trained, nor doctrinally prepared for the situation in Southeast Asia. The transition from massive retaliation to flexible response and the shift from nuclear to conventional weapons remained incomplete. As a result, the Air Force dropped high-explosive bombs from aircraft like the F-105 that had been designed for nuclear war and had to create and transport to Southeast Asia the stocks of conventional munitions needed for the conflict. The first tasks facing the service, however, were to set up a workable organizational structure in the region, improve the area's inadequate air bases, create an efficient airlift system, and develop equipment and techniques to support the ground battle.

Starting with the buildup in mid-1965, the Air Force, while continuing to conduct the four air wars, adjusted its structure in Southeast Asia to absorb incoming units. Temporarily deployed squadrons became permanent in November; a wing structure replaced the groups; and in February 1966, the reconnaissance force in South Vietnam, which had grown to seventy-four aircraft of various types, was concentrated in a wing at Tan Son Nhut. In March, the 2d Air Division became the Seventh Air Force, its commander, Gen. William W. Momyer, serving as Westmoreland's deputy commander for air operations.

Commissioned in 1939 after training as an aviation cadet, General Momyer had served as a fighter pilot in World War II, downing eight of the enemy in combat over North Africa, Sicily, and Italy. After commanding a fighter wing and later an air division in Korea, he went on to a series of staff and command assignments that culminated in his appointment during 1964 as head of the Air Training Command. He had the reputation of being able to present his ideas forcefully and clearly, certainly a desirable trait in a headquarters where the Air Force felt its views were being slighted. As commander of the Seventh Air Force, he directed operations originating in Thailand through a deputy stationed at Udorn Royal Thai Air Base. The agency through which General Momyer and his successors controlled operations from Thailand came to be called the Headquarters, Seventh/Thirteenth Air Force, for Momyer's Seventh Air Force exercised operational control, but administrative support was entrusted to the Thirteenth Air Force at Clark Air Base in the Philippines. The division of authority satisfied the pride of the

Thai government, which wanted to avoid the appearance that the American squadrons based in the country were subordinate to an organization in South Vietnam.

As jet aircraft took over the larger bases, Nha Trang became the home of the helicopters and the conventionally powered types like psychological warfare craft and gunships. Tests during the advisory years had shown that the venerable C-47, converted into a gunship by installing in the left side of the fuselage a multibarrel machinegun (or Gatling gun) that was fired by the pilot, could be a deadly weapon against ground troops, especially at night when the modified transport could attack by the light of its own flares. Four squadrons of O-1 Bird Dog observation craft, three of which had just arrived, and the four squadrons of C-123 transports were positioned throughout the country.

The poor condition of the air bases in South Vietnam delayed the deployment of the jet fighter squadrons scheduled for 1965. Only Tan Son Nhut, Bien Hoa, and Da Nang had runways that could accommodate the jets; improvements on these airfields and construction of three new ones along the coast at Cam Ranh Bay, Phan Rang, and Qui Nhon began in 1965. The U.S. Military Assistance Command, Vietnam, controlled all construction within the country, and the acquisition of workers and material for airfields had to vie with other construction projects. By the end of 1965, four Air Force squadrons of F-4 Phantoms were using a temporary airstrip at Cam Ranh Bay. Progress at the other two sites was slower, however, largely because the assistance command was concentrating on the ground war and giving a comparatively low priority to Air Force facilities, although a contributing factor may have been the desire of Admiral Sharp, the Commander in Chief, Pacific, to make greater use of carrier-based rather than land-based aircraft. A squadron of Air Force Phantoms began flying from Phan Rang in March 1966, but heavy rains damaged the field, postponing until October the arrival of additional jets. Qui Nhon proved unsuitable as a location for the remaining base, and in February 1966 the site was changed to Phu Cat, 15 miles to the north. A temporary strip was opened there by the end of the year, but the 10,000-foot runway was not finished until March 1967.



In the summer of 1966, General William W. Momyer (*far right*) took command of Seventh Air Force with headquarters at Tan Son Nhut Air Base on the edge of Saigon. Here he talks with (*left to right*) General William C. Westmoreland (the Army commander in Vietnam), General John P. McConnell (Air Force Chief of Staff), and Henry Cabot Lodge, Jr. (U.S. Ambassador to South Vietnam).

The problems encountered in building these three bases led the new Air Force Chief of Staff, Gen. John P. McConnell, to secure approval for the Air Force to build a fourth base. For the first time, the Air Force, rather than the Army's Corps of Engineers, contracted for and supervised the construction of an air base, the installation at Tuy Hoa along the South Vietnamese coast. In June 1966, the firm of Kidde and Company began work at the site, and in the middle of November, forty-five days ahead of schedule, the first of three F-100 squadrons occupied the field.

The increased demand for aerial transport engendered by these deployments overwhelmed the four C-123 squadrons in South Vietnam. Since materiel and equipment jammed the aerial ports, the Pacific Air Forces in April temporarily assigned four C-130 Hercules transports from Japan and Okinawa to help eliminate the backlog. Once in the country, however, the newly arrived transports found plenty to do, and, as the pace of airlift operations increased, their number grew first to thirteen

and later to thirty. Since scheduling and maintenance for the C-130s was still being performed outside South Vietnam, the Seventh Air Force found it difficult to mesh their activities with those of its own C-123s. General Momyer tried to integrate the C-130s into the existing airlift system, but the Pacific Air Forces retained control, arguing successfully that these long-range aircraft had to serve the entire Pacific theater. On the other hand, an agreement between the Chiefs of Staff of the Army and the Air Force in April 1966 enabled Momyer to take over the Army's Caribou transports, which continued to have supplying isolated outposts as their principal mission. Air Force crews and mechanics moved onto the Army airfields and gradually installed their own maintenance, supply, reporting, and operating procedures. By the beginning of 1967, eighty C-7s, as the Caribou transports were redesignated, belonged to the Air Force, forming a new wing with squadrons stationed at Cam Ranh Bay, Phu Cat, and Vung Tau.

Instead of the headquarters of the assistance command, the Joint Chiefs of Staff established priorities for fighter sorties in South Vietnam. Friendly forces actually fighting the North Vietnamese or Viet Cong had first call on these aircraft for close air support. Missions to suppress enemy defenses covering landing zones selected for helicopters had second priority and escorting friendly truck convoys, helicopters, and aerial transport came third. Finally, if resources permitted, the fighter-bombers conducted interdiction strikes against enemy supply depots, base areas, and troop movements. Unlike the Army, the Air Force valued interdiction more highly than close air support, but the military assistance command, reflecting the Army's emphasis on aiding troops in contact with the enemy, adopted an accounting system that lumped both battlefield and long-range interdiction with close air support in the category of combat support. The Air Force was thus frustrated in its attempts at gathering statistics to support its arguments that interdiction should receive a higher priority. In fact, the official priorities meant little because there was no shortage of aerial firepower, and almost every mission flown in South Vietnam, except for training and purely administrative flights, somehow helped the war on the ground.

Since the end of the Korean War, the Air Force had given little thought to close air support and had dismantled the tactical

air control system that successfully directed strikes on the battlefields of World War II and Korea. Rebuilt for Vietnam, the system included operations centers at the appropriate levels of command, liaison parties assigned to ground commanders, and forward air controllers directing strikes from light observation craft. Early in 1966, the Air Force, accepting the inevitable, agreed that Army helicopters would be outside the system, and they remained so for the rest of the war, as did the Navy's carrier aircraft. Attempts to train South Vietnamese forward air controllers failed, and the Seventh Air Force in 1965 apportioned its four squadrons of O-1s, making one squadron of thirty aircraft available in the tactical zone of each corps. The number of regional air operations centers, renamed Direct Air Support Centers, was increased to four, one for each corps headquarters.

The war in Southeast Asia was fought according to rules of engagement that were designed to ensure that firepower was used only to advance American policy, whether battering the enemy in Laos and South Vietnam, where precautions had to be taken to protect friendly forces and spare the local populace whose support and security were at issue, or attacking in the North, where selective and gradually escalating violence was intended to prod Ho Chi Minh into calling off his plans to conquer the South. The rules of engagement for South Vietnam dictated at first that fighters could attack only when directed by forward air controllers, a measure adopted to prevent accidental killings and maimings, whether of friendly troops or of the very noncombatants whose loyalty the Saigon government was trying to gain. The only exceptions to the requirement for a forward air controller were certain free-fire zones occupied by the enemy and from which noncombatants were believed to have fled. Recruited from the ranks of fighter pilots, the forward air controllers had to adjust skills honed for supersonic flight to the far different demands of the slow-flying Bird Dog used to conduct visual reconnaissance and control air strikes. They learned to mark targets with rockets, to navigate by reading maps, and to orchestrate several flights of fighters simultaneously approaching a target. To conduct successful visual reconnaissance, the forward air controllers had to become intimately familiar with their assigned geographic areas, observing the eating, sleeping, working, and traveling routines of the local

inhabitants and learning when crops were planted, harvested, processed, distributed, and stored. These pilots came to recognize clues that pointed to the enemy's presence, even though his forces could not be seen the sudden disappearance of the men of a village that could signal a muster of part-time Viet Cong guerrillas, indications that roads or trails had been used during the night, footprints along a shoreline, shadows that revealed a camouflaged man-made structure, and tell-tale marks of human presence like camp fires or flocks of birds suddenly taking flight.

Although most strikes handled by the forward air controllers were preplanned at least 24 hours in advance, a third were immediates flown in response to emergency calls for help. The Air Force experimented with different techniques to reduce the time it took for jets to respond with immediate strikes, keeping some aircraft on alert at air bases and, whenever necessary, diverting others from preplanned missions. Responsiveness steadily improved, and by 1966, Air Force fighters normally were on the scene within 30 minutes of the time they were summoned. From the standpoint of the efficient use of resources, the Air Force preferred preplanned sorties to immediates and encouraged the Army and the South Vietnamese to call for emergency strikes only when absolutely necessary. Not only did the strike planned in advance usually take less time from take-off to the dropping of bombs, the diversion of a fighter-bomber to meet an emergency upset the orderly and economical use of air power by opening a gap or reducing the effort somewhere in that day's schedule of strikes. Moreover, aircraft diverted from one target to another frequently arrived with less than ideal types of bombs. Fighter-bombers or attack aircraft carried varying combinations of 250-, 500-, and 750-pound high-explosive bombs, napalm canisters, antipersonnel bombs, rockets, and 20-mm ammunition, and emergency calls normally left no time to change munitions. Finally, a pilot diverted to a new and unfamiliar target might require a fairly detailed orientation from a forward air controller or from someone on the ground before he could attack.

When the air war in South Vietnam began to intensify in 1965, the Air Force used standard ordnance from its limited inventory of conventional weapons. Unfortunately, the high-explosive general purpose bombs tended to detonate among the

treetops in the triple-canopy jungle that often concealed the enemy and had too compact a bursting radius to efficiently kill widely dispersed troops. Researchers at the Air Force Systems Command therefore developed new types of munitions, introducing 11 in 1965, 24 during the following year, and seven in 1967. The Air Force also developed new fuzes that allowed general purpose bombs to penetrate jungle canopy and explode only on contact with the ground. Cluster bombs, which dispensed hundreds of small fragmenting bomblets, became the principal weapon against enemy personnel. One type of cluster bomb released a nonlethal gas over a 600-yard area, temporarily incapacitating those in its path. This type, the CBU-19, proved particularly effective in air rescue operations, since it hindered enemy troops closing in on a downed flyer without increasing the risk to his life. By 1968, the Air Force had developed an arsenal of guided bombs, the so-called smart weapons. One type, for example, sought out targets spotlighted by a laser beam, whereas another relied on the contrast between the target and its background to home on the desired object.

Despite the improvements in munitions, fighting at night and in bad weather remained a major problem for Air Force pilots. Flares dropped by gunships and observation aircraft illuminated the battlefield to some extent, but flares often failed to ignite, and the parachutes from which they hung frequently drifted away from the scene of the fighting. Consequently, it was difficult for forward air controllers to achieve coordination among the flareships, the fighters, and the troops on the ground. A great advance in accuracy resulted from the introduction in 1966 of a ground-based radar bombing system, Combat Skyspot, which guided the pilot to the target and told him when to drop his bombs. By early the following year five such sites were directing pilots to unseen targets. So accurate was the radar that the rules of engagement were relaxed to allow pilots to use either this system or a forward air controller, and Combat Skyspot directed about one-quarter of the total strike missions flown during the war.

In June 1965, B-52s of the Strategic Air Command joined tactical aircraft in supporting the battle on the ground, greatly increasing the aerial firepower available for the war. Thirty of the big bombers, specially fitted with external bomb racks, had been standing by at Guam since the attacks on the *Maddox* and

C. Turner Joy in the event the air campaign proposed by the Joint Chiefs of Staff was carried out and the aircraft had to deliver conventional attacks in North Vietnam. When the air war against the North began, Air Force fighter-bombers and the Navy's carrier aircraft conducted the strikes, and the B-52s remained idle. General Westmoreland, looking for more efficient means of large-scale bombing, asked that these bombers hit the enemy in South Vietnam. During the remainder of the year, the B-52s flew more than 1,500 sorties in the South, raining vast tonnages of high explosives on area targets like troop concentrations, bases, and supply dumps. These Arc Light strikes began with 30-plane missions, but the number of aircraft in each formation declined as the frequency of operations increased. The first sorties against targets in southern Laos did not take place until December 1965, and the following April the B-52s dropped their first bombs on North Vietnam. The B-52s began to use the Combat Skyspot system in July 1966; by the end of the year, it was the huge bombers' primary aiming method. The number of sorties in the South increased to 4,290 in 1966 and to 6,611 and 15,505, respectively, in the following two years. Throughout this period, 75 percent of the Arc Light missions struck South Vietnam, another 20 percent hit southern Laos, and five percent bombed logistic targets in North Vietnam like the mountain passes that funneled men and cargo into southern Laos en route to South Vietnam.

Although Westmoreland had a high opinion of Arc Light, not all Air Force commanders shared his enthusiasm. To some, using B-52s for essentially tactical purposes diverted them from their principal mission of strategic deterrence. Others, notably General Momyer, believed that the bombers were being employed indiscriminately and inefficiently. Since intelligence of the enemy's formations and logistic depots in South Vietnam was not always reliable, many missions seemed to be wasted. To prevent this wastefulness, Momyer maintained that B-52 strikes should be restricted to clearly identified targets. He also thought his Seventh Air Force should control the bombers rather than the Joint Chiefs of Staff and the Strategic Air Command through the military assistance command. Momyer felt that, without actual control of the bombers, he was responsible for coordinating his tactical aircraft with the B-52s even though he did not have sufficient authority or information to do

so. Since the B-52s were flying tactical missions, usually long-range interdiction but occasionally the support of outposts under attack, the existing command structure weakened the single management of tactical aviation, a principle that he strongly supported, and resulted, as he saw it, in a less than efficient operation.

Westmoreland's zeal for Arc Light strikes remained undiminished, despite Air Force objections and a paucity of measurable results. Because of the nature of the targets, many only suspected rather than verified concentrations of men or supplies, he could not calculate the effect on the enemy to determine that a certain level of effort met his needs. As the number of known and suspected targets proliferated, he requested more and more B-52 missions. The authorized monthly sortie rate rose to 450 by March 1966, to 650 in November, and to 800 by February of the following year. When he asked for a further increase to 1,200 in early 1967, the Strategic Air Command became concerned with the impact on its worldwide nuclear forces. To avoid sending more bombers to the theater, some of those already in the western Pacific moved to U-Tapao, Thailand, closer to the battleground than Andersen Air Force Base on Guam, reducing the distance to the Arc Light targets and enabling the same number of B-52s to fly a greater number of sorties. By the middle of 1968, 56 bombers were flying from Guam and 28 from Guam, supported by KC-135 tankers operating from U-Tapao and Andersen, as well as from bases on Okinawa and Taiwan. Despite the greater utilization of the Thailand-based bombers, the Strategic Air Command worried about the consequences of rotating B-52s between the United States and the distant Pacific. With more bombers dropping conventional bombs in Southeast Asia, fewer were available to carry out the single integrated operational plan. To overcome this deficiency, planners sometimes had to increase the number of nuclear targets assigned to an individual aircraft.

A myriad of types of aircraft other than heavy bombers and fighter-bombers supported the ground war, among them transports equipped for spraying, psychological warfare craft that dropped leaflets or broadcasted from loudspeakers, transports converted into gunships, and helicopters. A squadron of fourteen gunships, designated AC-47s, was activated late in 1965; and early in the following year the aircraft were flying out of

Tan Son Nhut, Bien Hoa, Nha Trang, Da Nang, Binh Thuy, and Pleiku. For three years the AC-47s participated in all types of combat support missions, defending fortified villages and outposts against ground assaults, attacking enemy soldiers locked in combat with friendly troops, escorting road convoys, dropping flares for attacking fighters, flying armed reconnaissance, interdicting the movement of enemy forces and supplies, and even directing air strikes. By the end of 1968, however, these earliest gunships were giving way to more heavily armed types like the AC-119, primarily used in South Vietnam, and the AC-130, principally for interdiction in southern Laos.

Although the Army flew the vast majority of the helicopters in South Vietnam, the Air Force used a few helicopters for search and rescue missions and for special operations. Before 1965, the Air Force had sent several Kaman HH-43s to South Vietnam and Thailand, but their relatively short range restricted them mostly to local base rescue. In a typical operation of that era, T-28s escorted the helicopters and a Grumman HU-16 amphibian served as an airborne command post and supervised the rescue. The intensification of the air war in 1965 brought a dramatic increase in the number of downed airmen; indeed, Air Force helicopters made 93 rescues in the second half of the year compared to 29 during the first six months. A permanent search and rescue center was formed at Tan Son Nhut, and newer, longer range helicopters Sikorsky HH-3s, nicknamed Jolly Green Giants began flying from that base and from Bien Hoa, Da Nang, Pleiku, and Binh Thuy, as well from four airfields in Thailand. Transport aircraft, initially C-54s, but later C-130s, took over on-the-scene control from the HU-16s. As A-1s replaced the T-28s, they assumed the role of escorting the rescue helicopters. By 1967 the Air Force had 50 aircraft dedicated to rescue operations in Southeast Asia. Efficiency improved as the numbers increased; for example, successful experiments with aerial refueling from specially equipped C-130s extended the range of the HH-3s, enabling them to make sustained searches and to reach downed airmen who otherwise would have been dependent on their own survival skills. Late in 1967, larger and more powerful helicopters, Sikorsky HH-53s, began replacing the older Jolly Green Giants. By the end of 1968, over 1,500 persons, 45 percent of them downed airmen, had been rescued from the jungle or the sea.

South Vietnam, 1965–68

Following their deployment in 1965, Air Force units first helped hold the enemy at bay as other American forces entered the country; by the early months of 1968, the Air Force had participated in 75 large-scale ground operations and hundreds of smaller battles. The first major clash between American soldiers and North Vietnamese regulars occurred in mid-November 1965, when the newly arrived 1st Cavalry Division (Airmobile) located an enemy formation as it swept through the Ia Drang Valley. During the battle, American soldiers inflicted severe casualties and forced the survivors to retreat across the border into Cambodia. During the most savage of the fighting, the Air Force conducted 330 sorties to disrupt counterattacks and help dislodge the North Vietnamese; all told, tactical aircraft flew 753 sorties during a month of searching out and attacking the enemy and B-52s almost a hundred. However, airlift by the Air Force proved as critical as aerial firepower, for the division could not resupply itself with its own aircraft exclusively, unless it diverted helicopters to the task of hauling cargo from depots in the rear to the forward supply points. Air Force C-123s and C-130s allowed Army aviators to redeploy, reinforce, and supply the battalions fighting in the Ia Drang Valley by delivering fuel and ammunition to the division's dumps, where the cargo was transferred to helicopters for the flight into the valley. Had the Air Force transports been unable to maintain the level of supplies, the operation might well have ground to a halt; instead, the fighting continued until the North Vietnamese fled from the battleground. In its first real test, the strategy of search and destroy seemed to work.

