

**The North Vietnamese thought it was Dien Bien Phu
all over again. They thought wrong.**

*Keeping US forces alive during the
1968 Battle of Khe Sanh required
USAF airlifters to haul into the
combat base an average of 165 tons
of materiel daily.*

Airpower at Khe Sanh

By Walter J. Boyne

GEN. Vo Nguyen Giap and other North Vietnamese military leaders dreamed of doing to America at Khe Sanh what they had done years before to France at Dien Bien Phu. There, in 1954, Communist troops had cut off a sizeable French force, put it under siege, forced it to surrender, and shattered France's colonial

power. Hanoi hoped to do the same at Khe Sanh.

US leaders, particularly Gen. William C. Westmoreland, anticipated Giap's desire to re-enact his triumph and decided that any such attempt by the North Vietnamese could be turned into a massive US victory by the use of overwhelming airpower.

Westmoreland calculated that enemy forces attempting to overrun Khe Sanh could be trapped in a place where bombing would inflict huge numbers of military casualties yet harm a minimal number of civilians. The US military commander based his optimism in part on the successful defense of Con Thien in September 1967, when





On the first day of the Battle of Khe Sanh a direct hit on the main Marine ammunition dump destroyed 98 percent of available ammunition. C-130s and C-123s helped replenish artillery stocks.

1967, when US air and artillery support had driven off a large North Vietnamese attack on a Marine outpost.

Since 1962, Khe Sanh Combat Base had been an Army Special Forces site. Located in Quang Tri province in the northwest part of South Vietnam, Khe Sanh lay 10 miles from Laos and 15 miles from the line marking the demilitarized zone. A small village of the same name was located about two miles away. US Special Forces camp Lang Vei was five miles distant.

The combat base was located in the midst of four valley corridors and was surrounded by tall, forested hills, some rising as high as 4,000 feet. The base itself was on a flat plateau and was about a mile long and one-half mile wide. The laterite soil was good for digging trenches and bunkers. These would serve well as the North Vietnamese poured in an average 2,500 shells per week on the base.

Poor Foundation

Unfortunately, the soil was a poor foundation for the airstrip. The original 1,500-foot French runway had been extended to 3,900 feet and covered with aluminum mats. These rolled and pitched when rains soaked the ground—a frequent occurrence. They were displaced by the hard landings caused by the need to make high speed, high rate of descent approaches and were turned into tire-piercing angles when torn by shell fire.

The runway sat on an 800-foot rise, which made approaches from the east difficult because visual references were lacking. During the winter and early spring, visibility was usually less than three miles, with a ceiling of a thousand feet or less. As the day warmed, conditions would improve somewhat.

During late 1967 and early 1968, the US began to increase force levels at Khe Sanh, ostensibly to interrupt Communist troop movements but in fact to bait a trap. The base could accommodate only about 6,000 troops—initially, three battalions of the 26th Marine Regiment. These were later reinforced by a battalion from the 9th Marine Regiment and the South Vietnamese Army's 37th Ranger Battalion.

Unlike French forces at Dien Bien Phu, the Marines made sure they held the high ground and were supported by 16 of the Army's huge 175 mm cannons, all placed to deliver accurate fire on the Communist troops.

The North Vietnamese responded exactly as Westmoreland expected, ultimately bringing in two full regular divisions, the 304th and 325th, for a total of 23,000 troops. They were well-equipped with heavy guns, including the effective Soviet-made 130 and 152 mm guns and 122 mm rockets.

In effect, the enemy at Khe Sanh re-fought the battle of Dien Bien Phu with the same equipment and tactics,

seeking to tighten the noose around the base and then shelling it with artillery, rockets, and mortars. Unfortunately for them, the US was going to fight this battle with far more—and much more advanced—equipment than the French had possessed.

The Battle of Khe Sanh began Jan. 21, 1968, with inconclusive ground activity by US and North Vietnamese patrols. On the first day of battle, a big Communist rocket scored a direct hit on the main Marine ammunition dump, destroying 1,500 tons of high explosives, 98 percent of available ammunition.

It was a bad beginning to a long 77-day siege. As a result, the requirement for aerial resupply went to the top of the critical list for US military planners.

The US decided to permit the enemy to surround the Marine forces at Khe Sanh. US military authorities had prepared an air campaign, Operation Niagara, calling for the concentrated use of Air Force, Marine, and Navy airplanes to destroy the enemy. The plan had two phases: identifying targets before the battle and conducting a full-scale response by airpower and artillery once it started.

Tell It to the Marines

Westmoreland, as the commander of US Military Assistance Command, Vietnam, had emergency powers that would have permitted him to give total control over all aircraft in the operation to Air Force Gen. William W. "Spike" Momyer. Momyer was ideally positioned for the task, being Westmoreland's deputy commander for air and also commander of 7th Air Force.

It was not to be, however. Adm. U.S. Grant Sharp, commander in chief of US Pacific Command, acceded to the Marine Corps' traditional demand to have its own aircraft provide close air support for Marine ground troops. With that decision, Grant, in effect, refused to permit a unified command of US air operations. Momyer was given authority to direct and coordinate these operations, with the Marines supplying any excess assets for his use.

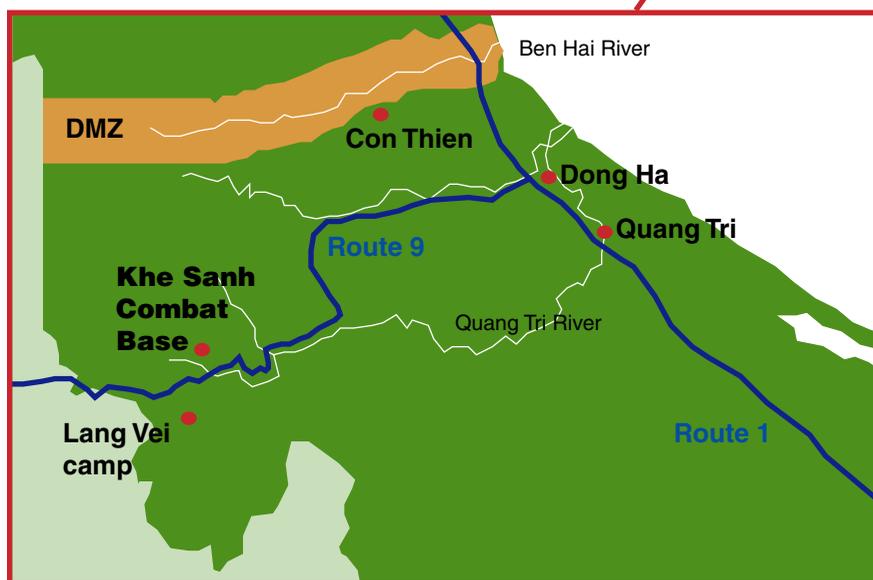