The struggle in the Ia Drang Valley taught different and sometimes conflicting lessons to the major participants. To the headquarters of the military assistance command, a month of searching and a few days of fighting had produced a great victory; indeed, the disparity in casualties, an estimated ten North Vietnamese killed for every American, seemed to demonstrate that the U.S. Army could fight a successful war of attrition, making use of mobility and firepower to exhaust a comparatively primitive foe. Believers in airmobility hailed the campaign as a vindication of that concept, although they were concerned that the helicopter force, and the maintenance and

logistics base supporting it, needed strengthening to deal with a likely proliferation of assaults by troops landed, supplied, given fire support, reinforced, and finally withdrawn by helicopter. The headquarters of the Seventh Air Force viewed the Ia Drang action as proof that airmobile forces, considering the number of helicopters available and their limitations in firepower and carrying capacity, needed vigorous support from the command's transports and fighter-bombers and from B-52s, as well. The leadership of North Vietnam, although taken aback by the speed and fury of the attack into the Ia Drang Valley, remained determined to fight on, if necessary for twenty years. Field commanders had reflected this determination by employing tactics designed to neutralize air strikes by hugging American positions so that strafing or bombing endangered friend as well as enemy.

All of these views reflected some facet of the truth: the American troops, although some small units had barely escaped annihilation, had outfought the enemy; helicopters and the men to fly them would soon be in short supply; the helicopter was a remarkable weapon—in one instance vaulting American soldiers over an ambush the enemy had prepared on a road—but it lacked the striking power and capacity of an airplane; and finally the airmobile division, like every other Army formation, required support from the Air Force, and in subsequent operations there normally was close cooperation between Army and Air Force planners. Finally, the North Vietnamese realized that neither determination alone nor reactive tactics could bring swift victory on the field of battle; like the assistance command at Saigon, the communist leaders in Hanoi were beginning to think in terms of a war of attrition. Perhaps the major lesson taught by the battle in the Ia Drang Valley was that the war would be long and bitter.

As 1965 drew to a close, three distinct tactical air control systems existed side-by-side in South Vietnam, one operated by the Air Force with nominal participation by the South Vietnamese, one by the Army for its helicopters and other aircraft, and the third by the Marine Corps. The system used by the marines, designed initially for amphibious operations in which air strikes complemented naval gunfire during the landing and the exploitation of the beachhead, ensured a prompt response by Marine Corps airmen to requests from marines on the ground

(and, as recently as the Korean War, from Army ground troops as well). The Marine Corps mechanism of air control functioned smoothly, the result of training that produced a genuine air-ground team; the competence of Marine aviators to support marines on the ground was not in doubt. General Westmoreland, however, had reservations about the ability of the Marine Corps system to support rapidly unfolding search and destroy missions that might involve swift movement on the ground and require cooperation with the Air Force, with the Army and its air arm, and with South Vietnamese forces.

During Operation Harvest Moon in December 1965, Westmoreland became concerned when crowded air space and a breakdown of communication with controllers kept Marine Corps fighters circling helplessly, preventing a South Vietnamese unit from receiving the air support it had requested. Fortunately, the South Vietnamese managed to reach Air Force forward air controllers assigned to the same area. Even though these Air Force officers had not attended the briefings preceding the operation and were unfamiliar with call signs, radio frequencies, and the location of ground troops, they quickly became oriented and soon organized the necessary air strikes. During this operation, Air Force controllers working their assigned areas complained of intrusions by Marine Corps aircraft. The marines believed that situations like these could be avoided simply by more thorough planning before an operation, but Westmoreland decided that the fault lay in the existence of separate Air Force and Marine Corps control mechanisms. He therefore told his air commander, General Momyer, to find a way to incorporate Marine Corps aviation in the Air Force tactical air control system without arousing controversy. The quest took two years and produced just the kind of interservice argument that Westmoreland hoped to avoid.

Having prevented an enemy takeover of South Vietnam in 1965, the assistance command went on the offensive in 1966. Operating behind a thin screen of border outposts designed to monitor and to some extent impede infiltration, American units, assisted by South Vietnamese troops, used their mobility and firepower to destroy the enemy's bases, kill his soldiers, and shatter his military formations, although not to seize and hold territory. Search and destroy operations of this sort were intended to enable the South Vietnamese to operate more freely

against essentially guerrilla forces and extend government control into the countryside. American success depended on winning a war of attrition designed to wear down the organized North Vietnamese and Viet Cong forces; success for the South Vietnamese would stem from providing security and services to an increasing segment of the populace.

Beginning in January 1966, in the largest search and destroy operation of the war to that time, the 1st Cavalry Division (Airmobile), a South Vietnamese division, and a South Korean battalion spent six weeks dislodging the enemy from entrenched coastal positions between Qui Nhon and Quang Ngai in the II Corps area 300 miles north of Saigon. Air Force C-130s flew cargo into a forward airfield with access to the several battlefields of the campaign. Over 600 sorties by fighter-bombers cleared the way for the American advance and helped extricate the ground forces from ambushes and other forms of counterattack. Several thousand of the enemy died while being driven from the rich rice-growing lowlands.

Bad weather always posed problems for the fighter-bombers, and the Viet Cong and North Vietnamese took advantage of it. Early in March 1966 the enemy overran a special forces camp in the A Shau Valley of I Corps, two miles from the Laotian border, a part of the screen that detected and harried North Vi-



A North American F-100 Super Sabre drops a 750-pound bomb on a target in the Mekong delta of South Vietnam, August 1965.

etnamese infiltration. Making use of cloud cover that imposed a 200-foot ceiling and largely frustrated Air Force attempts to provide close air support, the enemy seized the camp. This was a serious loss, for the valley became a logistics base with roads connecting it to the Ho Chi Minh Trail across the border. Despite occasional American or South Vietnamese forays in later years, the A Shau Valley remained an important conduit for reinforcements and supplies sent from the North.

When the seasonal rains turned the Laotian trails to mud in June 1966, the communists shifted their infiltration effort to the demilitarized zone, where good weather had dried the roads. The enemy's apparent strategy was to pour troops into the northern provinces of South Vietnam to draw American forces northward and clear the way for attacks farther to the south. Instead of rushing headlong toward the demilitarized zone as the enemy seemed to expect, Westmoreland used his ground forces against the North Vietnamese units that had entered the country and unleashed air power against the routes of supply and infiltration. During the ground portion of the campaign, called Operation Hastings and conducted between July 15 and August 3, the Air Force supported the South Vietnamese Army, while Marine Corps airmen assisted marines on the ground, an arrangement that on this occasion worked reasonably well because the ground forces were located within readily definable areas. Aside from the occasional emergency call from marines for Air Force strikes and a collision between a Marine Corps helicopter and an Air Force observation craft, there were few problems of coordination between the two air arms.

North of the area of Operation Hastings, directly above the militarized zone, the Air Force opened an interdiction campaign called Tally Ho on July 20. Westmoreland, to avoid the problems of coordinating both Air Force and Marine Corps aircraft in a small area, accepted Momyer's recommendation that he turn down an offer by the marines to participate in this latest aerial effort. By early August, Marine Corps ground units had driven the enemy back into the demilitarized zone while tactical aircraft of the Air Force continued to strike lines of supply and communication. B-52s joined the interdiction campaign in mid-September, multiplying the firepower of the fighter-bombers, which kept harassing the North Vietnamese until November, when the return of the seasonal rains to this region caused

the enemy to shift his activity to the infiltration routes of southern Laos. The aerial action in Tally Ho demonstrated that the light O-1 observation craft could not be used to direct strikes in the heavily defended coastal plain, and they were shifted to the western mountains where antiaircraft guns were less numerous. On the plain, Air Force fighter-bombers conducted armed reconnaissance, attacking the enemy without benefit of forward air controllers until jet fighters were substituted for the O-1s in Tally Ho and similarly defended areas. During the interdiction campaign, Marine artillery firing long-range missions sometimes interfered with forward air controllers conducting visual reconnaissance or directing strikes. For this reason, missions occasionally were canceled, as when an Air Force controller, bracketed by artillery shells above and below his aircraft, hastily departed from the region. Obviously, coordination between the Air Force and the Marine Corps gunners was less than perfect.

The southward shift of the main action during November 1966 triggered Operation Attleboro in an area north of Saigon. For several years the enemy had built up his forces near the capital and had created two heavily fortified military complexes, War Zones C and D, some 40 miles north of the city. Despite repeated attacks, the North Vietnamese and Viet Cong clung to these redoubts; not even a savage pounding by B-52s in 1965 could dislodge them. Several ground operations in 1966 Silver City in March, Birmingham in April, and El Paso II in June penetrated the base areas and cleared at least portions of them, but each time the enemy returned in strength to rebuild bunkers and reestablish the headquarters. On November 1, two American divisions entered the zones and, assisted by more than 1,700 tactical strikes and 225 Arc Light sorties, drove the communists back across the Cambodian border. In three weeks of vicious fighting, Air Force transports delivered more than 11,000 troops and 9,000 tons of cargo.

In these major battles and scores of smaller skirmishes during 1966, Air Force fighter-bombers flew over 74,000 sorties and B-52s flew 4,500. Airlift units conducted 13,600 sorties, reconnaissance 59,000, forward air controllers 27,500, and Air Force helicopters flew 13,500 sorties carrying passengers and cargo, saving downed airmen, and evacuating the wounded.

The war in South Vietnam during 1967 followed the pattern of the previous year's fighting. The enemy returned from his sanctuary in Cambodia, regrouped, and by February was back to previous strength in War Zone C and an adjacent stronghold, the Iron Triangle. A sweep of the Iron Triangle by two American divisions, called Operation Cedar Falls, took place that month, accompanied by some 1,100 tactical air strikes and 126 sorties by B-52s. Although the operation destroyed the huge network of bases, tunnels, supply dumps, and training camps that constituted the Iron Triangle, the defenders retreated westward into War Zone C and the Americans pursued.

Operation Junction City, essentially a follow-on to Cedar Falls, took place between February and May when the two divisions that had invaded the Iron Triangle pushed on into War Zone C, assisted by Air Force tactical fighters, B-52s, and transports. The pursuit began with C-130s dropping 845 American parachute troops at the rear of the enemy to seal off the escape routes to Cambodia. The advance continued, first through the central and western parts of the zone and then to the east, capturing supplies, destroying bunkers, and sealing caves. For the first time in the war, B-52s departed from their usual role of area bombing and flew planned missions in support of troops engaged with the enemy. In addition to the rain of bombs from these big aircraft, the defenders reeled under the effect of napalm, high explosives, rockets, and cluster bombs dropped during the 5,000-odd sorties flown by F-100s, B-57s, F-4s, and the recently introduced F-5s, which the Air Force flew extensively in 1965 and 1966 before turning them over to the South Vietnamese in 1967. More than 2,000 sorties by Air Force transports provided the assault troops with supplies and reinforcements throughout an operation that was believed to have destroyed a third of a North Vietnamese division and driven the survivors eastward into War Zone D. Since the objective of the offensive was attrition rather than the capture of territory, the Americans withdrew, and a new enemy division soon reentered the area and began restoring the defenses.

When the seasons changed in the spring, the fighting again shifted to the drier demilitarized zone where the North Vietnamese were resuming their infiltration. Marine Corps units in I Corps moved northward toward the zone, and Army troops took their place. In April C-130s airlifted 3,500 men and 4,000

tons of equipment of the Army's 196th Light Infantry Brigade from Tay Ninh to Chu Lai. At the same time, C-123s and C-130s flew food and ammunition into the northwestern outpost at Khe Sanh, where two Marine battalions battled the enemy in the surrounding hills. Defeated in the west at Khe Sanh, the North Vietnamese then struck to the east, harassing the Marine camp at Con Thien astride a main infiltration route just two miles south of the demilitarized zone. An 11-day Marine attack into the zone, Operation Hickory and its subsidiaries, again demonstrated, in the view of the Air Force, the need for stricter control over participating air units. Initial confusion whether the Air Force or the marines would control air strikes in the upper half of the demilitarized zone deprived the ground forces of interdiction support for three days, although the close-in strikes delivered by Marine aviators were unaffected.

Besides supporting Operation Hickory, the Air Force stepped up its interdiction of enemy movement in the Tally Ho area. In June 1967, forward air controllers successfully used jet fighters for the first time. Because the fiercely defended coastal strip had become too dangerous for the vulnerable O-1s, the controllers changed to two-seat F-100Fs carrying an observer and a pilot. In July and August, communist artillery batteries within the demilitarized zone intensified the bombardment of Marine outposts, especially on Con Thien, and in September a major air campaign, Operation Neutralize, was directed against these guns. While the marines attacked by air and ground to keep the enemy off balance, Air Force fighter-bombers and B-52s went after the North Vietnamese artillery. Again, the coordination of two air organizations operating in a compact area proved difficult; some Air Force forward air controllers had to dodge Marine aircraft and counterbattery fire, and Marine artillerymen were compelled to withhold their fire, once for 24 hours, while the Air Force bombed targets inside the Neutralize area. The assignment of Air Force liaison officers to the control center operated by the Marine Corps resolved the problem, but this solution fell short of General Mommyer's goal of centralizing control over the tactical aircraft of the Air Force and the Marine Corps. Whatever its shortcomings, Operation Neutralize was credited with destroying 146 enemy guns and damaging 183 others. The number of incoming rounds directed at Con Thien and other nearby outposts decreased significantly from 7,400 in Septem-



In early 1968, a Lockheed C-130 Hercules transport lands at Khe Sanh, a besieged Marine outpost near South Vietnam's border with Laos and North Vietnam.

ber to 3,600 the following month, when the assistance command announced that the enemy's siege of Con Thien had ended.

Although the threat from the demilitarized zone abated, the North Vietnamese kept up their pressure along the borders of II and III Corps to divert attention, as events would prove, from the population centers of South Vietnam. Attacks during the remainder of 1967 against border outposts at Song Be, Loc Ninh, Bo Duc, and Dak To were repulsed because of close cooperation between air and ground. Throughout the year Air Force fighter-bombers flew more than 122,000 sorties and the B-52s a total of 6,600, increases of 48,000 and 2,100, respectively, over 1966's figures. Reconnaissance aircraft flew roughly 94,000 missions, and 373,000 airlift sorties delivered men and supplies to the battle areas. Forward air controllers flew 43,600 sorties in directing fighter strikes, and other aircraft released flares, leaflets, and defoliants during more than 26,000 flights. Air Force helicopters performed 13,400 tasks, several of which might occur on a single sortie, while retrieving downed airmen, evacuating casualties, or carrying men and cargo.

The most serious of the border threats surfaced early in 1968 against the Marine outpost at Khe Sanh. Unlike the earlier

siege by artillery fire at Con Thien, the marines at Khe Sanh were encircled by North Vietnamese troops, and sufficient forces were not available to break through to the garrison. Consequently, General Westmoreland decided to use air power to disrupt an anticipated attack by the two enemy divisions that had massed around the outpost. Near the end of January, he launched a 10-week air campaign, Operation Niagara, so called because the torrent of explosives dropping from the sky was intended to resemble in volume the waters of those celebrated falls. Before the siege of Khe Sanh was broken at the end of March, Air Force, Marine Corps, and Navy aircraft flew some 24,000 tactical sorties against the forces surrounding the base. Flying 2,500 sorties by day and night, B-52s dropped almost 60,000 tons of bombs on trenches and artillery positions. Air Force transports landed 4,300 tons of supplies and 2,700 troops at the Khe Sanh airstrip, despite hostile mortar and artillery fire, and parachuted some 8,000 tons of cargo to the defenders.

As had happened previously when sorties by different services had to be coordinated in a compact area, the control mechanism broke down. Midway through the campaign, General Westmoreland designated General Momyer as the single manager of all tactical aircraft in South Vietnam, both Marine and Air Force, a decision that Admiral Sharp promptly approved. Despite the title of single manager, Momyer's authority was not absolute, for the aircraft of the Army and those operating from the Navy's carriers were excluded, and the marines could launch their own aircraft in response to emergencies that their ground units might encounter. This one concession to its needs did not satisfy the Marine Corps, which interpreted the action as a dismemberment of its air-ground team and carried the resulting protest all the way to President Johnson, who refused to overrule his commander in Vietnam. Although this arrangement went into effect too late to have any impact on Operation Niagara, it seemed to represent a major step toward the centralization of air power under the control of the commander of the Seventh Air Force. Before the year ended, however, the single manager system was compromised by the release of a specific number of sorties to the marines, initially for missions like escorting helicopters but ultimately to use as they saw fit.

While the siege of Khe Sanh continued, other communist forces moved largely undetected into position and attacked five

major cities, thirty-six provincial capitals, twenty-three airfields, and many district capitals and hamlets. Taking advantage of the annual Tet holidays early in February, when most South Vietnamese soldiers were on leave to celebrate the lunar new year, the enemy struck a stunning blow. The purpose may have been to provoke a popular uprising throughout the South, in which case the offensive failed. The purpose, however, may have been to embarrass the American political and military leadership and undermine public support in the United States for prosecuting an increasingly costly war, in which case the offensive succeeded. Only at Hue in northern South Vietnam did the attackers cling to their objectives for an extended period, and even there the city was retaken, but only after twenty-five days of savage fighting. Its recapture revealed the mass graves of local inhabitants murdered by the communist forces in acts of revenge or calculated terrorism that won no converts to their cause. At Hue and elsewhere, Air Force fighter-bombers launched carefully controlled strikes, but in crowded urban areas, collateral damage proved unavoidable, resulting in civilian casualties and perhaps 600,000 new refugees that strained the resources of the Saigon government. Outside the towns and cities, the aircraft bombed the enemy's storage dumps and troop concentrations and provided battlefield interdiction and close air support for the units fighting the Viet Cong and North Vietnamese attackers. Communist losses may have totaled 45,000, more than half of the regulars and guerrillas who participated in the offensive.

Costly though it was to the communists, the Tet offensive marked the point where the tide of events clearly turned in their favor, for the unexpectedly savage attack caused the United States to reexamine its partnership with the South Vietnamese and the dominant role it had assumed in a war to preserve the independence of South Vietnam. Although repulsed on the battlefield, the attackers by their very boldness lent substance to doubts that already had surfaced as the American people, who were beginning to feel the impact of a distant war, wondered whether the results were worth the sacrifices. The struggle, which cost almost \$33 billion annually, had fueled inflation and bloated the national debt. The number of Americans killed in action during the conflict approached 20,000, with almost half those deaths in 1967. Opposition to the

draft, which had supplied many of the dead, was increasing. In October 1967, a week-long demonstration against the war singled out offices of the Selective Service System in various cities and culminated in large antiwar rallies at the Lincoln Memorial and the Pentagon. Although parades and mass meetings in support of the war and its objectives took place at New York City and elsewhere, numbers, determination, and media coverage seemed to favor the opposition. A segment of the populace, especially young people subject to the draft, had lost confidence in the assurances by the nation's leaders that the war was being won and that the continued independence of South Vietnam was a worthwhile objective. Particularly unfortunate, in view of the Tet offensive, were the optimistic statements made by General Westmoreland when he visited Washington in mid-November and reported publicly on the progress of the war. He described the situation in South Vietnam as very encouraging and declared that the United States was winning the war of attrition, only to have his words challenged by the sudden and widespread attacks.

The Chairman of the Joint Chiefs of Staff, Gen. Earle G. Wheeler of the Army, saw the Tet offensive not as a blow to public confidence or to the morale of the Johnson administration but as an opportunity to restore the nation's strategic reserve of military manpower. He arranged for Westmoreland to call for an additional 206,000 troops, a request that relied for justification on the gloomiest possible interpretation of recent events. To provide such a force required a large-scale mobilization of the reserve components, which the President wanted to avoid. Such a major mobilization would have aroused the anger of those who opposed the war or questioned its importance, but would not have affected the military situation in South Vietnam, where conditions were by no means grave enough to require reinforcement on this scale. The bulk of the troops would have formed a reserve in the United States for possible emergencies outside Southeast Asia. News of the request reached the public, which assumed that all the additional men were destined for South Vietnam, further eroding of confidence in the military and political leadership and in the importance and eventual outcome of the war.