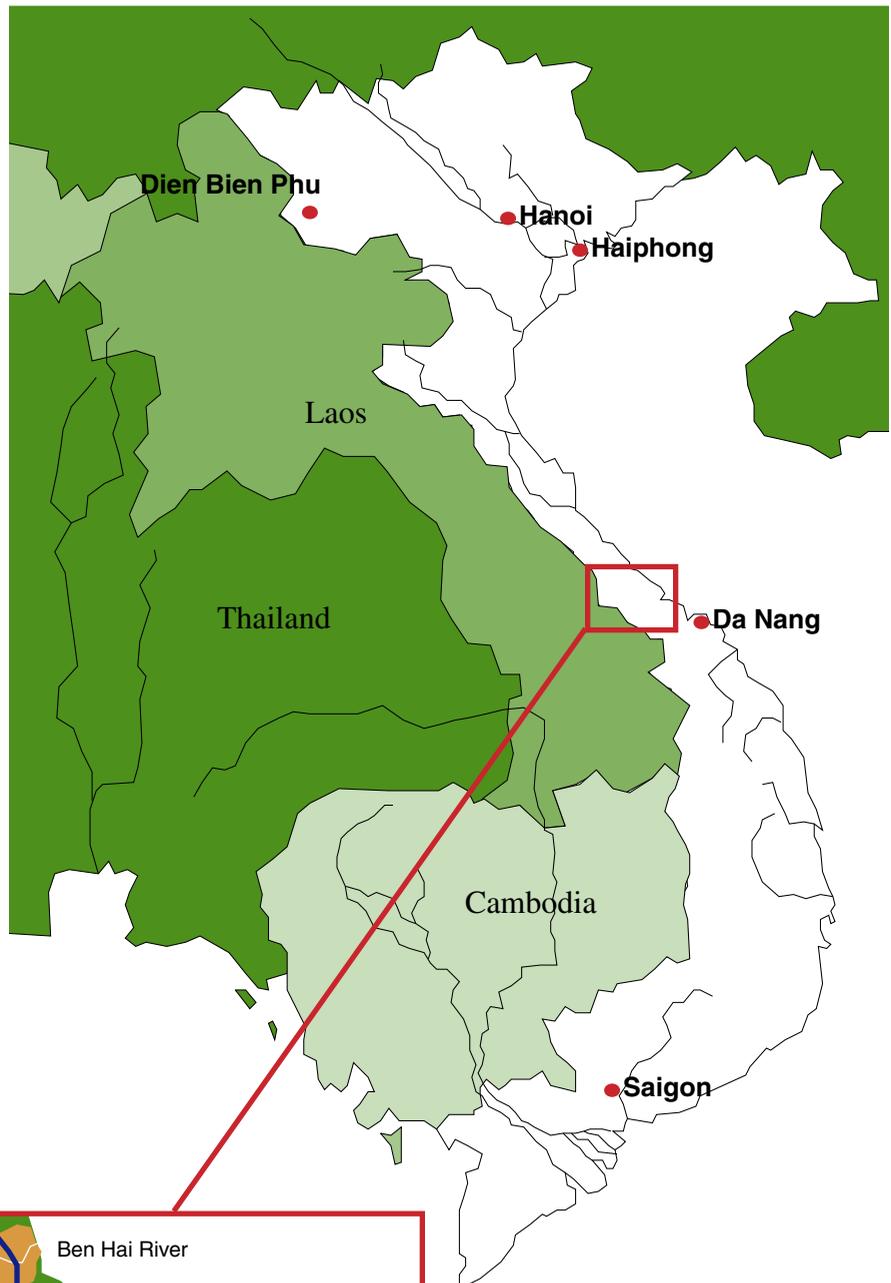
The net result was the creation of six zones around Khe Sanh. The Marines designated the four zones closest to

the base for their operations, while the two most distant zones were allotted to the Air Force.

Despite this rebuff, Momyer set about interdicting enemy supplies—in effect, besieging the besiegers—and bringing the maximum amount of firepower on the entrenched enemy. He used the full weight of Air Force capability, beginning with a centralized intelligence center at Tan Son Nhut. There, 200 people tracked the enemy to optimize both air and artillery attacks.

More than 250 ACOUSIDs (Acoustic/Seismic Intrusion Detectors) and ADSIDs (Air-Delivered Seismic Intrusion Detectors) sensors were emplaced around Khe Sanh to detect enemy movements. These sensors transmitted data to an orbiting Lockheed EC-121 aircraft, which relayed it to an American intelligence center at Nakhon Phanom in Thailand. These data were used for both air and artillery strikes.

Momyer also provided a C-130E Airborne Battlefield Command and Control Center aircraft to coordinate aerial attacks and artillery bombardment. It was incorporated into the Khe Sanh fire support coordination center. Working together, the ground and air centers were able to coordinate USAF, Navy, Marine, and even Army tactical air efforts with Arc Light B-52 operations and artillery fires.



Khe Sanh was an Army Special Forces site 10 miles from Laos and 15 miles from the DMZ. North Vietnam hoped to cut off US forces at Khe Sanh, put them under siege, and force a surrender, as had happened in 1954 at Dien Bien Phu.

(Air Force leaders felt that the command system failed to optimize the air situation for all of South Vietnam and continued to press for a centralized control. They finally achieved their objective March 21, 1968, when the battle was largely won and more than 87 percent of all sorties in the siege had already been made. It was, nonetheless, a step in the right direction.)

Westmoreland had counted on a “Niagara” of bombs falling upon the enemy, and his wishes were fulfilled. B-52s initiated the bombing campaign a week before the siege began, flying 94 sorties against 12 North Vietnamese targets. After the Communist attack began, the



Khe Sanh was located on a plateau in the middle of four valley corridors, surrounded by high hills. Its runway sat on an 800-foot rise. This view shows the camp perimeter as well as craters around the aluminum mat-covered runway.

US responded immediately on Jan. 22 with B-52 attacks on four targets. The next day, attacks by Air Force, Navy, and Marine tactical aircraft started. Within a week, more than 3,200 sorties had been flown, including 200 by B-52s.

Over the course of the siege, the B-52s would average 35 sorties per day. Air Force and Marine tactical aircraft would average 300 sorties per day. Two Combat Skyspot radar units were committed to the battle to fine-tune the B-52 drops. The first strikes were made at a distance the Marines considered comfortable; they would soon grow closer.

Uncovering a Trick

On Nov. 12, 1967, a group of nine B-52s mounted an attack against Con Thien. The operation revealed an enemy trick. The North Vietnamese, knowing that the B-52s required a three-kilometer-wide safety zone around friendly forces, began to move ammunition stores into the area near the American defensive perimeter. However, one of the Con Thien B-52s accidentally had dropped a bomb within the safety zone, and the blast had set off a series of secondary explosions. This gave American planners pause and caused them to rethink their tactics.

A series of tests using two Skyspot stations proved the B-52s could deliver their devastating bomb loads much closer to the defensive perimeter than had been

thought. The first four raids at Khe Sanh resulted in many secondary explosions and fires in the area near the defensive perimeter, proof that the enemy was still using his safety zone tactics.

The close-in attacks became regular procedure for the bombers, the results of which led Westmoreland to say, "The thing that broke their back was ... the fire of the B-52s."

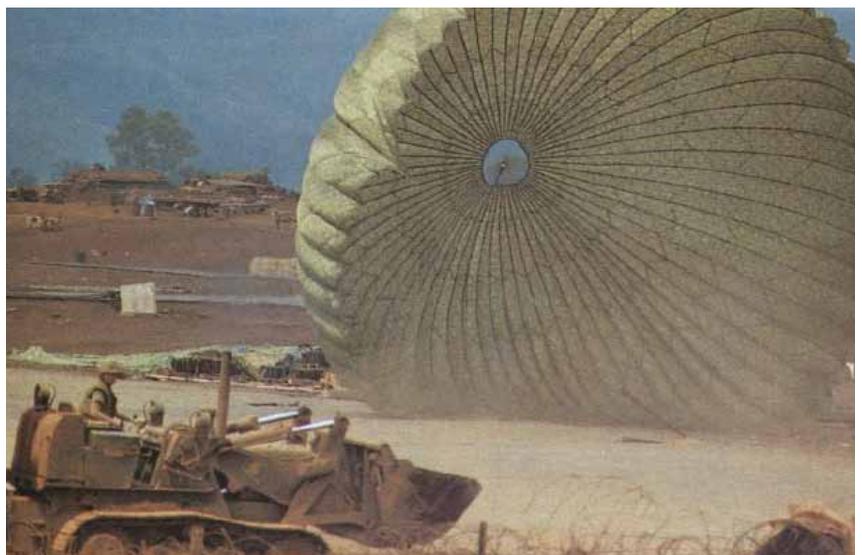
The effectiveness of the B-52 effort had been improved by the new "Bugle Note" tactics, adopted Feb. 15, 1968. With this procedure, a grid system of 1-by-2-kilometer blocks was overlaid

on a target area. The dimensions represented the amount of territory a drop from a single cell of three B-52s could saturate. When the procedure was carried out, six B-52s would arrive every three hours, to be directed to a particular block by the Combat Skyspot controllers. It had a devastating effect upon North Vietnamese troops, comparable to the shattering artillery barrages of World War I.