Instead of giving Westmoreland what he sought and mobilizing the reserve, President Johnson called on a group of trusted

advisers, his so-called Wise Men, to review the nation's efforts in Southeast Asia and make recommendations for the future. The distinguished panel concluded that pursuing the existing policy would reinforce failure. As a result, the Chief Executive approved a final token increase in Westmoreland's forces, bowed to the growing public opposition to the war by declaring that he would not seek reelection, and approached the task of extricating the United States from a conflict that it had taken over not quite three years earlier. In mid-1968, American policy began to change. Although the ultimate objective remained an independent South Vietnam, the United States would strengthen the South Vietnamese, gradually disengage from combat, and in effect turn the war over to its ally.

North Vietnam, 1965–68

The second air war took place in the skies over North Vietnam. Between March 1965 and the end of October 1968, Air Force and Navy aircraft conducted Operation Rolling Thunder, a bombing campaign designed to force Ho Chi Minh to abandon his ambition to take over South Vietnam. Over the objections of many Air Force leaders, the operation began primarily as a diplomatic signal to impress Hanoi with America's determination, essentially a warning that the violence would escalate until Ho Chi Minh blinked, and secondarily as a means to bolster the sagging morale of the South Vietnamese. In the view of the Air Force, the campaign had no clear-cut military objective nor its authors any real estimate of the cost in lives and aircraft. General LeMay and others argued that military targets, rather than the enemy's resolve, should be attacked and that the blows should be rapid and sharp, with the impact felt immediately by the North Vietnamese Army on the battlefield as well as by the political leadership at Hanoi. Secretary McNamara favored the measured application of force and was convinced that the war could be won in the South. He initially emphasized strikes against the extended battlefield, which consisted of South Vietnam and the areas immediately beyond its borders, instead of proceeding directly against the targets many deep within North Vietnam advocated by LeMay. When Rolling Thunder failed to weaken the enemy's will after the first several weeks, the purpose, though not the pace, of the campaign

began to change. By the end of 1965, the Johnson administration still used air power in an attempt to change North Vietnamese policy, but the bombing tended to be directed against the flow of men and supplies from the North, thus damaging the enemy militarily while warning him of the danger of greater destruction if he maintained the present aggressive course.

Although the bombing campaign was taking on more of a military coloration, forcing Ho Chi Minh to give up his goal of absorbing South Vietnam into a unified communist state remained the underlying purpose. The change in the conduct of the air war was not sufficient to satisfy LeMay and like-minded members of the military leadership, who believed that the United States could not end aggression with these strategies. The ill-conceived attempt to bomb Ho Chi Minh into being a good neighbor, in part the product of a cultural bias that perceived a militarily backward North Vietnam as succumbing to the use (if not the mere threat) of American might, had failed. McNamara's persisting in such an effort, even in the form of aerial interdiction, served mainly to estrange LeMay and other uniformed leaders from the civilian officials of the Department of Defense. In essence, the senior officers argued that military considerations should determine the use of force, whereas the civilians, typified by Secretary McNamara, insisted that selective pressure, controlled by them and combined with diplomatic overtures, would prevail and compel North Vietnam to call off its aggression in the South.

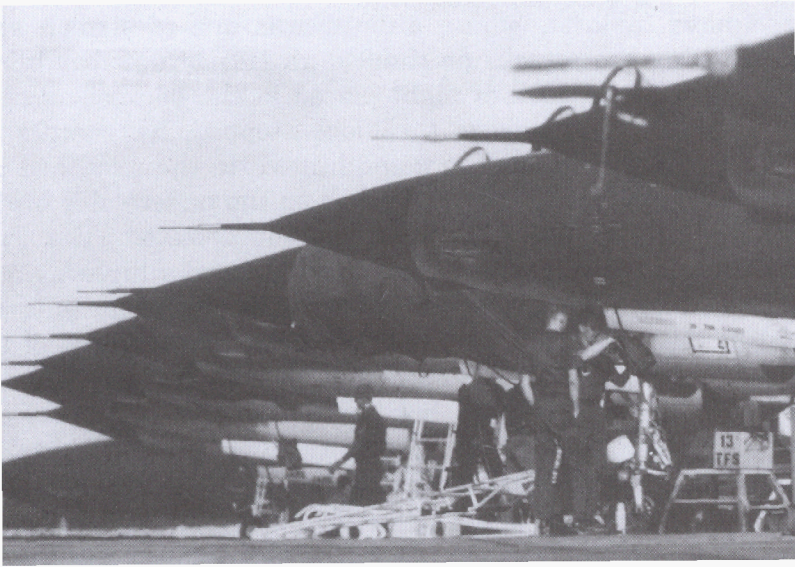
Within Congress, doubts about the McNamara policy mounted as the bombing dragged on without an appreciable effect on the leadership at Hanoi. At last in August 1967, after more than two years of Rolling Thunder, the Preparedness Investigating Subcommittee of the Senate Armed Services Committee began to probe the conduct of the air war. Under the leadership of John C. Stennis, a Democrat from Mississippi, the subcommittee provided a sympathetic forum where the admirals and generals presented their case for stronger action. In the words of Democratic Senator W. Stuart Symington of Missouri, a member of the subcommittee and the first Secretary of the Air Force, Rolling Thunder resembled an attack on an octopus; he, along with the other members of the subcommittee and the uniformed witnesses, believed in going for the head, which

would mean an escalation of the bombing in terms of targets and tonnage. In contrast, Secretary McNamara argued unsuccessfully that attacking the head of the octopus was not necessary if all the tentacles were pounded to a pulp, as he maintained the limited bombing was doing. The consensus of the subcommittee was that the policy represented by Secretary McNamara had failed and that purely military considerations should prevail in selecting and attacking targets. Nevertheless, the hearings resulted in little more than an expansion of the target list, for the President undertook no dramatic escalation. The secret sessions did, however, destroy what remained of McNamara's credibility with Congress, contributing to his disenchantment with the war and edging him toward resigning, which he did early in 1968.

Besides opening divisions within the Department of Defense, the bombing contributed in some measure to the increasing opposition to the war and to the way it was being fought. Those among the populace who believed that the United States was doing too little could point to Rolling Thunder as an example of how American servicemen were risking their lives in operations that could not bring victory. At the opposite pole were those who felt that Rolling Thunder was unworthy of the United States, a form of war that unleashed the latest technology of violence against the civilian populace of North Vietnam. As the then-secret testimony before the Stennis subcommittee made clear, the nation's uniformed leaders did not advocate warfare against the population of the North, but attacks on undeniably military targets in crowded cities could not help but maim and kill noncombatants. Complicating any dispassionate judgment of the air war was the enduring myth that aerial bombardment was capable of unerring accuracy. Tracing its roots to the bombs-in-a-pickle-barrel legend of World War II, this myth had been reinforced by recent references to the surgical precision of aerial attack and by President Johnson's ill-advised remark that, whereas Viet Cong steel was plunged into flesh and blood, American bombs were directed only at steel and concrete. When an American reporter permitted to travel in North Vietnam sent back dispatches describing civilian casualties and the destruction of homes, the abiding belief of the American people in the precision of aerial bombing reinforced the enemy's propaganda.

When Rolling Thunder began in March 1965, strikes were limited to specific targets south of 20 degrees North latitude, but the area of operations rapidly expanded and the nature of the attacks changed. Within a few weeks Air Force fighter-bombers were flying armed reconnaissance in that same area, hitting targets of opportunity. The first target north of the 20th parallel was bombed in May, and by November a few strikes had been authorized north of Hanoi against the rail lines entering the country from China. Because it represented a use of military force for diplomatic purposes, Rolling Thunder was controlled directly from Washington. Targets were chosen in the White House, at times when the President was having lunch with a few key advisers. At first, squadrons in South Vietnam and Thailand carried out the strikes approved for the Air Force, but after the construction of new airfields in Thailand, all the raids against the North originated there. The fleet of aircraft the Air Force operated from Thailand grew from 83 to 600. At first, the main burden of carrying the air war to North Vietnam fell to the F-105, but the F-4C joined it in mid-1965 and the F-4D somewhat later; the F-111, the operational version of the TFX, served briefly in 1968. The first of the few B-52 strikes directed against the North during this period took place in April 1966 and pounded the infiltration routes exiting into Laos; the Air Force Chief of Staff, General McConnell, did not want to send these bombers against the Hanoi-Haiphong region where the defenses were strongest.

Until November 1965, Air Force and Navy aircraft alternated in attacking Rolling Thunder targets throughout the North, but beginning that month, six armed reconnaissance areas, called route packages, were created, with each the responsibility of one of the two services. During April 1966, when infiltration into the South increased through the demilitarized zone, responsibility for strikes in the route package abutting the zone was turned over to General Westmoreland as part of South Vietnam's extended battlefield. Meanwhile, attacks continued, with certain exclusions, in the rest of North Vietnam. At various times, aircraft could not strike the potential targets within a thirty-mile radius of Hanoi, those within ten miles of Haiphong or thirty miles of the Chinese border, the MiG bases, and, until they demonstrated that they were actual weapons



Air Force maintenance crews at Takhli Air Base, Thailand, prepare Republic F-105 Thunderchiefs to bomb targets in North Vietnam.

and not mere tokens of Soviet support, the surface-to-air missile sites.

The lists of authorized targets and excepted areas changed throughout the bombing campaign. In June 1966, for instance, fighter-bombers flew a series of powerful attacks against seven major petroleum storage areas, destroying some seventy percent of North Vietnam's tankage. The air war escalated further in February 1967 when aircraft hit powerplants, military airfields, and railway yards within the buffer zones around Hanoi and targets along the Chinese border. Nevertheless, Rolling Thunder was fought in flurries, with periods of escalation or intensified activity separated by pauses in the bombing designed to facilitate a North Vietnamese response through diplomatic channels. In actuality, the pauses allowed the enemy time to bind up his wounds.

During Rolling Thunder, Air Force and Navy aircraft frequently attacked the highway bridge at Thanh Hoa, but the raids proved futile. Workmen swarmed over the bridge by night or in weather too bad for follow-up bombing and repaired the damage, with traffic rerouted across a nearby underwater bridge whenever the steel structure could not be used. A cap-

tured naval aviator, whose aircraft was one of sixteen shot down during the attacks on the Thanh Hoa bridge was blindfolded and in the dark of night placed in the back of an open truck. After a short drive, the truck stopped, his captors removed the blindfold, and he found himself in the middle of the river at Thanh Hoa, the truck parked on the underwater bridge that American intelligence had not yet detected. The Paul Doumer bridge, which carried the railroad and a highway over the Red River at Hanoi, came under attack during the enlargement of the target list that resulted from the hearings of the Stennis subcommittee. Air Force fighter-bombers succeeded in dropping three of the spans, but North Vietnamese laborers immediately set to work on an underwater replacement bridge.

Besides struggling successfully to repair bomb damage, whether to bridges or to powerplants, North Vietnam responded to Rolling Thunder by building a modern radar-controlled air defense system, perhaps the most formidable ever devised. Shortly after the bombing began, the number of North Vietnamese anti-aircraft guns of all calibers doubled to 2,000. The proliferation of these weapons forced the fighter-bombers after the first few weeks to change their tactics from low-level, high-speed bomb runs to higher altitude penetrations. The defenders, however, acquired a weapon, the surface-to-air missile, that could engage higher flying aircraft. Reconnaissance craft detected Soviet-supplied surface-to-air missiles for the first time in March 1965 and had identified 56 sites by the end of the year. Complementing the guns and missiles, the North Vietnamese Air Force had about 100 MiG-17s and MiG-21s, as well as a few MiG-19s, a collection of interceptors that began, during the following year, to pose a threat to the American fighter-bombers.

By the summer of 1966, the North Vietnamese were defending their territory with a radar-directed system of aerial defense that included interceptors, surface-to-air missiles, and anti-aircraft guns. In general, the enemy used his interceptors to harry the approaching fighter-bombers, forcing them to drop their bombs earlier than planned to rid their aircraft of the drag that impeded them in dogfights against the MiGs. To avoid the surface-to-air missiles, which were deadly at high altitude but could not change direction readily, the F-105s and F-4s dived sharply, a maneuver that placed them in the killing

zone of the anti-aircraft guns. The weakest link in the enemy's defenses proved to be the radar that controlled the surface-to-air missiles and the largest of the guns. The Air Force exploited this weakness with a Navy-developed missile, the Shrike, that destroyed the transmitter by homing on the radar signals. Later, an improved missile of this kind, the Standard Antiradiation Missile, replaced the Shrike as the normal means of forcing hostile radar to shut down. In addition, the Air Force used jamming transmitters, mounted in orbiting aircraft or enclosed in pods hung from the fighter-bombers, to conceal the genuine radar returns and confuse the North Vietnamese operators. Using antiradiation missiles and the electronic countermeasures, pilots neutralized the surface-to-air missiles, enabling the attackers to remain beyond the reach of anti-aircraft fire.

Along with the formidable defenses, the restrictions on targets helped determine the tactics employed by American air power during Rolling Thunder, for the pilots had to avoid trespassing in Chinese air space or damaging non-North Vietnamese shipping at Haiphong or some other port as they carried out the contradictory mission of persuading Ho Chi Minh that North Vietnam could be destroyed, without actually destroying it. The Air Force at times compensated with unusual tactics or techniques for the defenses and the prohibition, but not for the basic contradiction. Since airfields in North Vietnam were at times exempt from attack and those in China always so, the attackers could not destroy the MiGs on the ground, and aerial combat was inevitable. To improve the odds, radar-equipped EC-121s, military versions of the Lockheed Constellation transport, orbited over the Gulf of Tonkin and warned American pilots of the approach of hostile jets. A favorite maneuver of the North Vietnamese fighter pilots was to climb sharply, forcing the F-105s to jettison their bombs in expectation of a dogfight. Radar in the EC-121s detected these tactics, and a screen of F-4s, armed with heat-seeking missiles and flying at an altitude lower than the F-105s, could intercept the approaching enemy.

Perhaps the most spectacular tactical innovation occurred in January 1967, when fourteen flights of F-4s posed as bomb-laden F-105s by using the appropriate radio call signs, approach route, altitude, and speed. Anticipating easy kills, the

North Vietnamese attacked, and the Phantoms, primed for battle and unencumbered by bombs, destroyed seven of the MiGs in twelve minutes. Four days afterward, this time masquerading as weather reconnaissance craft, the F-4s again lured the MiGs into attacking and destroyed two more. Having learned the danger of overconfidence, the North Vietnamese began to rely on hit-and-run attacks, firing heat-seeking missiles from behind their intended victims, then bolting for safety.

For air-to-air combat, the Air Force normally used the multibarrel 20-mm cannon and three kinds of air intercept missiles the AIM-9 Sidewinder, AIM-7 Sparrow, and AIM-4 Falcon—all supersonic and accurate at ranges varying from two to ten miles. The Sidewinder, first used in combat by Chinese Nationalist pilots over the Taiwan Strait in 1958, was a heat-seeking missile developed by the Naval Ordnance Test Station at China Lake, California. The Sparrow, developed by the Raytheon Company for the Navy, relied on radar for guidance. The Hughes Aircraft Falcon came in several models, some with a radar in the nose to track the victim, whereas others homed on the heat generated by engines. To enhance the accuracy of the Sparrow and the radar-guided versions of the Falcon, McDonnell Douglas fitted a fire control radar in the F-4 to help highlight the target. Since the air intercept missiles were ill-suited for close-in fighting, some F-4Cs and all subsequent models of the Phantom carried a 20-mm gun either installed in a pod attached to the airframe or built into the aircraft.

After the Wise Men recommended against further escalation of the war, President Johnson conceded that Rolling Thunder had failed to make Ho Chi Minh relent. Hoping that a reduction of the bombing would succeed where intensification had failed and entice Hanoi into negotiating a settlement of the war, the President on April 1, 1968, ended the bombing north of the 19th parallel and halted it altogether on November 1. Col. Ray Bowers, who had studied the campaign while assigned to the Office of Air Force History, summed up the accomplishments of Rolling Thunder between the spring of 1965 and the fall of 1968 when he told an audience at the Air Force Academy, "Measured by its unsatisfactory outcome and by the . . . planes lost in North Vietnam, the controlled application of air power that was Rolling Thunder stands as a sad failure."

During the air war against the North, Air Force tactical fighters flew 166,000 sorties and the Navy's carrier aircraft 144,500. The B-52s, which strictly speaking were not a part of Rolling Thunder, saw limited action, flying just 2,330 sorties. The enemy downed 526 Air Force aircraft; 54 fell victim to surface-to-air missiles, 42 were destroyed by MiGs, and the remainder succumbed to antiaircraft fire. Of the 745 Air Force crew members shot down on missions against the North, 145 were rescued, 255 were known to have died, 222 were taken prisoner, and the fate of 123 others was unknown when the operation ended.

Laos, 1965-68

The air war along the trails of southern Laos complemented Rolling Thunder and the air war in South Vietnam. The objective of this third air campaign was to impede the flow of men and equipment from North into South Vietnam; in 1965 this traffic was estimated at 4,500 men and 300 tons of cargo each month. The Air Force, the Navy, and the Marine Corps all participated in this air war; the Air Force with F-100s, F-4s, F-105s, and B-57s from both South Vietnam and Thailand. The weight of the aerial effort varied with the weather, which cleared over southern Laos during a dry season that normally lasted from November through April and facilitated both road traffic and air operations. Although the campaign in this region came to be conducted year-around, initially the activity all but stopped with the onset of the monsoon rains, as the focus of aerial interdiction shifted to the demilitarized zone where the tempo of infiltration increased with the beginning of dry weather.

Like Rolling Thunder, the interdiction of the Ho Chi Minh Trail in southern Laos was subject to political constraints. The settlement negotiated between the communist and noncommunist factions in 1962 banned a military headquarters in Laos, and the United States used its embassy at Vientiane for that purpose, with the ambassador functioning as the military authority in the kingdom and the military attaches as his staff. Decisions as to the number of sorties, targets, and ordnance reflected the need to preserve the nominal neutrality of the Lao-tian prime minister, Souvanna Phouma, who did not object to

the air war as long as his loyal subjects were not endangered and his government not involved to the extent that might invite North Vietnamese retaliation. The Joint Chiefs of Staff approved each of the recurring interdiction campaigns, the Seventh Air Force provided the aircraft and nominated the targets, and the ambassador vetoed any target that in his judgment might jeopardize noncombatants, captured Americans, or the appearance of neutrality on the part of Souvanna's government.

The original Barrel Roll campaign, begun in December 1964, gave way during the following April to a more extensive interdiction program called Steel Tiger. As the rains abated, infiltration increased and the number of air strikes multiplied, concentrating on the part of Steel Tiger closest to the South Vietnamese border, a region called Tiger Hound. Aircraft hit trucks, storage and bivouac areas, bridges, buildings, and anti-aircraft sites. In December 1965 B-52s dropped their first bombs on the Ho Chi Minh Trail.

Although American aircraft had by the end of 1965 claimed the destruction of more than 1,000 trucks, along with structures of every sort, including bridges, few results could be verified and the number of the enemy killed could not be determined. Infiltration continued not only through Laos, but also by way of Cambodia and the demilitarized zone and by sea. As time passed, the carefully camouflaged network of roads and trails, waterways and pipelines, depots and bivouac areas steadily expanded in southern Laos, and the enemy established a logistics complex in Cambodia.

Because of the troops and cargo that traveled the infiltration and supply routes, the tempo of the fighting in South Vietnam continued to increase despite an enemy death toll that rose from an estimated 35,000 in 1965 to as many as 181,000 in 1968. Realizing the importance of the Ho Chi Minh Trail through southern Laos in sustaining the war in South Vietnam, the United States early in 1966 intensified the air campaign against this route and experimented with a number of new interdiction techniques. Until the rains arrived in May, Air Force, Navy, and Marine Corps aircraft flew more than 6,000 sorties, cratering roads and destroying 1,000 trucks, along with buildings, anti-aircraft sites, and boats. World War II vintage A-26s began hunting and attacking trucks; the Combat Skyspot radar, which had proved effective in South Vietnam, began direct-

ing strikes in southern Laos at night and in bad weather; and AC-130 gunships equipped with special detection devices to locate and attack trucks moving by night saw their first action early in 1967. At times, South Vietnamese ground reconnaissance teams were flown by helicopter to the vicinity of the trail to locate targets and call for air strikes.

Meanwhile, the B-52s began making a greater contribution to the interdiction effort, flying some 400 sorties against portions of the trail opposite the five northernmost provinces of South Vietnam between April and June 1966. Westmoreland sought to expand still further the use of the bombers by inaugurating a systematic campaign against the mountain passes leading from North Vietnam into Laos. The ambassador, however, vetoed the proposal, doubting both the effectiveness of the bombing and his ability to sell such a program to Souvanna Phouma.

The North Vietnamese reacted to the interdiction campaign by strengthening the antiaircraft defenses and by assigning troops and laborers to repair damage and build new routes, some of which would remain undetected for months, even years, under the jungle canopy. By mid-1966, Air Force reconnaissance craft had identified about 300 antiaircraft sites bristling with guns, mostly 37-mm types; the labor force by this time totaled an estimated 38 North Vietnamese engineer battalions and 16,000 civilian laborers, many recruited locally. A North Vietnamese transportation division controlled the entire operation, which included way stations, guides and food, and communications all along the roads and rivers.

This transportation division, in attempting to make the Ho Chi Minh Trail secure, devised many techniques for avoiding detection from the air. As much as possible, trucks moved by night; in daylight they were camouflaged with green paint, tarpaulins, and tree branches. Whenever aircraft approached, moving trucks darted onto side roads and waited for at least an hour after the intruders had disappeared before resuming the journey. Bicycles, oxcarts, boats, and human porters supplemented the trucks in carrying supplies. Troops destined for the battlefields of South Vietnam also used the Ho Chi Minh Trail, usually traveling on foot in small groups. The soldiers were warned not to discuss their travel, make any unnecessary noise while en route, or leave litter on the road in short, to avoid any



The Prince, Mangkhra Phouma, son of the Laotian prime minister poses with a very young, but successful Hmong (or "Meo") soldier. As older Hmong soldiers were killed in battle, younger and younger brothers and sons took their place. Mangkhra is wearing an Air Force jacket with a Tactical Air Command patch.

action that might reveal their schedule or betray their presence. If aircraft did appear, the individual infiltrators either froze in their tracks, threw themselves down, or moved off the trail into the rain forest. The jungle proved a valuable ally of the North Vietnamese, for by binding together the tops of trees, the enemy created an extensive trellis to hide his movements and his installations from searching aircraft. Trucks and infiltrating troops crossed rivers and streams without being detected on pontoon bridges, hidden by day, or on underwater spans made of sandbags. Telephone lines were strung along five-foot poles that were too short to cast the telltale shadows that might alert photo interpreters to the course of the trail. This sustained effort, requiring the full-time activity of tens of thousands of soldiers who might otherwise have been fighting in South Vietnam, seemed proof that the bombing of the Ho Chi Minh Trail had disrupted the North Vietnamese war effort.

In the summer of 1966, when the seasons changed and the infiltration shifted northward to the demilitarized zone, the aircraft assigned to operations in Tiger Hound followed suit and began bombing in the Tally Ho area just north of the zone. Early in 1967, when the dry weather returned to southern Laos, the Air Force stepped up its bombing attacks, its efforts at night interdiction, and its support of ground probes of the Ho Chi Minh Trail. These operations, and the attempt to turn the

roads and trails to mud by seeding the clouds to cause rain, failed to significantly reduce enemy infiltration. The Air Force attributed this failure to the need to consult the ambassador at Vientiane, which made the bombing in southern Laos, like the air war against North Vietnam, a tentative, stop-and-go undertaking.

In the meantime, Secretary McNamara, losing confidence in Rolling Thunder as a means of forcing the enemy to end the aggression in the South and negotiate an end to the war, began seeking a substitute for the bombing of North Vietnam less costly in lives and aircraft. He proposed, instead of intensified attacks on the heavily defended North, that air power join in a systematic effort to choke off the flow of men and equipment across the demilitarized zone and through southern Laos into South Vietnam. He ordered the establishment of what sometimes was described as McNamara's Wall—a barrier of barbed wire and defensive strongpoints sealing the routes across the demilitarized zone and a field of electronic sensors detecting infiltration west of the zone through southern Laos. Work on the barrier along the demilitarized zone began during the second half of 1967 but was never completed; beset by shortages of transportation and materials and by poor roads, the project soon collapsed in the face of determined enemy resistance. Meanwhile, the electronic portion of the wall began to take shape. Under the guidance of the Air Force, Task Force Alpha came into being, its brain an electronic surveillance center built at Nakhon Phanom, Thailand, on the border with Laos. To monitor the movement of trucks and men along suspected segments of the Ho Chi Minh Trail, aircraft dropped acoustic and seismic sensors, along with thousands of tiny button bombs to help activate them. Orbiting EC-121s relayed signals from activated sensors to Nakhon Phanom, where computers matched the information with previously stored data, and controllers requested strikes by elements of General Momyer's Seventh Air Force.

Aircraft especially equipped for the operations of Task Force Alpha began arriving at Nakhon Phanom late in 1967. The Navy contributed a squadron of Lockheed OP-2E patrol bombers, which joined Air Force CH-3C helicopters in planting the sensor fields. Besides the helicopters, the Air Force supplied a squadron of F-4s to drop sensors in areas too heavily defended

for the helicopters or the OP-2Es and eighteen A-1Es to dispense the tiny bombs that, when driven over or stepped on, emitted a noise that activated the sensors. A detachment of forward air controllers in O-1s arrived to direct both the placement of the mines and sensors and the strikes launched in response to the electronic data. Despite successful tests of the system on the trail in December, the full-scale inauguration of the program had to be postponed when the assigned aircraft were diverted in January to the defense of Khe Sanh. The marines manning the base benefited, however, from the sensors in pinpointing hostile movements and acquiring targets for air strikes or artillery.

Between December 1964 and the end of 1967, American aircraft flew 185,000 sorties of all kinds against the Ho Chi Minh Trail. Of this total, 80 percent were the work of the Air Force, which lost 107 of the 132 aircraft shot down over southern Laos during this period. As a result of the reduction and then the termination of Rolling Thunder, resources became available to transform the air campaign in southern Laos from essentially a dry-weather attempt at interdiction into a succession of sensor-assisted air campaigns, called Commando Hunt, that tried throughout the year to impede the infiltration of men and supplies.

The air war fought over northern Laos had a lower priority than operations over South Vietnam, North Vietnam, or southern Laos. Neither the communist Pathet Lao nor their opposition could recruit the forces or obtain the outside aid that would bring victory. North Vietnam used the Pathet Lao to protect the western flank of the Ho Chi Minh Trail; the United States hoped to safeguard the radar sites in Laos that directed the bombing of North Vietnam and, at the same time, tie down North Vietnamese resources that might be used to greater effect in South Vietnam or in southern Laos. The main antagonists, therefore, were more interested in keeping their Laotian factions in the field and fighting than in winning. Victory, after all, might require the diversion of men and materiel needed for more important operations elsewhere.

Disagreements arose over how air power could best sustain the forces loyal to the government and opposing the Pathet Lao. The American ambassador at Vientiane wanted to control the air support needed by the government forces and the irregulars

recruited by General Vang Pao from the Meo tribe in the mountains of Laos. He tried repeatedly to persuade the Air Force to set aside aircraft for his exclusive use in providing close air support for the troops in northern Laos, but General Momyer resisted attempts to assign fighter-bombers to the ambassador or to the Laotian generals. Momyer's responsibilities extended from the Mekong delta to the demilitarized zone, including the roads and trails of southern Laos, and embraced every kind of air support from battlefield strikes to long-range interdiction. He was determined to retain the freedom to use his aircraft wherever and however he deemed best. Instead of continuing to maintain a few jet fighter-bombers on alert for operations in northern Laos, as his predecessor had done, Momyer preferred to allocate sorties from his overall force in response to requests from Vientiane. Although the Air Force increased the number of B-26s and A-1s assigned to Southeast Asia, types of aircraft well suited to the kind of war being fought in northern Laos, the ambassador did not become his own air commander.

The fighting in northern Laos remained largely a war of proxies, with few Americans (or North Vietnamese, for that matter) serving there. The North Vietnamese provided supplies and a small core of disciplined soldiers for the Pathet Lao. An even smaller contingent of American airmen acted as forward air controllers for Vang Pao's army or operated the scattered radar sites that directed strikes in southern Laos and North Vietnam. Udorn in Thailand functioned as a pilot training center and maintenance depot for the fledgling Royal Laotian Air Force, and a C-130 flying out of there served as an airborne command post for operations over northern Laos.

American aerial activity in northern Laos varied in intensity over the years. As an immediate consequence of the peace accord of 1962, the United States shifted its attention to South Vietnam and limited its activity in northern Laos to providing military aid, conducting the occasional show of force, and carrying out clandestine operations. These circumstances contributed to the creation of a loosely structured operating organization for which the embassy, the Central Intelligence Agency, and the military shared responsibility. Two years later, when civil war erupted despite the settlement of 1962, the United States sided with the Royal Laotian government against the communist Pathet Lao. After 1964 the fighting intensified,

but by 1968 it had more or less settled into an annual pattern in which the Pathet Lao advanced onto the Plain of Jars in northern Laos during the dry season (winter), exposing its forces to air attacks that inflicted casualties and hacked away at the supply and communication lines extending from North Vietnam. By the coming of the summer rains, the drive had spent itself, and the initiative passed to the government troops as the communists fell back to restock and regroup. In this annual cycle of combat, the Laotian government came to rely more and more on air power, both American and its own, and on the guerrilla army of Vang Pao.

Air Force pilots became proficient in the kind of close air support on which the Meo tribesmen depended. The first such strikes, delivered during a dry-season offensive by the Pathet Lao in 1965, demonstrated that Air Force units could work directly with the Laotian forces, whether regulars or Vang Pao's guerrillas. Laotian reliance on American air power increased during 1966, after the commander of the Laotian air arm launched an unsuccessful coup that undermined the morale and effectiveness of his organization as well as the government's confidence in its air force. The Americans had no choice but to supply the needed sorties until the Laotians could again fly them.

The reduction and later the cessation of the bombing of North Vietnam in 1968 changed all four of the air wars in Southeast Asia. The greatest change was in the North, where for more than three years American aircraft were authorized to go only to fly reconnaissance missions or to retaliate for some action by the enemy, usually an attack on reconnaissance craft. In the South, air power became a shield for the American disengagement and withdrawal. In Laos, the purpose of air operations remained interdiction in the south, preventing the enemy from building up for a final onslaught as American strength in South Vietnam declined, and tying down resources in the north that the North Vietnamese might otherwise use to turn the American withdrawal into a rout. As a result, air power no longer used against North Vietnam found ready application in South Vietnam and in the two wars being fought in Laos.

Vietnamization

By imposing a limit on American participation in the war—the effect of the decisions made following the Tet offensive of early 1968—the administration of President Lyndon B. Johnson began modifying the partnership between the United States and South Vietnam. The ultimate objective remained a free and independent South Vietnam, but the United States no longer pursued that goal by means of a bombing campaign in the North and by a war of attrition in the South fought largely by American troops. Instead, the United States began to train and equip the South Vietnamese to take over the war, while at the same time engaging in negotiations with the enemy to end the fighting and acknowledge the right of South Vietnam to exist. North Vietnam proved willing enough to talk; in May 1968, after Rolling Thunder diminished in scale, the Hanoi government entered into preliminary discussions at Paris that involved the United States, South Vietnam, and, after much haggling, the political leaders of the Viet Cong. Not until January 1969, after Rolling Thunder had ended and when Richard M. Nixon, a Republican, was about to take the oath of office as President, did the preliminaries end so that the negotiators could begin addressing issues of substance. The discussions soon revealed that North Vietnam, although willing to participate, would make no major concessions that might jeopardize the ultimate conquest of the South; fight and talk became the national policy, which persisted after the death of Ho Chi Minh in September 1969.

The Nixon administration took over the basic strategy adopted by President Johnson and named it Vietnamization, a label proposed by Secretary of Defense Melvin R. Laird. The original choice, de-Americanization, had seemed not only less euphonious but also hurtful to South Vietnamese pride since its use acknowledged that the United States had indeed taken over the war. Ideally, as Vietnamization progressed, freshly equipped and newly trained South Vietnamese would in an orderly fashion assume full responsibility for fighting the war. The Americans in the ground forces, which contained the greatest share of draftees and suffered the most casualties, would be the first to depart as the South Vietnamese took over. In this way, the toll of Americans killed and wounded would decline

sharply; and this benefit of Vietnamization would affect a large segment of the nation's populace, the families of the draftees, thus encouraging widespread support, if not of the war itself, at least of the manner in which it was being liquidated. However, the reduction of American casualties, and the resulting political effects, soon took precedence over the difficult job of fitting out and training the armed forces of South Vietnam. Henry A. Kissinger, the national security adviser to President Nixon (and after August 1973 the Secretary of State), warned early in the process of Vietnamization that troop withdrawals would become "salted peanuts" for the American people, with each one whetting the public's appetite for another. Kissinger was correct. He acknowledged years afterward that by late summer of 1969, "We were clearly on the way out of Vietnam by negotiation if possible, by unilateral withdrawal if necessary."

The emphasis on bringing the men home represented an attempt to placate the antiwar movement in the United States, which since 1965 had mounted several large public demonstrations against American policy in Southeast Asia. The motives of the demonstrators varied from a sincere belief that the war was morally wrong to a fear of being drafted and possibly serving in South Vietnam. By embarking on a well-publicized course of disengagement and withdrawal (and later by easing the impact of the draft preparatory to abolishing it altogether), the Nixon administration bought time for negotiation but at the same time relaxed the pressure on North Vietnam to respond. The United States clearly was leaving South Vietnam, but North Vietnam had no intention of doing so. The American withdrawals thus represented a concession by the Nixon administration to the antiwar faction rather than a reaction to concessions by the communist side in the peace negotiations. Not even a series of secret discussions between Kissinger and representatives of North Vietnam could persuade the communists to accept a program of mutual troop withdrawals.

Vietnamization in all its aspects—disengagement, withdrawal, and the strengthening of South Vietnamese forces—permeated American efforts in Southeast Asia, affecting all four of the wars in which the Air Force was engaged: the fighting over North Vietnam, South Vietnam, northern Laos, and southern Laos (which came to include Cambodia). From late 1968 until the spring of 1972, when a North Vietnamese inva-

sion of the South caused a reorientation of air operations, every undertaking by the Air Force overt or secret, authorized or unauthorized, inside South Vietnam or outside the country was designed to facilitate in some way the withdrawal of American combat forces, their replacement by South Vietnamese, and the negotiation of an end to the war. During 1965 air power had protected the build-up of American ground forces in South Vietnam; now it formed a shield for their withdrawal.

In South Vietnam, throughout the years of Vietnamization and withdrawal, air power, ranging from strikes by fighter-bombers to the battering delivered by B-52s, helped defeat the enemy or hold him in check in a number of battles. The fighting often erupted at fire support bases or other outposts, but the most significant action of this period took place at Ap Bia mountain in the spring of 1969 during a raid on the supply depots within the A Shau Valley. An initial probe revealed that the mountain was an enemy stronghold; air power and additional troops had to be employed for its capture. The soldiers fighting there began calling the objective "Hamburger Hill," as troops were fed into what seemed to them like the military equivalent of a meat grinder. The mountain was finally conquered at the cost of fifty-six Americans killed, with more than ten times that number of North Vietnamese dying in its defense, but the victors promptly withdrew. Lt. Gen. Phillip B. Davidson of the Army, at the time a staff officer with the military assistance command, declares in his book, *Vietnam at War*, that the battle "catapulted the doves into shrill flight," but what troubled opponents of the war like Senator Edward M. Kennedy, a Democrat from Massachusetts, was not so much that fifty-six soldiers had died capturing an important mountaintop as that the objective had been abandoned once it was overrun. In Kennedy's opinion, this latest search and destroy operation had given away what Americans had sacrificed their lives to capture, an objective that might well have to be taken again at further cost. Apparently the Nixon administration shared the senator's concern that lives were being squandered, for the Chief Executive in the aftermath of the Hamburger Hill fighting instructed Gen. Creighton W. Abrams, who had succeeded Gen. William C. Westmoreland as Commander, U.S. Military Assistance Command, Vietnam, to limit American casualties.

Davidson argues in his volume that the battle for Ap Bia mountain and the resulting Presidential decision to hold down casualties marked another turning point in the war, since it deprived the American forces of a sense of purpose by acknowledging that this was indeed a "no-win" conflict. Beginning in 1969 and accelerating in subsequent years, morale and discipline did decline, in part because the war was being liquidated. Put as starkly as possible, no one wanted to be the last American killed in Southeast Asia. Other factors, however, affected the armed forces during the period of Vietnamization and withdrawal. Some, like racial strife and the abuse of alcohol and drugs, were embedded in contemporary American society; others, like opposition to the war, had shallower roots. Although the opponents of the Vietnam conflict remained a small, if articulate, minority, the American public was undeniably becoming indifferent toward the war, and servicemen felt that their sacrifices were barely acknowledged, let alone appreciated. Conditions in Southeast Asia put a unique stamp on these behavioral problems and on the growing sense of alienation. For example, members of the different races, who had cooperated in combat to survive, might be at each other's throats when not in danger from the common enemy; but racial animosity was not the only problem to surface in the rear areas. Boredom punctuated by fear of rocket or mortar attack, isolation from what was familiar and pressure from peers, and ready access to alcohol and drugs created a subculture of dependency. Addiction to drugs represented a problem that the services had not encountered previously; when punishment did not work, treatment programs had to be established.

During this turbulent time, the armed forces fell woefully short of their standards for disciplined behavior. Orders were disobeyed; and in the ground forces, unpopular officers and noncommissioned officers were attacked, even killed. At My Lai in 1968, scores of unarmed villagers believed to have aided the enemy were shot to death. Scandals erupted involving kickbacks and thefts at military clubs, and an Air Force transport assigned to the embassy at Saigon was used to smuggle drugs. Bad as these times were, the armed forces survived as institutions, in part because the war ended with it the strains that had contributed to alienation and demoralization but also because of the positive effects from the efforts made to improve

race relations, treat drug addiction and alcoholism, and root out crime and punish the criminals.

However much it may have contributed to the decline in morale and the breakdown of discipline, the struggle for Hamburger Hill clearly signaled the end of the massive American search and destroy operations that symbolized the war of attrition fought in South Vietnam. For the soldier or marine hacking through the undergrowth or the airman bombing North Vietnamese troops within yards of some embattled outpost, the result may well have seemed a distinction without a difference, but the fact remained that husbanding American lives now took precedence over killing the enemy. The statisticians continued their arcane work long after the resignation of Secretary of Defense Robert McNamara, who had relied so heavily on statistics. They turned from the standard yardstick of attrition, the kill-ratio of Americans to enemy soldiers, to charts and graphs depicting progress in equipping and training the expanded armed forces of the Republic of Vietnam. The war in South Vi-



More 750-pound bombs arrive at Phan Rang Air Base, South Vietnam, February 1970.

etnam became a race against time, an effort to prepare the South Vietnamese to take over the war before the American withdrawal thrust it upon them.

In terms of aircraft for the South Vietnamese Air Force, Vietnamization began (and ended, for that matter) as a matter of quantity more than quality. The number of operating squadrons doubled by 1972 from twenty to forty, but the additional aircraft tended to be Northrop F-5s, which were not standard fighter-bombers in the U.S. Air Force; A-37s, Cessna T-37 trainers modified for use as attack aircraft; helicopters provided mainly by the Army; and old C-123 transports. Both the F-5 and the A-37 were short-range aircraft suitable mainly for operations within South Vietnam. The only Air Force gunships made available to the South Vietnamese, derived from the slow and vulnerable C-47 and C-119 transports, were useful mainly for defending outposts against infantry attack, especially at night. The modernization and expansion programs that produced the forty squadrons excluded aerial tankers, the more modern of the gunships, F-4s, and B-52s. Even the C-130 transport was a late addition to the South Vietnamese inventory of aircraft. The usual justification for withholding aircraft was that the particular model was either not needed for self-defense or too complicated for the South Vietnamese to fly and maintain.