By the end of the siege, the B-52s had flown 2,548 combat sorties and dropped 59,542 tons of bombs on the North Vietnamese positions. The number of casualties inflicted on North Vietnamese forces was impossible to determine, but it was a significant proportion of their overall losses.

Despite headquarters disputes, tactical units of the Air Force, Marine Corps, and Navy worked in harmony at Khe Sanh. This was true despite the large number of aircraft employed (about 500), wide variety in types, and disparities in performance.

Controllers had to handle everything from Cessna O-1s to McDonnell F-4s, plus continuous streams of transport aircraft. Tactical aircraft from all services dropped about 40,000 tons of ordnance in fewer than 22,000 sorties. This effort was augmented by as many as 200,000 rounds from artillery pieces and mortars. Forward air controllers flew more than 1,000 sorties, and the US flew more than 1,400 reconnaissance missions.



C-130s later air-dropped supplies to Khe Sanh using the Low Altitude Parachute Extraction System and Ground Proximity Extraction System. The drop zone was a dangerous area, where ground crews worked under fire.

Slaughter From the Air

The coordinated attacks by B-52 heavy bombers, tactical aircraft, and artillery had slaughtered Communist troops in their bunkers and trenches, and these forces began withdrawing from the area in mid-March 1968. By April 8, the US Army's 1st Cavalry Division had linked up with Khe Sanh, which was soon being reached by road traffic.

Destroying the enemy had been only half the battle. The other half entailed keeping the US forces alive and able to keep fighting. To do that, USAF airlifters had to haul into Khe Sanh an average of 165 tons of materiel every day.

The loss of the Marine ammunition dump on the battle's opening



Photos by Robert Ellison / Black Star



Aircraft came under fire during approach and then became easy targets on the ground. At top a C-123 burns after being hit by North Vietnamese mortar fire. Above, a CH-46 transports wounded out of Khe Sanh. US fatalities totaled 500 by the battle's end.

day created an immediate requirement to replenish lost ammunition. USAF's 834th Air Division rose to the task. Despite increasingly heavy anti-aircraft fire, Lockheed C-130 Hercules and Fairchild C-123 Providers landed at Khe Sanh, replenishing the artillery stocks and bringing out the wounded. During the first eight days, the airlifters brought in an average of 250 tons of cargo per day. The total was supplemented by Marine KC-130 deliveries and heavy use of the Boeing Vertol CH-46 Sea Knight helicopters.

The Communists continued to shell

the Khe Sanh airstrip, even as they built up their anti-aircraft strength. Transports were brought under fire during their approach to landing. Passive tactics using cloud cover and steep descents were adopted. As soon as an aircraft touched down it became a mortar magnet, a target for Communist fire. The C-123s were able to make the turnoff into the parking ramp, but the C-130s had to go to the end of the runway and then taxi back, sometimes being tracked by mortar shells all the way. Both air- and ground crews worked feverishly as unloading techniques were speeded up, with the airplanes

literally taxiing out from under their palletized cargo.