The American concern that South Vietnam's air arm might be unable to absorb the most modern equipment was founded in fact, at least when Vietnamization began. Whether a more intensive program of training might have made a difference is arguable at best, for instruction remained geared to the equipment the South Vietnamese were receiving and this effort encountered serious obstacles. When the Vietnamization of the air arm began in earnest in 1969, that service was an estimated two years behind the army, which had expanded in 1967. Even as their instructors tried to make up for lost time, South Vietnamese training to be pilots or mechanics rapidly had to master highly technical subjects, a truly discouraging task since few of the trainees had either the fluency in English or the technical background to absorb the instruction easily. Training posed the most difficult obstacle to expanding and equipping the South Vietnamese Air Force.

Whatever the problems that lay ahead, some 65,000 American troops, including slightly more than 2,500 airmen, left the country in 1969, as the actual American strength in South Vietnam declined from a peak of almost 550,000 early in the year to 484,000 by the end of December. Tactically, the proportion between air and ground reflected the fact that air power had to compensate for the diminishing size of the ground force, but other considerations were involved. The Air Force not only suffered fewer casualties than the combat arms of the Army and Marine Corps but also relied on volunteers rather than draftees, although some of those who donned its uniform had no doubt been motivated by fear of the draft and possible combat service in the infantry. The death or wounding of a comparatively few volunteers—a proportion of them pilots, who were long-term or career officers—seemed likely to have less impact on the public than more numerous casualties among draftees.

For the U.S. Air Force, Vietnamization got underway in 1969 when the air arm of South Vietnam grew from 17,500 officers and airmen and 400 aircraft to a total strength of 36,000 with 450 aircraft. The disparity in growth between manpower and aircraft resulted from the time needed to train men to service and operate the new airplanes. The process of learning took many forms. For example, the Air Force arranged for South Vietnamese and American airmen to serve side by side in the air support centers of each corps preparatory to a transfer of responsibility for the entire tactical air control system. At the same time, South Vietnamese forward air controllers and air liaison specialists assumed a greater role in directing air strikes, including those flown by American aircraft. The number of sorties by South Vietnamese forward air controllers increased during the year from 505 in January to 1,083 in December, expanding from 10 to 25 percent of the total flown. A similarly encouraging increase took place in the aggregate sorties flown by the South Vietnamese; from 55,000 in the first quarter of 1969 the number rose to 74,000 during the last three months of the year, a tribute to improving maintenance as well as to flying skill. Meanwhile, the infrastructure of bases changed to support South Vietnam's increased share of aerial operations. By October 1969 the U. S. Air Force had virtually turned over to the South Vietnamese the air base at Nha Trang, and by early the following year airmen of the two na-



USAF pilots turn their A-37 jets over to South Vietnamese pilots at Bien Hoa Air Base on October 1, 1970.

tions worked together at Da Nang, Pleiku, Bien Hoa, Binh Tuy, Soc Trang, and Tan Son Nhut.

Growth continued throughout 1970. By year's end, the South Vietnamese Air Force had thirty squadrons organized into five air divisions, ten tactical wings, five maintenance wings, and seven air base wings. The greatest increase in aircraft had come in helicopters, with transfers from the U.S. Army raising the total from 112 to 310. More important than numbers of aircraft, the South Vietnamese flew half of all the strike sorties in their nation. The greater participation by South Vietnam's air arm was necessary because more was being demanded of air power and fewer U.S. Air Force units were available to respond; during 1970, 150,000 Americans departed, including more than 10,000 airmen and 11 of the 20 fighter squadrons based in the South, reducing the total American strength in the country to 334,000.

The withdrawal of American forces continued into 1971, with an additional 50,000 leaving in the spring, en route to a year-end objective of only 184,000 Americans still serving in South Vietnam. Since the need of an aerial shield for the dwindling

ground force continued, so too did the expansion of the South Vietnamese Air Force. The air arm ended the year with 1,222 aircraft, including 500 helicopters, a second squadron of AC-119 gunships, and three squadrons of C-123s added to the two on hand when the year began. Although the number of fighter squadrons remained at nine throughout the year, pilots gained experience as they flew 63 percent of all strike sorties in South Vietnam and 39 percent of those in Cambodia, where the fighting had spread in 1970.

Despite the greater burden being assumed by South Vietnamese airmen, the United States persisted in its refusal to equip them with the latest aircraft, particularly for air defense and interdiction. A surge in MiG activity over Laos during late 1971 persuaded the Department of Defense to accelerate South Vietnam's acquisition of fifty-seven F-5Es fitted out for air defense. The South Vietnamese had not received the means to interdict the Ho Chi Minh Trail because of the tacit assumption that the Commando Hunt series of attacks in southern Laos would continue, but Secretary of Defense Laird insisted in 1971 that South Vietnam's air arm be given an interdiction force that, although not the equal of the American operation centered at Nakhon Phanom, could to some extent disturb the flow of men and supplies from North Vietnam. The Americans proposed that ground patrols sow modest-sized sensor fields to find targets for a five-squadron fleet of single-engine mini-gunships. Testing began in Florida of a short-takeoff-and-landing airplane, the Fairchild Peacemaker, which was to serve as the gunship. Neither the Air Force, the Military Assistance Command, nor the Pacific Command displayed much enthusiasm for the project; the addition of a multibarrel machinegun made the aircraft overweight and dangerously unstable; and by the time the idea was ready for a combat test, the enemy had overrun the area from which the gunships were to have operated. Consequently, South Vietnam never acquired the means for aerial interdiction.

The South Vietnamese, besides lacking a satisfactory weapon for aerial interdiction, did not receive the training or equipment necessary to conduct the kind of search and rescue operations that in the course of the war saved 3,883 persons from death or capture. Excluded from Vietnamization were the HH-3 and HH-53 helicopters and the HC-130P, a combination airborne

command post and aerial tanker. Although all three served the Americans well, the Air Force did not transfer these aircraft to the South Vietnamese. Even so, Vietnamization interfered with the American rescue forces, which were displaced by an expanding South Vietnamese Air Force from their normal operating bases close to the likely scenes of aerial action.

Although the South Vietnamese air arm could not interdict traffic on the Ho Chi Minh Trail or rescue downed airmen, it continued to progress in other fields. By early 1972, for instance, it had assumed virtually full responsibility for the tactical air control system within the country. Officers and enlisted men trained by the Americans ran the control centers and also served as air liaison specialists with ground units. The Air Force forward air controllers turned most of the country over to their South Vietnamese counterparts and continued to operate only in the vicinity of Bien Hoa and Da Nang.

Laos and Cambodia, 1968-72

Until the spring of 1972, when North Vietnam invaded the South, the Commando Hunt series continued in dry season and wet, as the Air Force fought its war in southern Laos. Over the years, marauding aircraft, often responding to sensor signals, claimed to have damaged or destroyed a vast number of cargo-laden trucks, as many as 25,000 in a single dry season, and to have touched off tens of thousands of secondary explosions, which served as proof of successful attacks on supply caches. Yet, these claims and the impact on the enemy defied verification. Cameras and most other airborne sensors could not penetrate the jungle canopy; and with the passage of time, stronger defenses on the ground made it increasingly difficult for intelligence patrols to move into the maze of roads, trails, waterways, pipelines, supply storage areas, and troop bivouacs of the Ho Chi Minh Trail in southern Laos. Improved aerial sensors like infrared detectors, radar, and low-light-level television proved effective over the more exposed portions of the trail; and ever more devastating firepower that included laser-guided bombs, 40-mm cannon instead of 20-mm, and a 105-mm howitzer installed in some gunships increased the likelihood of destructive hits. Despite the greater potential for detection and destruction, comparatively few truck carcasses were seen and the level of

enemy activity in South Vietnam remained essentially constant. In an attempt to determine the effectiveness of the Commando Hunt campaigns, analysts carefully studied the patterns of sensor activation, listed as destroyed only those trucks seen to explode or burn, subtracted only that number from the estimated North Vietnamese inventory, and assigned an arbitrary weight of cargo, depending largely on the direction of travel, to each truck that air power eliminated. Unfortunately, even this analysis proved a better measure of effort than of results.

Since an aura of uncertainty surrounded the calculations of trucks and cargo destroyed, officials in the Department of Defense proposed a new target, manpower, that was judged more likely to affect the resolve of the North Vietnamese and their leadership. However, American intelligence had to locate the bivouac areas that the People's Army of North Vietnam used during the march southward before the B-52s that normally attacked truck parks and supply depots could be directed against infiltrating troops. American officials believed that the impact of aerial interdiction could be multiplied if these areas were located and the bombing proved accurate. Other communist states, these analysts reasoned, would replace trucks and their cargo, with no real cost to North Vietnam, but the killing and wounding of infiltrating soldiers would exact a direct penalty, forcing the North Vietnamese and their leaders to reconsider the wisdom of continued aggression. During the testing period for the new concept of targeting, the bivouac sites proved as hard to find as other components of the trail network; results were at best inconclusive when the aerial interdiction campaign ended.

Whether paying in lives or materiel, the North Vietnamese did not shrink from the cost of keeping the Ho Chi Minh Trail operating. Part of that price entailed the deployment of more and deadlier antiaircraft weapons, along with their crews, to protect the logistics complex. During the spring of 1972, the proliferation of antiaircraft guns, the appearance of surface-to-air missiles within Laos, and the more aggressive use of MiGs changed the nature of the air war over southern Laos. Air Force fighters had to escort missions against the trail, not only to suppress antiaircraft fire but also to deter the North Vietnamese interceptors, and gunships had to be fitted with jamming equipment to blind the radar directing the surface-to-air mis-

siles. Despite such measures, the enemy succeeded for a time in driving the gunships, certainly the deadliest of truck killers, away from portions of the Ho Chi Minh Trail.

The main purpose of the air war in southern Laos was to disrupt the enemy's efforts to mass troops and stockpile supplies for an assault timed to catch the Americans as their withdrawal from South Vietnam neared its completion. The campaign of interdiction the Air Force conducted in southern Laos was extended secretly and on a lesser scale into Cambodia in the spring of 1969. The Cambodian ruler, Prince Norodom Sihanouk, in the hope of appearing neutral and thus preserving the independence of his nation, attempted to accommodate both the United States and North Vietnam. Taking advantage of Sihanouk's ambivalence, the Hanoi government established a supply line extending inland from the port of Sihanoukville to a complex of military bases and storage areas on Cambodian soil along the border with South Vietnam. When a North Vietnamese defector pinpointed the location of the headquarters in Cambodia that directed operations along the border and inside South Vietnam, General Abrams requested permission for an air attack. President Nixon approved a secret strike by B-52s, delivered on March 18, which, judging from the violent reaction when a reconnaissance patrol arrived at the scene by helicopter, may well have hit the intended target. This raid served as the precedent for a series of secret bombing attacks against the six North Vietnamese bases within Cambodia, a campaign that lasted 14 months and totaled 3,875 sorties.

In keeping with his policy of appeasing both sides, Prince Sihanouk did not object to the bombing of a region dominated by the communists and no longer under the control of his government, but he raised to the status of an embassy the Viet Cong diplomatic mission to Phnom Penh, his capital city, and made no move against the North Vietnamese supply line passing through Cambodia. A group of dissident Cambodian generals, headed by Lon Nol, took advantage of Sihanouk's absence from the country and tried to put an end to the policy of accommodation by expelling the North Vietnamese from their bases. On March 18, 1970, the anniversary of the first of the secret strikes by B-52s, Lon Nol declared the absent leader deposed and moved against the enemy. Resources failed to match determination, however; not only was Lon Nol's army unable to defeat

the North Vietnamese and their Cambodian communist allies, his aggressiveness seemed likely to prod them into a counterattack that might well overrun the entire country. Since the bases located along the South Vietnamese border, besides threatening the American policy of Vietnamization and withdrawal, sustained operations against Lon Nol, President Nixon approved an invasion of this part of Cambodia. The American incursion, as the President preferred to call it, began on May 1 and lasted until the end of June; South Vietnamese troops then took over, but American air operations continued.

The American attack into Cambodia had both immediate and long-term military effects. The operation resulted in the destruction of a huge quantity of food and munitions stockpiled mainly for operations in South Vietnam, including 7,000 tons of rice and weapons—enough to equip 74 battalions with rifles and 25 battalions with mortars and machineguns. Estimates of the short-term impact on the enemy varied, but Kissinger concluded that the loss of food, ammunition, and weapons represented a 15-month setback for North Vietnamese plans. The cost in American lives totaled 338, with 1,525 wounded. Yet, even as it reaped these benefits for the near future, the United States assumed an abiding responsibility for the survival of the Lon Nol regime. The fate of the Khmer Republic, which Lon Nol proclaimed at Phnom Penh, depended in large measure on the success of the South Vietnamese in preventing the reestablishment of the destroyed bases. Unfortunately the Army of the Republic of Vietnam, in spite of American air support, proved unequal to the task. Supplied by the North Vietnamese, local communist forces advanced steadily, eventually isolating Lon Nol's capital except for airlift and the convoys, escorted by aircraft and makeshift gunboats, that forced their way up the Mekong River. The Cambodian army, hurriedly expanded, armed, and trained, never outgrew its dependence on American air power to hold the enemy at bay, and the air war in Cambodia, undertaken to complement the campaign of aerial interdiction in southern Laos, continued after the United States and the two Vietnams had agreed to a cease-fire.

In the United States, the political impact of the invasion was sudden and violent, but also subtle and long lasting. Lulled by the American withdrawals just ten days before the attack, the President had promised that another 150,000 troops would

leave South Vietnam within 12 months the antiwar movement erupted in outrage at this extension of the war. Not only did demonstrations disrupt college campuses throughout the nation, a number of government officials, ordinarily expected to support the administration, declared their opposition and resigned or, like Secretary of the Interior Walter J. Hickel, were dismissed. During an antiwar demonstration at Kent State University, a contingent of the Ohio National Guard, which the governor had mobilized to maintain order, fired into a crowd, killing four and wounding nine.

The invasion of Cambodia and the shootings at Kent State further split an already deeply divided nation. An estimated 500,000 opponents of the war assembled in Washington, and, on the same day, 150,000 marched in San Francisco. The administration denounced those who demonstrated against the war, especially the students; the President's supporters rallied to his cause and, in the case of construction workers in New York City, clashed with the antiwar faction. The period of comparative harmony that followed the announcement of Vietnamization and the first troop withdrawals vanished, although temporarily. Further reductions in American forces assigned to South Vietnam and the first steps toward an all-volunteer army restored the calm, but the sudden outburst of opposition triggered by the invasion of Cambodia cast a long shadow. Throughout the remainder of the war, President Nixon remained concerned about a resurgence of antiwar sentiment and its possible effect on Congress. His worries, moreover, were grounded in fact, for the political aftermath of the invasion of Cambodia included the repeal of the Tonkin Gulf Resolution of 1964, at most a symbolic protest of the way in which the war had metastasized, and enactment of the Cooper-Church amendment and the War Powers Act.

The Cooper-Church amendment began as an immediate response to the Cambodian incursion. Senators John Sherman Cooper, a Republican from Kentucky, and Frank Church, a Democrat representing Idaho, offered an amendment to military assistance legislation prohibiting the further use of American forces in Cambodia without the express consent of Congress. The Senate adopted the rider, but the House of Representatives refused. By year's end, after months of debate, a defense appropriations act emerged containing a revised ver-

sion of the amendment that ignored Cambodia, from which the American troops had withdrawn, and in effect forbade the introduction of ground forces into Thailand or Laos.

Unlike the Cooper-Church amendment, the War Powers Act from its inception addressed basic political questions rather than a transitory crisis like the invasion of Cambodia. Concern over the involvement of the nation in the Vietnam War and the expansion of that conflict, largely by executive action, caused Congress to assert greater control over the military aspects of the nation's foreign policy. In October 1973, both the Senate and the House of Representatives passed legislation that required the President to report within forty-eight hours if he should commit American troops overseas or if he substantially enlarged an existing commitment. The military involvement would have to be terminated after sixty days, plus an additional thirty days for withdrawing the force, unless Congress decided otherwise. After warning that such a law would impose unconstitutional and dangerous restrictions on Presidential authority and seriously undermine this nation's ability to act decisively and convincingly in times of international crisis, President Nixon vetoed the legislation. Congress voted to override, however, and the War Powers Act became law.

Less than a year after the invasion of Cambodia, South Vietnamese forces, with the encouragement of General Abrams, attacked Laos. From Khe Sanh, which American forces had reoccupied to serve as a supply base, the assault troops advanced toward the site of Tchepone, a village astride the Ho Chi Minh Trail that had long ago been abandoned and bombed to rubble. After reaching Tchepone and destroying the materiel stockpiled in the vicinity, the South Vietnamese planned to withdraw by way of the A Shau Valley, rooting out supply caches and disrupting the passage of men and cargo through that conduit for infiltration. The Cooper-Church amendment limited the degree of assistance that American forces could provide to air support and, as a result, the South Vietnamese divisions had to attack without their American advisers and air liaison parties.

The attack, launched on February 8, 1971, was poorly planned and badly executed. Despite precautions designed to preserve secrecy, the North Vietnamese became aware, at least in general terms, of the operation and redeployed their forces

accordingly. Moreover, planners at the headquarters of the Military Assistance Command, Vietnam, overestimated the ability of low-flying helicopters to survive on their own in the face of hostile anti-aircraft fire, which proved far more intense than anticipated, and had to call for help from Air Force fighter-bombers and B-52s. The contribution of the Air Force varied from flak suppression so that helicopters could disembark their troops, to strikes against North Vietnamese infantry closing in on the outposts thus established, and ultimately to attacks on tanks bearing down on the retreating South Vietnamese. Bad weather hampered close air support by the fighter-bombers, which on one occasion broke off their support of a beleaguered South Vietnamese strongpoint to participate in the attempted rescue of the crew of a downed F-4. Throughout the invasion, President Nguyen Van Thieu of South Vietnam sought to avoid the kind of casualties that might undermine his nation's support of the war, behaving much as his American counterpart had in the aftermath of Hamburger Hill. When the South Vietnamese leader judged that the losses were becoming unacceptable, he called a halt to the operation, a decision that left the invasion force scattered and vulnerable to the devastating North Vietnamese counterattack. Although a raiding party did land by helicopter near Tchepone to create an illusion of victory, the withdrawal became a rout as the enemy attacked, driving the South Vietnamese back across the border in headlong flight. The operation had attracted a North Vietnamese force of perhaps 40,000, with as many as 20,000 killed or wounded, mostly victims of air attacks, thus easing the pressure on the Americans who had not yet left South Vietnam. However, the number of South Vietnamese killed and wounded equaled from a third to a half of the North Vietnamese total, and the action only disrupted traffic on the Ho Chi Minh Trail temporarily. According to the reckoning of General Davidson, an intelligence officer for Generals Westmoreland and Abrams, after no more than a few weeks the enemy again channeled men and cargo through the area around Tchepone. This latest operation in the campaign against the enemy's supply lines in southern Laos had proved inconclusive at best.

The air war the Air Force waged in northern Laos resembled the fighting in Cambodia, as a hard-pressed ally came to rely more and more on American air power. The combat in northern

Laos flared sporadically on two fronts—the Plain of Jars and along the Ho Chi Minh Trail. On the Plain of Jars, the Meo tribesmen commanded by Vang Pao depended on aerial bombing to stop the annual dry season offensive launched by the communist forces, which over the years included an increasingly larger proportion of North Vietnamese. Once this attack had lost momentum, Vang Pao advanced, trying to take advantage of the mobility of his irregulars to isolate the strongpoints opposing him and force a withdrawal by an enemy shaken by bombing and, because of air strikes against his supply lines, desperately short of food and ammunition. To the south, nearer the border with South Vietnam, other troops loyal to the government of Prime Minister Souvanna Phouma mounted an occasional threat to the western fringes of the Ho Chi Minh Trail but were unable to interfere with the traffic it carried.

The fortunes of war fluctuated with the season. At the onset of dry weather, usually in November or December, the Pathet Lao, spearheaded by North Vietnamese soldiers, pushed boldly onto the Plain of Jars. The government at Hanoi, unwilling to ignore the real prize, South Vietnam, did not divert enough men and material to crush the Meo; and by the time the rains began falling in May or June, the communists were bloodied, exhausted, and eager to fall back to their supply bases nearer North Vietnam. Vang Pao's irregulars materialized around the enemy's outposts at the beginning of the rainy season when the annual retreat was about to begin. The subsequent pursuit produced varying results in 1970: the Meo reoccupied almost the entire Plain of Jars and continued until Vang Pao's tribesmen were utterly spent, the communists had replenished themselves, the skies had cleared, and the cycle was about to begin again. Over the years this process worked against the Meo general; since he obtained his soldiers exclusively from among his mountain people, the recruiting base was limited and subject to steady attrition, forcing him to turn increasingly to boys and old men. Reinforcements might come from elsewhere in Laos, but the royal army had thus far shown little aggressiveness in its forays toward the Ho Chi Minh Trail.

The situation seemed so bleak early in the dry season of 1968–1969 that Souvanna in June 1969 decided to make public both the presence of North Vietnamese troops in his country and the American bombing along the Ho Chi Minh Trail and in

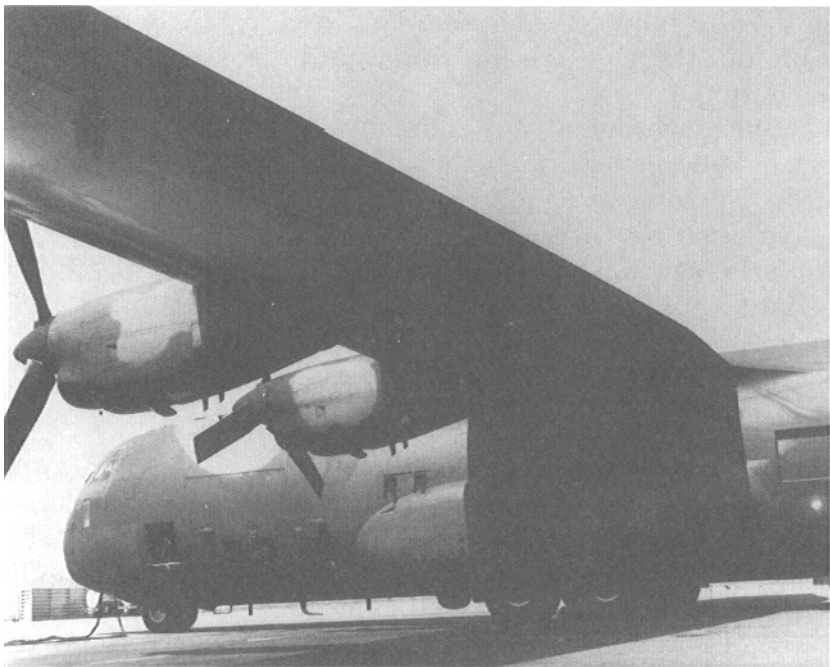
northern Laos. The Laotian premier was careful, however, to point out that American air power was the only weapon that could hold the North Vietnamese in check. In commenting on Souvanna's statement, which aroused no public controversy in the United States where the Nixon administration had just taken office, the Department of State drew a distinction between the two air wars being fought in Laos: operations against the trail were an extension of the war in South Vietnam and would continue as long as there was fighting in that country; those in the northern part of the kingdom were directed against the North Vietnamese intruders and might end in the unlikely event the Hanoi government withdrew its forces. Souvanna failed in his attempt to dramatize his nation's plight and gain international support, but the immediate military crisis abated and the annual pattern of warfare reasserted itself.

Because air power was an effective means of checking the North Vietnamese and economical in terms of the loss of American life, the Air Force undertook various measures to improve its own operations and those of the Laotians. During 1969, the Royal Laotian Air Force, recovered from the effects of the mutiny of three years earlier, received new equipment like the AC-47 gunship and underwent a housecleaning as the American air attaché at Vientiane tried to suppress smuggling. The misuse of aircraft for this purpose could not be ended, but it was made more difficult by circulating a schedule of all administrative flights among the senior officers in the hope that those who were honest would take action against the obvious abuses, such as apparently purposeless flights to areas dealing in gold or drugs, while those who were not honest would join in demanding greater control because the profits were not being divided equally. In addition, Air Force instructors began training Meos to fly T-28s in support of Vang Pao's troops, and these pilots demonstrated a willingness to run almost any risk to help their fellow tribesmen on the ground.

In general, the weapons and tactical refinements employed by the Air Force reflected the gravity of the military situation and the dependence of the ground forces on air power. The use of laser-guided bombs increased and would increase even more as the years passed. The number of forward air controllers flying in Laos grew, and some began using jets instead of O-1s. To facilitate the diversion of fighter-bombers to meet emergencies

in northern Laos, the Seventh/Thirteenth Air Force distributed lists of standby targets with enough information on each so that a pilot arriving on the scene would have a clear idea of the target and its defenses. In February 1970, with a communist dry-season offensive gathering momentum, B-52s flew their first bombing mission in northern Laos, a disappointing strike that produced 130 secondary explosions but, according to a reconnaissance team that examined the target, only 20 enemy dead. In May of that year, F-4s again began standing alert at Udorn in Thailand, the revival of a practice abandoned by Gen. William W. Momyer, when he commanded the Seventh Air Force. Other aircraft that saw action in northern Laos included the AC-119K and AC-130 gunships; the OV-10, a twin-turbo-prop aircraft designed by North American Rockwell for observation and armed reconnaissance in counterinsurgency operations; and for a time in 1972, the F-111.

Neither the arsenal of aerial weapons nor the use of Combat Skyspot and other bombing aids to improve accuracy could do



AC-130 Spectre gunships destroyed more trucks on the Ho Chi Minh Trail road network in Laos than did any other weapon system.

more than buy time, and even this delaying action became more difficult. As the American withdrawals from South Vietnam continued, fewer sorties were available for attacks in northern Laos. The North Vietnamese, moreover, began sending MiGs against American aircraft operating in the region. The first intervention of this kind, on December 17, 1971, resulted in the downing of three F-4s, victims of surprise and the inexperience of their crews. Afterward, when the Soviet-built interceptors approached, propeller-driven aircraft like the gunships or OV-10s retreated westward and F-4s jettisoned their bombs to engage the enemy. During February and March of the following year, Air Force fighter pilots shot down three MiGs.

By the time the MiGs appeared, American air power had once again halted the annual communist advance, but the invasion of South Vietnam absorbed the sorties that would otherwise have supported Vang Pao's advance and harried the North Vietnamese retreat. By the spring of 1972, air support had become even more important to the Meo general, whose army was on the verge of collapse after years of unceasing attrition. Vang Pao tried to rally his exhausted force and inspire it to further action, but the physical and emotional price exacted from the Meo over the years proved too great. The subsequent battles had to be fought mainly by an improved royal army, which performed well against the Pathet Lao and, when sufficient aircraft could be spared from higher priority operations in South Vietnam and North Vietnam, could hold its own even against the North Vietnamese. Victory remained elusive, however; like the fighting across the border in the two Vietnams, the struggle in northern Laos ended in a cease-fire.

North Vietnam, 1968-72

Throughout the period of Vietnamization and withdrawal, the air war continued over North Vietnam, though on a lesser scale than the Rolling Thunder campaign, which ended in 1968. Easily the most daring operation of this period was the Son Tay raid of November 1970, designed to liberate some of the Americans who were prisoners of the North Vietnamese. The treatment and ultimate freedom of these captives, mostly airmen shot down over the North, had become the object of public and governmental concern within the United States. Like the North

Koreans before them, the North Vietnamese sought to use their prisoners for purposes of propaganda, in the case of the Hanoi government both to reinforce the national sense of purpose and to gain sympathy throughout the world. They paraded captured pilots through the streets of recently bombed towns to demonstrate that the Americans, in fact, paid a price for the damage they inflicted and to channel popular emotion that might otherwise have been directed against the communist authorities, who demanded a seemingly endless sacrifice of time, wealth, labor, and life itself. Again as in Korea, torture and mistreatment produced filmed "confessions" of war crimes, usually delivered with expressions or gestures which made it clear that the statement had been made under duress.

As the number of prisoners increased, they began to communicate secretly. One of the methods of secret communication was suggested by Capt. Carlyle "Smitty" Harris, who remembered a lesson he had been taught in Air Force survival school. An instructor there had told him that by tapping on walls Americans imprisoned during the Korean War had been able to exchange information. Harris introduced to the prisons of North Vietnam this tap code, which was based on the image of a square grid containing twenty-five letters of the alphabet (K was excluded), beginning at the upper left corner. A series of taps directed the listener down the grid to a particular row; then came a pause and other taps that led to the right and a specific letter. In this way, and through improvised sign language and carefully passed notes, the American captives overcame isolation and organized themselves, searching out the highest ranking officer in each compound so that he could take command. Anyone who did assume command could expect to be severely tortured if the prison authorities discovered his role, as they did from time to time, and those caught communicating might also be punished. Despite the risks, the constant effort to communicate and organize helped the prisoners maintain their sanity through years of captivity in what proved to be America's longest war.

At the end of that conflict, the number of captured and missing Americans totaled 3,000; of these, 23 members of the Air Force were known to have died while in confinement. Capt. Lance P. Sijan was one of those who perished. Shot down over North Vietnam on November 9, 1967, he avoided capture for six

weeks. After falling into the enemy's hands, the emaciated and injured pilot escaped into the jungle while being taken to prison, only to be recaptured in a matter of hours and tortured. He endured weeks of mistreatment before dying in Hanoi's Hoa Lo prison, which the Americans held there called the "Hanoi Hilton." Sijan was the first graduate of the Air Force Academy to be awarded the Medal of Honor.

Other attempts to escape from captivity in North Vietnam were no more successful than Sijan's. It was possible to break out of confinement, but, as had been true during the Korean War, a towering American simply could not lose himself among much smaller Orientals and vanish into an essentially hostile society. Only an American rescue team from outside North Vietnam seemed to have a chance of freeing the prisoners, and during the summer of 1970 a joint task group was formed in the United States to attempt just such a rescue. The likeliest prospects for liberation were the 55 Americans held at Son Tay, some 25 miles from Hanoi, for their prison compound nestled beside a bend in a river that facilitated identification from the air and interfered with access by the troops garrisoned nearby. In command of the rescue effort was Brig. Gen. Leroy J. Manor, an Air Force veteran of some 275 fighter missions in Southeast Asia who trained air commandos at Eglin Air Force Base, Florida; Col. Arthur "Bull" Simons, an Army officer experienced in special operations, led the actual assault.

Aerial photographs of Son Tay enabled the force to construct not only a detailed tabletop model of the objective, but also a full-scale reproduction made of wood and canvas that was disassembled whenever an orbiting Soviet intelligence satellite came within range. Using an airfield where the Doolittle raiders had prepared for their 1942 attack on Japan, a force of volunteers trained to penetrate deep into North Vietnam, land one helicopter in the prison yard and two others outside the walls, free the prisoners, and fly them to safety in Thailand. On the night of November 20, when the assault force arrived at Son Tay, one helicopter deposited its troops at the wrong building and triggered a firefight with the troops quartered there. One of the other helicopters crash-landed in the compound and the other set down safely outside the walls; both disgorged their troops, who breached the wall, but found no prisoners. The assault force regrouped and withdrew in the two undamaged heli-

copters, returning to Thailand with one man slightly wounded and another hobbled by a broken ankle. One of the F-105s protecting the raiders from surface-to-air missiles was shot down by that very type of weapon, but the two-man crew survived and was rescued. There were no losses among the one hundred or more carrier aircraft that staged a demonstration off the coast, dropping flares and feinting toward shore to divert attention from the aircraft approaching Son Tay from an inland direction.

The compound at Son Tay had been empty since July, when the North Vietnamese transferred the captives as flood waters lapped at the base of the prison's walls. Enemy fire and mechanical failures had frustrated low-altitude aerial reconnaissance during the intervening four months, but two important and contradictory pieces of information had surfaced. High-altitude photographs revealed signs that the prison might be occupied, but a list of prisoner-of-war compounds smuggled out of Hanoi had not included Son Tay. Unfortunately, there was no time for further low-altitude photography from drones; while visiting Hanoi, an American citizen opposed to the war had received a list of five captives who had died recently, prompting concern that the health of all the prisoners was deteriorating, making prompt action seem all the more important. The raid therefore went ahead to take advantage of a combination of good flying weather and a suitable phase of the moon, conditions that would not occur again for at least a month. Doubts about the presence of the prisoners at Ton Say remained within the organization of the Joint Chiefs of Staff; when Manor dispatched Simons and the raiding party, everyone on the operation was certain that fifty-five Americans lay confined in the darkness at the bend in the river.

American reaction to the raid ranged from tributes to the obvious heroism of the assault force and expressions of concern for the prisoners to condemnations of American intelligence for not realizing that the compound had been abandoned. Even the administration seemed divided. Whereas President Nixon saluted the participants as heroes and hailed the operation as a success because it reached the objective and returned without loss of life, his vice president, Spiro T. Agnew, complained of the faulty intelligence that had allowed the raid to go ahead. Dr. Kissinger, who later would characterize the operation as

an egregious failure of intelligence, suggested sarcastically that the force should have brought back something, perhaps a baby water buffalo. The person to whom he spoke apparently missed the edge to these words, assumed that an animal of this kind had been brought back, and launched a futile investigation to locate it.

Meanwhile, the North Vietnamese reacted to the raid by consolidating in larger prisons the captives from isolated sites like Son Tay, but this worked to the long-term advantage of the prisoners by strengthening the organizational structure among them and making it easier to communicate with and to sustain one another. Among the more encouraging items of news circulating from cell to cell was the story of the small group that had penetrated the heavily defended heartland of North Vietnam and attacked the compound at Son Tay.

After Rolling Thunder ended, American officials expected that unopposed aerial reconnaissance, rather than daring raids like the descent on Son Tay, would be the usual purpose of missions over the North. Unfortunately, aerial reconnaissance proved far from routine. In November and December 1968, two Air Force RF-4Cs and an escorting F-4 were shot down over the North, along with two Navy aircraft. The missile batteries afterward fell silent, lending substance to the Nixon administration's belief that North Vietnamese negotiators at Paris had at least tacitly guaranteed the safe passage of unarmed reconnaissance craft over their country. The government at Hanoi not only denied that any such agreement existed but reinforced the denial by again firing at the American jets, shooting down one in 1969 and another early the following year. In February 1970, after the second downing, the President directed that fighter-bombers escort the reconnaissance flights, as had been done during the last two months of 1968, with the accompanying F-4s authorized to retaliate instantly against any gun battery or missile site that opened fire. A duel ensued between the escorts, whose work of retaliation came to be reinforced by strikes launched especially for the purpose, and the hostile gunners, as Air Force and Navy aircraft carried out sixty so-called protective reaction attacks during the balance of 1970, twice that number in 1971, and ninety during the first three months of 1972. Usually the protective reaction strikes hit gun or missile batteries that had tried to down reconnaissance craft over

the North, but beginning in 1971 they also were directed against those that fired on American aircraft attacking targets on the Ho Chi Minh Trail within range of weapons on North Vietnamese soil.

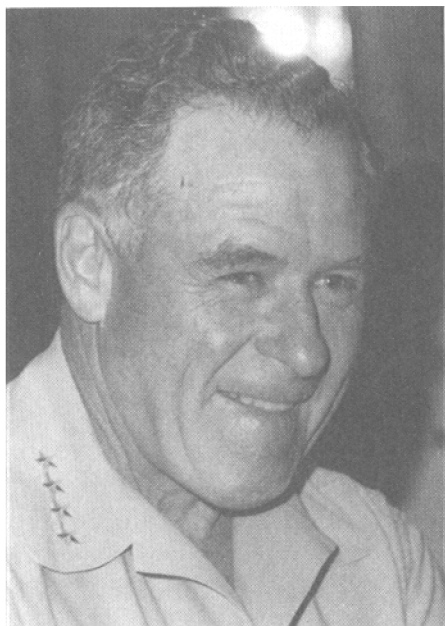
As 1971 drew to an end, aerial reconnaissance produced mounting evidence that North Vietnam was preparing for a major offensive. President Nixon applied the principle of protective reaction to this situation by authorizing a series of attacks on a variety of targets in southern North Vietnam. Beginning on the day after Christmas, American aircraft launched five days of strikes, totaling more than 1,000 sorties, against airfields, oil storage areas, surface-to-air missile sites, supply dumps, and truck parks associated with the buildup. Again in February, when North Vietnamese artillery began firing at South Vietnamese outposts across the demilitarized zone, Nixon invoked protective reaction and approved two days of strikes against those batteries.

Despite the changing definition of protective reaction, Gen. John D. Lavelle, commander of the Seventh Air Force, went too far in applying the concept. Confident that he was carrying out the implied, if not openly expressed, wishes of his superiors, Lavelle interpreted the policy of protective reaction to include attacks on potential threats to American aircraft like the airfields that MiGs might use, the radars that might control their interceptions, and not only surface-to-air missile sites but also the dumps where missiles were stored and the trucks that carried them to the launch sites. Lavelle believed not only that the North Vietnamese air defenses formed a unified threat, but also that the radar which transmitted or the guns which fired during one mission remained a danger for all subsequent sorties, even though the hostile site might remain silent on a particular day. Consequently, he directed his pilots to assume, in effect, that the radar-controlled defenses were always functioning and never to report an absence of enemy activity. Some of Lavelle's subordinates pushed this reasoning to the limit and falsely reported enemy opposition to justify the need to retaliate. Instances of false reporting caught the conscience of a young sergeant in the Air Force, Lonnie D. Franks, who thought that falsification of the record was wrong, whatever the circumstances, and wrote a letter to Senator Harold Hughes, a Democrat from Iowa, describing what was going on. Hughes

turned the information over to the Air Force, the Inspector General investigated, and Gen. John D. Ryan, at the time the Air Force Chief of Staff, accepted Lavelle's immediate retirement for personal and health reasons. Ironically, Lavelle's successor, Gen. John W. Vogt, received a pep talk from President Nixon, who urged him to be more aggressive than the officer he was replacing.

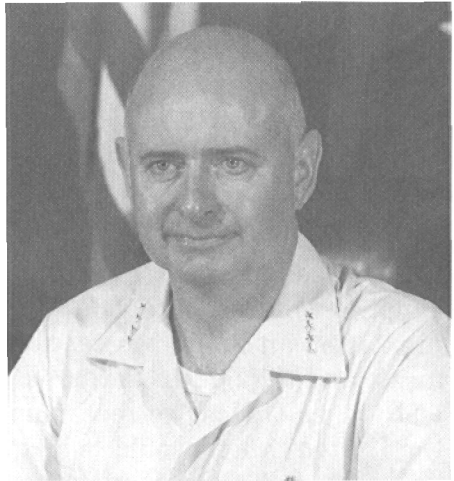
In the autumn of 1972, the Armed Services Committees of the House and Senate conducted separate inquiries into the unauthorized bombing. The Senate committee found, in effect, that the punishment the Air Force meted out to Lavelle—retirement in the grade of lieutenant general rather than as a four-star general—was insufficient. As a result, he assumed the retired rank of major general, but this demotion did not affect his retirement pay, which was based on the highest grade that he had achieved while on active duty, that of general. In contrast, the House committee decided that the bombing missions dispatched by Lavelle had been not only proper but essential.

Lavelle's involvement in the unauthorized air strikes became public at a time when the prestige of the American military was declining. The My Lai massacre, in which American soldiers had mistreated and murdered unarmed South Vietnamese vil-



Gen. John D. Lavelle was relieved of command of Seventh Air Force in March 1972, after an Air Force sergeant in Thailand wrote his senator about false reporting to disguise illegitimate raids in North Vietnam.

Gen. John W. Vogt, Jr., reached Saigon in April 1972 to replace General Lavelle as commander of Seventh Air Force; by then North Vietnam had already launched a massive invasion of South Vietnam.



lagers, had been revealed and the atrocity, as well as attempts to conceal it, had been investigated. The so-called *Pentagon Papers*, a collection of official documents relating to American involvement in the conflict and a narrative of decision-making by the Kennedy and Johnson administrations, had appeared and cast doubt on the wisdom and motives of civilian officials and military leaders. New reports of racial strife, drug abuse, and fraud within the services came to light with sickening frequency. Yet another blow would fall in July 1973, when a former officer in the Strategic Air Command, Hal M. Knight, revealed the secret bombing of Cambodia, begun in 1969 on order from the White House, and the system of false reporting that had thus far concealed fourteen months of B-52 strikes. No wonder that the American public lost enthusiasm for a war that seemed to corrupt even those who fought it.

Invasion Blocked

The succession of protective reaction strikes that began in December 1971, including the unauthorized attacks for which General Lavelle was blamed, appeared to have served their purpose. As the winter of 1971-1972 gave way to spring, the Nixon administration was confident that its use of air power had forestalled a North Vietnamese offensive. Such was not the case, however, for on March 30, 1972, Gen. Vo Nguyen Giap, the victor at Dien Bien Phu in 1954 and North Vietnam's most prominent military leader, sent almost his entire army—in-

initially 125,000 troops supported by tanks and artillery—knifing into South Vietnam. After striking first in northernmost South Vietnam and advancing toward Quang Tri City and Hue, the enemy attacked from the triborder region, where the territories of South Vietnam, Laos, and Cambodia converged, toward the town of Kontum and from the bases he had reestablished in Cambodia toward An Loc and ultimately Saigon.

Seen from Hanoi, the situation was never more promising; supplies were in place, Giap's soldiers were ready, the remaining American ground forces were largely support and advisory units, and the South Vietnamese had given way to panic in the last stages of their retreat from Laos a year earlier. Moreover, the United States would hold a Presidential election in November 1972, and a communist victory in the spring might have the same effect as the Tet offensive of 1968 and drive the Chief Executive from office. Indeed, the antiwar demonstrations ignited by the invasion of Cambodia in 1970 may have made Nixon appear even more vulnerable than Johnson had been. Whether the offensive represented an attempt to crush South Vietnam or merely to advance a good distance along the road to ultimate victory (and the actual objective has for years remained the subject of debate among Americans), the prospects for success seemed excellent.

The leaders at Hanoi had a distorted view, however. Although Nixon continued to worry about the antiwar movement and its possible impact on Congress, he had survived the agitation that followed the invasion of Cambodia and the shootings at Kent State University and seemed increasingly likely to win reelection. Similarly, Thieu remained in control in South Vietnam despite the manifestations of discontent that had surfaced as a consequence of the previous year's severe casualties in Laos. The Army of the Republic of Vietnam had suffered a defeat there, but it remained intact, was absorbing more American equipment and learning to use it, and when fighting on South Vietnamese soil would benefit from the presence of the American advisers on whom so many of the commanders had come to depend. Moreover, Giap turned his back on the very tactics that had enabled the Tet offensive of 1968 to demoralize the American people and the Johnson administration. By launching a series of conventional attacks tied to roads and dependent on artillery support, the North Vietnamese general ig-

nored the fact that his People's Army and the Viet Cong, who played almost no role in this latest offensive, were most mobile before the battle and least so after the fighting began. Giap's forces had an uncanny ability to mass men and supplies for a surprise attack, but once the battle was joined, they lacked the communications to shift forces and take advantage of unexpected changes in the tactical situation. Indeed, if the North Vietnamese could not overwhelm a stoutly defended position at the outset, they tended to attack again and again rather than probe for weaknesses elsewhere in order to bypass and neutralize the bastion. This habit immobilized them and made them especially vulnerable to air strikes.

When North Vietnam invaded, the United States tried to support the defenders with the aerial strength already in the theater, including about 300 Air Force aircraft of all types, some deploying across the Pacific in response to the enemy buildup that triggered the recent protective reaction strikes. As the Army of the Republic of Vietnam struggled to contain the offensive and the South Vietnamese Air Force quickly demonstrated that it could not cope with the emergency, Air Force flight and ground crews intensified their efforts and succeeded in launching more than 500 combat sorties per day.

For a time in early April, the defense of the northern provinces was subordinated to the attempted rescue of an Air Force officer, Lt. Col. Iceal E. Hambleton, the sole survivor of the six-man crew of an EB-66 electronic warfare aircraft shot down over the battlefield. Disregarding the perilous situation of the South Vietnamese forces, Seventh Air Force headquarters arranged to suspend artillery fire into the region where he had parachuted and diverted to the task of finding and retrieving him aircraft that otherwise would have been attacking in support of the hard-pressed South Vietnamese. Surviving on whatever berries and vegetables he was able to find (on one foraging expedition, he stabbed to death a North Vietnamese who attacked him), Hambleton followed the instructions he received on the hand-held radio that was a part of his survival equipment, avoided capture, and made his way down a stream to meet a patrol of South Vietnamese marines who brought him to safety.

The eleven-day rescue effort cost the lives of nine Americans whose aircraft were shot down while searching for Hambleton

or trying to pick him up and deprived a desperate South Vietnamese division of air and artillery support at a critical time. The American adviser attached to this unit warned that the division's officers resented the obvious fact that the Seventh Air Force would risk the lives of thousands of South Vietnamese soldiers to rescue one of its own officers. Nevertheless, the division survived the immediate threat, if only to collapse soon afterward, and however demoralizing the rescue may have been for the South Vietnamese, the concern the Air Force showed for members of its aircrews helped sustain their morale.

When the combined efforts of the American squadrons in Southeast Asia and the air and ground forces of the Republic of Vietnam could not stop the three-pronged offensive, President Nixon approved the increase of American aerial strength in Southeast Asia without reinserting ground forces. From the beginning of the invasion until the end of June, the total number of Air Force aircraft in the region increased from 1,153 to 1,426 as the equivalent of 15 squadrons deployed there, including the B-52 force that expanded from 83 aircraft to 202 and, by the time the war ended, flew almost 3,000 sorties in a single month. To sustain the B-52s and the tactical fighters, the Air Force during the spring of 1972 deployed another 110 KC-135 aerial tankers, raising the total number to 187. The Navy dispatched four additional aircraft carriers to the Gulf of Tonkin, bringing the number there to six, the largest concentration since the Vietnam War began. The Marine Corps, which had withdrawn all its air and ground forces except for a small number of advisers, sent a total of four squadrons from airfields in Japan to Da Nang and Bien Hoa. Concerned over the need to coordinate his operations with the ambassador in Laos, Vogt had earlier sought exclusive control over air operations, not only over the two Vietnams, but throughout Southeast Asia. President Nixon seemed agreeable but never sent the necessary instructions, and the old system prevailed. Since no marines were fighting on the ground in 1972, the newly arrived Marine Corps squadrons encountered no conflicting priorities in carrying out the assignments that the Air Force general gave them.

As the fighting on the ground intensified, all the American aerial might be focused on saving South Vietnam. The air war in southern Laos ended and operations in Cambodia and northern Laos received only the surplus sorties from the systematic



By the spring of 1968, when this photo of a laser-guided bomb (under the wing of an F-4) was taken at Eglin Air Force Base, Florida, tests indicated that the new weapon was ready for use in Southeast Asia. During the next four years, F-4 aircrews gained considerable experience with the weapon in Laos, but only when bombing resumed in North Vietnam in 1972 could laser-guided bombs attack major bridges.

campaign that extended from battlefields like An Loc, Kontum City, and Quang Tri City to the railroads, ports, and bridges of North Vietnam. The general strategy was to bomb the offensive to a standstill by killing as many as possible of the advancing enemy soldiers, while at the same time disrupting the forward movement of the supplies and reinforcements needed to sustain the operation.

Unlike President Johnson, who preferred close personal control over individual targets, President Nixon tended, with some exceptions, to authorize strikes against areas or classes of targets and leave the details to his military commanders. Blows against targets in Hanoi and Haiphong required clearance from the White House, as they had during Rolling Thunder, and the network of irrigation dikes in North Vietnam remained exempt

from attack, although the occasional stray bomb that missed an antiaircraft site or other target and exploded near a dike emboldened North Vietnamese propagandists to level charges that the United States was waging war on the civilian populace by trying to drain the rice paddies. Nixon approved not only attacks on the rail line leading from China but also the mining of North Vietnamese harbors, an action that he felt he could take with little or no risk of a Soviet or Chinese reaction. Because of the rivalry between the two communist states, which had resulted in border clashes as recently as 1969, each was wary of openly aiding North Vietnam or anything else that might encourage the United States to improve its relations with the other, even though inaction might delay what both saw as the inevitable triumph of communism in Southeast Asia.

The aerial interdiction campaign against North Vietnam began April 6 with attacks in the southern part of the country and rapidly expanded. On April 16, B-52s, escorted by fighters and aircraft specializing in electronic countermeasures and suppression of surface-to-air missiles, bombed the fuel storage tanks at Haiphong, setting fires that, reflected from cloud and smoke, were visible from the bridge of an aircraft carrier 110 miles away. Shortly afterward, carrier aircraft joined Air Force fighter-bombers in battering a tank farm and a warehouse complex on the outskirts of Hanoi. When these attacks failed to slow the offensive, naval aircraft began mining the harbors on May 8, and two days later the administration extended the aerial interdiction campaign, formerly Freedom Train but now designated Linebacker, throughout all of North Vietnam.

The President approved this double-edged escalation even though he intended to visit the Soviet Union, North Vietnam's principal supplier, later in May for a major conference, assuming correctly that General Secretary Leonid Brezhnev would not cancel the meeting at a time immediately following Nixon's visit to Peiping, when the United States and China were drawing closer. President Nixon chose to lay mines and intensify the bombing to deprive the Soviet Union of any propaganda advantage that might accrue if South Vietnam collapsed during his trip to Moscow. This did not happen, for he also correctly judged that air power could save the day, for the mining and other forms of interdiction, combined with aerial intervention

on the battlefields of South Vietnam, brought the North Vietnamese offensive to a halt.

In terms of tactics employed and results obtained, Linebacker was a vast improvement over Rolling Thunder. During Linebacker, American aircraft attacked targets like airfields, powerplants, and radio stations that did not fall into the category of interdiction, but the main objective remained the disruption of the flow of supplies and reinforcements to the units fighting in the South. Laser-guided bombs proved effective, especially against bridges, severing the bridge at Thanh Hoa, which had survived Rolling Thunder, and the highway and railroad bridges over the Red River at Hanoi, dropped in the earlier aerial campaign, but repaired. At both places, however, the enemy again made use of alternate means of crossing the streams, usually traveling at night on ferries or movable pontoon bridges. Electronic jamming and clouds of reflecting chaff, as in Rolling Thunder, confused the radars controlling the surface-to-air missiles and the anti-aircraft guns. North Vietnamese MiGs, as they had during Rolling Thunder, gave battle throughout Linebacker but failed to gain control of the sky, in part because American radar, whether airborne, at sea, or in Thailand, detected the interceptors rising from the runways, enabling controllers to direct Air Force F-4s and Navy fighters against them. During the war in Southeast Asia, both the pilot and the weapon systems officer received full credit for each aerial victory. Because of changes in these pairings, two backseaters, Capt. Charles B. DeBellevue and Jeffrey S. Feinstein, but only one pilot, Capt. Richard S. "Steve" Ritchie, became Air Force aces; all three of these officers made their fifth kill during Linebacker, which lasted until October 1972, when the President, encouraged by progress in the truce negotiations, restricted the bombing to southern North Vietnam.

Despite the damage inflicted in North Vietnam by Linebacker air operations, interdiction tended to be more effective closer to the battlefield. Within North Vietnam, the road net was more extensive, labor more readily available for repair and construction, and alternate routes were already well established. Nearer the advancing troops, supply lines narrowed, as though entering a funnel that ended at the front-line unit, alternate routes had to be built from scratch, and few civilians were at hand to supplement the work of the military engineers.

The defenses remained dangerous, however, especially when the SA-7 heat-seeking missile, a weapon carried and fired by an individual soldier, joined crew-served guns and missiles in protecting the invasion forces.

The other purpose of the air war—inflicting casualties on the advancing enemy—was pursued on all three fronts. The deadliest aerial weapons were B-52s, gunships, and fighter-bombers using laser-guided weapons, the last especially effective against artillery in the northern provinces of South Vietnam. On that front, the invaders drove the South Vietnamese from Quang Tri City on May 1; its capture the high-water mark for the North Vietnamese. The attacking North Vietnamese trapped several American advisers and senior South Vietnamese officers in the city, but four Air Force HH-53 helicopters and their escort of A-1s succeeded in snatching them from the very hands of the enemy. Despite heavy losses in the area between Quang Tri City and Hue, where the North Vietnamese had concentrated their anti-aircraft defenses, Air Force fighter-bombers used laser-guided bombs to attack bridges and artillery positions, slowing the enemy's advance and reducing the severity of his artillery barrages, so that the South Vietnamese could regroup. On May 18, when amphibious tanks and infantry crossed the last river barrier before Hue and moved against the city, fighter-bombers destroyed 18 of the vehicles with laser-guided bombs and killed some 300 soldiers. The North Vietnamese drive bogged down, only to be renewed five days later, but air power again intervened, enabling the defenders to force the enemy back across the river.

Success in defending Hue inspired a counterattack, launched on June 28, to recapture Quang Tri City. Although B-52s and fighter-bombers cleared the way for the advancing South Vietnamese, President Thieu tried to avoid using aircraft against the North Vietnamese entrenched in the city itself, hoping to minimize the damage to the houses there so that displaced families could return to their own dwellings instead of becoming dependent on the government for shelter. Unfortunately, an infantry attack floundered in the streets of the town, and B-52s had to join in the sort of destructive pounding that South Vietnam's president had hoped to avoid. By mid-September, the ruins of Quang Tri City were under South Vietnamese control, and the threat to the northern provinces had ended.

In the meantime, B-52s helped blunt the other two attacks. At Kontum City in the highlands, John Paul Vann, an officer retired from the U.S. Army and now a civilian adviser to the South Vietnamese, informally assumed command of the defenses, manipulating air strikes and pulling back from indefensible ground to shorten the lines and make the most efficient use of the troops available to him. As the North Vietnamese advanced on Kontum City, they encountered strong resistance at Polei Kleng and attacked by night but came under attack when an Air Force AC-130 gunship responded to the call for help. The aircraft mounted a 105-mm howitzer, which went into action after the sensor operators located the sources of the heaviest North Vietnamese fire. The deadly aerial barrage broke up the attack, and saved Polei Kleng, if only temporarily. At Kontum City, B-52s did what the gunship had done at Polei Kleng, although fighter-bombers and South Vietnamese A-37s added their firepower and American and South Vietnamese transports delivered supplies to the troops on the ground. Early in the battle for the town, a gamble paid off when the defenders fell back so that a carefully timed deluge of high explosives from B-52s, invisible in the stratosphere, could catch the enemy as he moved forward. The North Vietnamese succeeded, however, in cutting the roads leading into Kontum City. As long as the airfield could be used, South Vietnamese C-123s landed cargo, but when the attackers began raking the runway with direct fire, American C-130s had to supply the defenders by parachute. When the battle approached a climax, South Vietnamese A-37s joined Air Force fighter-bombers and Army helicopter gunships in destroying Soviet-built tanks, but the battering by the B-52s weakened the enemy, so that South Vietnamese forces could check his advance and by the end of May begin expelling him from the captured portions of the town.

The defense of An Loc, considered the gateway to Saigon, closely resembled the battle for Kontum City. At both places the People's Army tried stubbornly to seize a stronghold that could easily have been neutralized and bypassed, while Americans orchestrated the defenses—Vann at Kontum City and Army Maj. Gen. James F. Hollingsworth, the senior adviser to the local corps commander, at An Loc. Hollingsworth realized, as did Vann, that he had devastating aerial firepower at his disposal, provided the South Vietnamese could hold on long

enough to force the enemy to mass and present worthwhile targets. "You hold, and I'll do the killing," the general reportedly told the South Vietnamese, and largely because of the B-52s, air power killed North Vietnamese on a scale that disheartened them and disrupted their plans. Airlift proved critical in enabling the defenders to cling to the ruins of An Loc, since they could be supplied only by parachute. The available drop zones were small, however, and the antiaircraft weapons were dangerous, none more so than the SA-7 heat-seeking missiles. Until radar became available in May to direct the parachute deliveries, as much as two-thirds of the cargo dropped from Air Force C-130s came down in enemy territory. At the time when the danger to An Loc was greatest, aircraft swarmed in the skies overhead; unexpected fighter-bombers arrived, causing controllers to reschedule strikes, but every bomb helped. Despite confusion and savage antiaircraft defenses, air power prevailed. By late May the enemy offensive had stalled, and within two weeks the North Vietnamese were pulling back, ending the threat to Saigon.

Nixon's use of air power to disrupt supply lines and kill the enemy on the battlefield stopped the offensive, helped drive the enemy back a short distance, and did so without the reintroduction of the ground forces he had withdrawn from South Vietnam. In fact, the last combat troops of the U.S. Army departed in August 1972 while the South Vietnamese were counterattacking, leaving behind only 43,000 American airmen and support personnel. Yet, the very success of American aerial activities might have caused misgivings at Saigon, where the dependence of his armed forces on the Americans troubled President Thieu. When his commanders had failed during the recent offensive, the advisers took over, bringing to bear a volume of firepower that South Vietnamese forces could not by themselves generate. Thieu realized that the American's unilateral departure would leave South Vietnam at the mercy of the North Vietnamese forces still in the country. Since the Americans would certainly leave, his only hope lay in the mutual withdrawal of all foreign troops. The South Vietnamese chief executive therefore opposed any settlement that left elements of the People's Army in place within South Vietnam.

In contrast, the United States was now willing to accept a cease-fire that gave the North Vietnamese the fruits of their re-

cent offensive, during which they had captured or consolidated their control over large areas south of the old demilitarized zone, in the western highlands, and along the Cambodian border. After such a settlement, the enemy would occupy a position from which he could, at least detach the northern third of the nation, if not cut South Vietnam in half—as had been feared when the American ground forces intervened in 1965. To offset the geographic advantage thus conferred, the United States continued to supply the Republic of Vietnam with military equipment, speeding deliveries in anticipation of a truce that would impose restrictions on future military aid. Consequently, the South Vietnamese Air Force expanded to an actual strength of 65 squadrons, with more than 61,000 officers and men. Except for the A-37s and C-123s, few of the 2,000-odd aircraft of 25 different types had proved effective during the offensive that just ended. Moreover, the tactical inventory still did not include heavy bombers, howitzer-equipped gunships, and high-performance fighter-bombers with the laser-guided weapons that had done so well at An Loc and elsewhere; nor were there any aircraft for long-range interdiction, rescue, or electronic countermeasures against, for example, radar-controlled surface-to-air missile complexes. Impressive as the influx of materiel was in numerical terms—South Vietnam was credited with having the fourth largest air force in the world—Thieu feared that his country could not defend itself against an established enemy and continued to insist that the North Vietnamese be forced to pull back from the territory of South Vietnam.

Endgame

By the end of October 1972, with the Presidential election fast approaching in the United States, Kissinger declared that peace was at hand and a settlement in sight. His optimism proved unfounded. Not only was Thieu rebelling at what had come to be called a cease-fire in place, but the North Vietnamese also seemed disinterested in even so favorable a settlement. Once his hand had been strengthened by an overwhelming victory over his Democratic opponent, George McGovern, President Nixon sought to remove first one and then the other of the obstacles to peace. He obtained Thieu's reluctant assent to an in-place arrangement by offering "absolute assurance" that he

intended to take "swift and severe retaliatory action" if North Vietnam should violate the terms of the agreement. Put simply, the President gave his personal pledge that he would respond to any future invasion as he had to the offensive of 1972, an assurance that implicitly bound the government of the United States to that course of action. He then sought to remove the other roadblock, the stubborn attitude of the government in Hanoi, by ordering a resumption of the bombing of the heartland of North Vietnam.

"This is your chance to win this war," the President told Adm. Thomas H. Moorer, the Chairman of the Joint Chiefs of Staff. "And if you don't, I'll consider you responsible." The opportunity presented to the admiral in this melodramatic fashion represented a consensus on the part of three men—the President; his adviser on national security, Dr. Kissinger; and Army Maj. Gen. Alexander M. Haig, Jr., Kissinger's principal military assistant—that B-52s should hit targets at Hanoi and Haiphong and thus force North Vietnam to accept a settlement. President Nixon thus unleashed an air campaign, called Linebacker II, that began on December 18 and ended on the 29th, with a thirty-six-hour pause for the Christmas holiday. The B-52s again flew from Guam and Thailand, refueling as necessary from KC-135 tankers. Air Force and Navy fighter-bombers and attack aircraft struck by day, often using radar or other bombing aids because of cloud cover, and the B-52s and their escorts by night. The heavy bombers followed F-111s, which used their speed and their ability to hug the ground to attack from treetop height the airfields used by MiGs and, later in the operation, the most dangerous of the surface-to-air missile sites. Fighter-bombers patrolled in the event MiGs should challenge the B-52s; they carried radar-homing missiles to suppress surface-to-air missile batteries and scattered chaff to confuse hostile radar. Air Force EB-66s and Grumman EA-6s of the Navy and Marine Corps orbited nearby, broadcasting jamming signals to reinforce the effects of the chaff. Plans initially called for the B-52s to rely more on chaff than on their own jamming transmitters in penetrating the radar-controlled defenses of Hanoi and Haiphong. Approaching in a single stream of three-aircraft cells to reduce the likelihood of midair collisions, the B-52s followed a corridor of chaff to the target, dropped their bombs, turned sharply, and headed back toward

their bases. For a number of reasons, what looked good on paper did not succeed in practice. The initial corridor alerted the defenders to the direction of the attack and enabled them to launch their missiles in salvos without radar guidance, relying on proximity fuzes set for the altitude reported by MiGs shadowing the column of B-52s. In addition, the chaff tended to drift during the approach of the bomber stream, some seventy miles in length, and leave gaps in the coverage despite periodic replenishment from F-4s. Finally, the sharp turn after they released the bombs caused the jamming signal radiating from beneath the bomber to point outward, more nearly parallel to the ground, instead of downward, increasing the vulnerability of the B-52s to radar-guided missiles. Taking advantage of these weaknesses, the surface-to-air missile crews downed eleven of the high-flying B-52s by the time operations were suspended for Christmas, six on the night of December 20-21.

The losses, which to the aircrews seemed to result from rigid adherence to flawed tactics, dealt a numbing, though not crippling, blow to morale, but a change in plans restored spirits when the attacks resumed. Besides employing only B-52s with modernized jamming equipment against the most heavily defended targets, tactics, beginning with the mission on the night of December 26, called for clouds rather than corridors of chaff, for more compact bomber streams approaching from different directions, and for the avoidance of sharp turns that neutralized jamming signals. During the final three days of the bombing, surface-to-air missiles claimed only four B-52s. The new tactics helped reduce the losses, as did attacks on the missile sites by F-4s in daylight and F-111s at night and the decreasing number of missiles fired. The North Vietnamese had fired almost all of their surface-to-air missiles; and because of the mining of the harbors, damage to the rail system, and the unwillingness of either China or the Soviet Union to risk upsetting the delicate diplomatic balance with the United States, they could not easily replenish their stocks. At this point, after more than 700 nighttime sorties by B-52s and some 650 daylight strikes by fighter-bombers and attack aircraft, the Hanoi government agreed to enter into purposeful negotiations.

For the Americans held prisoner at Hanoi, the B-52 raids seemed a sign that freedom was near. Morale soared as the guards stopped taunting their captives or threatening retali-

ation and scrambled for cover whenever the bombers drew near. Most of the other prisoners would surely have agreed with Air Force Col. Jon A. Reynolds that the B-52s had forced the enemy to negotiate, even though neither Nixon nor Kissinger, perhaps to avoid antagonizing the North Vietnamese so near the resumption of talks, claimed at the time that they had bombed the enemy to the conference table. In addition, the Linebacker II campaign served to reinforce the pledge given Thieu that in case of a future invasion American air power would come to his aid. The battering of North Vietnam also gave the South a respite in which to absorb recently arrive American military equipment and recover from the effects of the past year's invasion, but neither Linebacker II nor the talks that followed forced Hanoi to agree to withdraw its troops from South Vietnam.

The United States paid a price for the accomplishments of Linebacker II. Besides the fifteen B-52s that fell victim to surface-to-air missiles, ten other aircraft, four from the Air Force and the others from the Navy or Marine Corps, were shot down over the North or so badly damaged that the crews either crash landed or took to their parachutes. Of the one hundred Air Force crewmen shot down, thirty-five were killed; twenty-six were rescued; and thirty-nine parachuted, were captured, and were later released. The air war was not one-sided, however. Air Force fighters destroyed four MiGs, and tail gunners in B-52s shot down two others.

Despite headlines in American newspapers decrying the carpet bombing of a densely populated city, an interpretation based principally on the reports of a French journalist at Hanoi, later investigations revealed that, except for the destruction of part of the Bach Mai hospital by bombs intended for the airport nearby, the damage was limited almost exclusively to targets that were military in nature, like air bases and storage areas for oil and other supplies, or related to the war effort, like railyards and powerplants. Indeed, the Hanoi government stated that exactly 1,624 civilians had been killed at Hanoi and Haiphong during the entire Linebacker II campaign, a far cry from the tens of thousands killed during World War II at places like Hamburg, Dresden, and Tokyo. Several factors no doubt contributed to the comparatively modest death toll: the B-52 strikes had been carefully planned to minimize the bombs fall-

ing into residential areas, fighter-bombers used laser-guided weapons where accuracy was essential, and the North Vietnamese had built shelters and possibly evacuated a large number of noncombatants. In the United States, the wildly exaggerated stories of saturation bombing triggered no great outcry of opposition. The news may well have been believed, but the bombing, however savage, seemed to mark the end of a long and burdensome involvement in Southeast Asia. Moreover, the college campuses, which had nurtured opposition to the war, were closed for the holidays.

Occasional flights over North Vietnam, including patrols to prevent MiGs from interfering with American air operations in northern Laos, continued after Linebacker II had ended. On January 8, 1973, the crew of an F-4D—Capt. Paul D. Howman, the pilot, and 1st Lt. Lawrence W. Kullman, the weapon systems officer—shot down a MiG southwest of Hanoi with a radar-guided AIM-7 missile. This was the last aerial victory before the signing of the cease-fire, which went into effect on January 29. The agreement froze the current battle lines in South Vietnam, reestablished a coalition government of communists and anticommunists in Laos, permitted the withdrawal of the last American combat forces, and resulted in the release of the 591 Americans held prisoner in North Vietnam.

After the cease-fire became operative, the Military Assistance Command, Vietnam, became the much smaller Defense Attaché Office, which dispensed military advice to the armed forces of the republic and supervised the work of the civilians hired to perform maintenance and conduct technical training. To enforce the truce with air power, as President Nixon had promised, the Air Force established at Nakhon Phanom in Thailand a new headquarters, the United States Support Activities Group/Seventh Air Force, under General Vogt, who had come there from his headquarters in South Vietnam. The new command exercised operational control over the 18 Air Force fighter-bomber squadrons and one reconnaissance squadron in Thailand and over a detachment of Marine Corps attack aircraft based there. General Vogt and his staff also maintained coordination with the Navy's carrier task force in waters nearby and with the Strategic Air Command, which had 200-odd B-52s at hand in the western Pacific to resume the bombing of North Vietnam. Various factors, such as cuts in

congressional funding now that the war had ended and the need on the part of the Air Force to redistribute resources that had been tied down in Southeast Asia, contributed to a decline in American strength as the months passed. When 1974 drew to a close, only 25 B-52s and 12 tactical fighter squadrons in Thailand remained to provide an immediate striking force if North Vietnam should violate the cease-fire.

American airmen continued to fight over Cambodia, where the cease-fire in Laos and the two Vietnams had no effect on the struggle between the communist Khmer Rouge and the government. President Nixon sought to use air power to hold the enemy at bay in Cambodia, but congressional and public acceptance of such a course of action was at best unenthusiastic after more than a decade of involvement in the recently concluded Vietnam War. Moreover, the past was overtaking the Chief Executive and further eroding support of the policies he advocated for Southeast Asia. In 1969, when the secret bombing of Cambodia began, a reporter had written a story that mentioned the closely held operation. Although the account passed unnoticed by other journalists and the general public, the President became obsessed with stopping leaks of classified information, and the administration illegally began tapping the telephone lines of a number of citizens, including reporters and government officials. The fear of disclosures intensified after Daniel Ellsberg, a former marine and at various times an analyst for the Rand corporation and a special assistant to the Assistant Secretary of Defense (International Security Affairs), became disillusioned with the war and turned over to the New York Times the classified collection of documents and explanatory text that was published as *The Pentagon Papers*. To obtain evidence against Ellsberg, who was accused of theft and espionage, operatives acting on behalf of the administration broke into the office of the psychiatrist he had consulted, an illegal act that ultimately resulted in the dropping of the charges against him. During the election campaign of 1972, another team of burglars with ties to the White House entered the headquarters of the Democratic National Committee at the Watergate office and apartment complex in Washington, D.C., in search of information that would further diminish the party's already slim chance of gaining the Presidency. Even as President Nixon and Dr. Kissinger were seeking funds from Con-

gress to pursue the bombing in Cambodia, suspicion was mounting that the administration, perhaps the Chief Executive himself, had been involved in two burglaries, an attempt to conceal them, and the illegal surveillance.

In a climate of war weariness and growing mistrust of the President, a number of senators and representatives believed he had overstepped his constitutional authority. Congress asserted the power of the legislative branch and authorized continuation of the bombing only until July 15, 1973. At 11:30 local time on that day an A-7D of the 354th Tactical Reconnaissance Wing landed at its base in Thailand after flying the last combat mission of the war over Southeast Asia. All told, the Air Force had flown 5.25 million sorties over South Vietnam, North Vietnam, northern and southern Laos, and Cambodia, losing 2,251 aircraft, 1,737 because of hostile action and 514 for operational reasons. A ratio of roughly 0.4 losses per 1,000 sorties compared favorably with a 2.0 rate in Korea and the 9.7 figure during



The flight line at Andersen Air Force Base, Guam, was crowded with B-52s for the Linebacker II raids against rail yards and other targets near Hanoi in December 1972.

World War II. Beginning with the deaths of Capt. Fergus C. Groves, II, Capt. Robert D. Larson, and SSgt. Milo B. Coghill in 1962, 1,738 officers and enlisted men of the Air Force were killed in action in Southeast Asia and another 766 died in accidents or from illness.

Legend has it that at the time the bombing ended in Cambodia, someone played over the radio channel used by strike aircraft a tape recording of a toilet flushing, a crude symbol of the fate many predicted for Southeast Asia. By the end of 1975, communist governments controlled South Vietnam, Cambodia, and Laos, but when this came to pass, the Nixon administration, swept into office by a huge margin in 1972, no longer existed. The secret bombing of Cambodia and the falsification of official records that preserved its secrecy surfaced in the summer of 1973, further undercutting the President. A select committee of the Senate developed evidence that linked the President to the concealment of illegal activities by members of his staff, and the House Judiciary Committee found even stronger proof while drafting articles of impeachment. (One of the articles considered but rejected by the House committee accused the Chief Executive of abusing his constitutional powers by secretly bombing Cambodia.) Rather than face the near certainty of impeachment by the House of Representatives and a trial in the Senate, the President resigned on August 8, 1974. His successor, Gerald R. Ford, a long-time Republican congressman from Michigan and minority leader of the House of Representatives, had replaced Agnew when the former Vice President, caught in a web of corruption stretching back to his days as a county official in Maryland, had resigned after pleading *nolo contendere* to a single charge of income tax evasion, thus accepting a conviction without formally acknowledging guilt.

Even as the power and prestige of the executive branch of government declined, the American public experienced an abrupt increase in the cost of living. At the root of the economic woes were restrictions by Arab oil producers on the export of petroleum to the United States and the other nations that supported Israel, the victor in yet another war in the Middle East. The resulting scarcity drove up prices and made it difficult for South Vietnam to fuel the war machine that the United States had given it. Meanwhile, long lines and escalating prices at

gasoline stations diverted the attention of the American public from Southeast Asia and diminished the likelihood that President Ford, in the event of another North Vietnamese invasion, could muster support to intervene even with air power.

Despite the oil shortage and the collapse of the Nixon administration, South Vietnam seemed for a while to be holding its own. Sometimes Thieu's army actually lashed out to improve the tactical position imposed on it by the cease-fire, but at other times the North Vietnamese were able to carve out gains of their own. Despite the apparent stalemate, portents for South Vietnam's future grew increasingly ominous. Stocks of fuel and ammunition could not sustain the air strikes and artillery barrages to which the South Vietnamese had become accustomed, vast amounts of equipment lay unused for lack of maintenance specialists, and the air arm, even if all its officers and men were fully proficient and all its airplanes functioned perfectly, could not survive against the kind of antiaircraft defenses the enemy had used during the 1972 offensive. Further, North Vietnam lost no time moving that defense into the territory overrun in 1972 and converting the Ho Chi Minh Trail into an expressway for supplies and reinforcements.

In Cambodia the situation was much worse. After the bombing stopped in the summer of 1973, the United States continued to deliver weapons, perhaps in greater quantities than the government could absorb, but North Vietnam could supply the communist insurgents more easily, and the Khmer Rouge tended to make better use of what they received. Kissinger, by this time Secretary of State, hoped to negotiate an end to the fighting, but the communists saw no need to talk when they were closing in on the capital, undeterred by an occasional local setback. On April 12, 1975, nine days after an Air Force HH-53 had flown a Marine Corps command element to the embassy at Phnom Penh, Marine helicopters landed and, while a crowd of Cambodians watched passively, flew the ambassador and his staff to safety. Two Air Force helicopters then landed to pick up the marines in the command and security detachments, completing the evacuation.

Even as the Khmer Rouge tightened the vise gripping Phnom Penh, the North Vietnamese on March 10 launched an offensive that rapidly gathered momentum and overwhelmed South Vietnamese resistance. Within the Ford administration, discus-

sion focused on military aid at a time when only armed intervention could have made a difference, although even massive bombing might have failed to ensure the survival of South Vietnam, so desperate were the circumstances. Evacuation rather than intervention became the watchword, as Air Force transports and others chartered from private firms attempted to fly out as many people as possible. The early evacuees included hundreds of infants being cared for at orphanages in Saigon. During this "Baby Lift," tragedy struck when the rear cargo door of a C-5A burst open in an explosive decompression of the cabin, and the transport crashed as the crew tried to land, killing 172, mostly infants, of the 300 persons on board. Despite this disaster, more than 50,000 Americans, South Vietnamese, and citizens of other nations escaped by land or sea before the advancing enemy reached the outskirts of Saigon.

As at Phnom Penh earlier, helicopters offered the final means of escape, but the evacuation from Saigon was complicated by hordes of panic-stricken South Vietnamese fighting for a place on the rescue craft. Amid confusion and open hostility from local residents, the last American fled from Saigon on April 29. Air Force and Navy fighter-bombers and Marine Corps helicopter gunships provided escort, along with AC-130s by night, as Air Force and Marine helicopters rescued more than 6,000 persons from the Defense Attaché Office and from the American Embassy. Radar at air defense sites tracked the rescue helicopters, but only once did the escort have to act; an Air Force F-4 silenced a radar with an antiradiation missile, and an accompanying fighter bombed the 57-mm battery the radar directed. The final evacuation from Saigon was successful, though only in a narrow sense, for it signified hopes destroyed and dreams betrayed. As George C. Herring writes in *America's Longest War: The United States and Vietnam, 1950-1975*, "The spectacle of U.S. Marines using rifle butts to keep desperate Vietnamese from blocking escape routes and of angry ARVN [Army of the Republic of Vietnam] soldiers firing on the departing Americans provided a tragic epitaph for twenty-five years of American involvement in Vietnam."

The military involvement in Southeast Asia had not quite ended, however. On May 12, 1975, Cambodian naval forces seized the American containership *Mayaguez*, although it was in international waters, and President Ford decided to use force

to recover the vessel and its crew of thirty-nine. While aircraft maintained surveillance of the ship, Pacific Air Forces ordered sixteen CH-3 and HH-53 helicopters to gather in Thailand for the operation. En route, one of the HH-53s crashed, killing all twenty-three airmen on board. On the 13th, the surveillance aircraft observed a small fishing boat moving away from the island where the *Mayaguez* rode at anchor. Air Force A-7s promptly fired across the bow and dropped tear gas canisters in the hope of disabling the guards so that the Americans, if they were on board, could seize the craft and escape. The Americans were indeed on board, but the chemical agent affected both captives and captors; a Cambodian retained control by holding his gun against the skipper of the vessel, while the unarmed sailors from the *Mayaguez*, blinded by the gas, could not rush the guards.

Intelligence indicated that the fishing boat had taken the prisoners to Koh Tang, an island midway between the one where the captured ship was anchored and the mainland. To prevent the Cambodians from interfering as a boarding party seized the *Mayaguez*, the rescue force attacked patrol boats and shore installations along the Cambodian coast while some 230 marines landed from Air Force helicopters to capture Koh Tang and free the ship's crew. The *Mayaguez* was abandoned, but infantry armed with a variety of automatic weapons defended Koh Tang. On the morning of May 15, eight of the helicopters landed their troops, and the defenders opened fire, damaging two of the craft and shooting down three others. Meanwhile, a fishing boat carried the crew of the *Mayaguez*, released by their captors, to an American destroyer. Since no Americans were held on Koh Tang, fighter-bombers, attack aircraft, and gunships battered the island's defenders. Aerial firepower, however, could not save the 100 or more marines clinging to a part of the objective; reinforcements had to land and help hold off the enemy to permit an orderly withdrawal. By the time another 100 marines entered the fight, all but one of the nine helicopters that brought in troops during the day had been shot down or damaged.

By early afternoon, even though the marines had been unable to form a unified defensive perimeter, the withdrawal began, and it continued into evening. In a daring nighttime rescue, Capt. Donald R. Backlund could hear bullets tearing

into his machine as he held it a few feet above the beach while an isolated group of marines, under cover of fire from the multibarrel gun in the helicopter, made their way up its lowered ramp. A C-130 transport appeared overhead and dropped a 15,000-pound bomb of the type used to clear landing zones for helicopters during the fighting in South Vietnam. The resulting blast, plus sensor-directed barrages from AC-130s and strafing by OV-10s, suppressed the hostile fire to such an extent that the three helicopters still capable of flight could carry away the last of the marines. American casualties totaled 41 killed, including the 23 members of an Air Force security detachment who died in the earlier helicopter crash, and 49 wounded. The casualties also included a copilot and a flight mechanic killed on helicopters shot down during the morning attack and six wounded helicopter crewmen. Of the 15 helicopters exposed to hostile fire, four were brought down and nine damaged.

Hailed as a demonstration that American resolve had not been undermined by the communist victories in Cambodia and South Vietnam, the rescue operation had nevertheless been marred by hurried planning and based on faulty intelligence that sent a hastily assembled force against a far stronger enemy. True, the *Mayaguez* was safely in the hands of its crew, but that fact had no impact on the course of subsequent events in Southeast Asia. During December 1975, the communist faction took over in Laos, and the following year saw a revolution in Thailand and the emergence of a government, as anticommunist as its predecessor, that nonetheless sought to distance itself from the United States and set a deadline for the withdrawal of the American forces based there. After the North Vietnamese conquest of the South, the communist triumph in Laos, the emergence of a hostile regime in Cambodia (which became the People's Republic of Kampuchea), and the shift of policy in Thailand, the United States could no longer maintain a military presence in Southeast Asia. The American perimeter in the western Pacific now extended from South Korea and Japan to the Philippines.

Within Southeast Asia, one of the announced purposes of the American involvement had come to pass, even though the main goal, the survival of a noncommunist South Vietnam, had not. China did not come to dominate the region, but this outcome, however temporary it might be, resulted from the interplay of

rivalries between China and the Soviet Union, between China and Soviet-supported Vietnam, and between Vietnam and the Chinese-aided Khmer Rouge in Cambodia. While these tensions persisted among the communist states, the independence of western-oriented nations like Thailand and Malaysia seemed reasonably secure.

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