The C-130s were tough, taking hits, getting repaired, taking more hits, and still managing to take off. On Feb. 5, a C-130E was blasted by machine-gun fire, which ignited the wooden ammunition boxes it was carrying. The aircraft commander, Lt. Col. Howard M. Dallman, coolly backed the airplane to the end of the runway, where it would do the least damage if it blew up, then set about putting out the fire. As the crew off-loaded the ammunition, the C-130 was struck again several times, with a tire being destroyed. After an improvised tire change, Dallman was taxiing out for takeoff when another mortar exploded, knocking out an engine. Undaunted, Dallman was preparing a three-engine takeoff from the 3,900-foot strip when the damaged engine was restarted. The airplane was hit by several more strikes, but Dallman managed to take off and get back to base. He was the first transport crewman to receive an Air Force Cross.

Many other 130s were damaged, sometimes while being repaired from previous mortar rounds. The only Hercules to be lost was a Marine KC-130 carrying fuel bladders, one of which burst into flames as the aircraft was on final approach. The airplane rolled down the runway, racked by explosions, and burned out, with a loss of six on board.

On Feb. 12, C-130 landings were suspended, with the smaller C-123s and de Havilland C-7A Caribous being

Debacle at Dien Bien Phu

After World War II, France attempted to re-establish its colonial empire in what had been French Indochina until Imperial Japan conquered the area. France was snared in a losing struggle with the Viet Minh, the Communist forces. In 1953, the French attempted to cut enemy supply lines by occupying Dien Bien Phu, a mountainous outpost on Vietnam's border with Laos. The Viet Minh quickly cut off all road access, but, despite bitter dissension among their leaders, France was confident that it would use airlift to withstand the siege.

During the winter of 1953–54, North Vietnam's Gen. Vo Nguyen Giap showed a mastery of logistics by surrounding Dien Bien Phu with 49,000 combatants and more than 30,000 support troops. Armies of men and women toiled to bring in 250 pieces of artillery, which were placed on the high ground around the French forces. The artillery would prove to be decisive, for it destroyed the French airstrip early in the battle. Resupply efforts subsequently depended upon airdrops, which became less and less useful as Viet Minh anti-aircraft fire increased and the area held by the French was progressively reduced.

France was not challenged in the air, but their forces were inadequate to interdict the enemy or to supply their own troops. They had a theoretical maximum of 107 strike aircraft, all World War II vintage. Their transport force depended primarily on 100 C-47s and 20 C-119s. (The C-119 Boxcars were also used as bombers, dropping napalm.) In addition, support of the besieged forces was provided by a mixed bag of civilian aircraft that include Bristol Freighters, a 307B Stratoliner, C-46s, and DC-4s.

The Viet Minh launched a full scale attack on March 13, 1954. The French held out until May 7, when the last of Dien Bien Phu's fortified areas was overrun. The battle cost the French 2,200 killed and nearly 6,500 wounded. The Viet Minh had 8,000 killed and 15,000 wounded. It was a price they were willing to pay, for the victory spelled the end of the French resistance in Indochina.

used instead. Three of the C-123s would be lost, one carrying 49 people. It was the single largest loss of life of the entire battle.

Alternative Means

Forbidden to land, the C-130s continued their support efforts by air-dropping containers into the camp, using Marine ground controlled approach equipment to signal when to drop. The method proved to be effective; only three out of 600 containers were lost. The Low Altitude Parachute Extraction System was used with some success, although the delivery method was at times hazardous both to air and ground personnel. In early March, tests were made with a Ground Proximity Extraction System in which the delivery aircraft fitted with a hook contacted a cable stretched near the ground. The hook engaged the cable, and the loads were pulled out of the aircraft. GPES proved to be well-suited to the Khe Sanh environment and was far less hazardous than LAPES.

The drop zone was the most dangerous area in Khe Sanh. Ground crews had to scramble in the open under fire to get the equipment out of the area, wrestling damaged pallets by hand when forklifts, so often in short supply, were unavailable.

For all the difficulties, the air supply of Khe Sanh was entirely successful. At no time were the base's basic food, fuel,

or ammunition stocks near depletion. By the end of the siege, the transports had completed 1,128 missions and delivered 12,430 tons of supplies. The supply effort had been made somewhat easier by an inexplicable factor: The Communists did not divert or poison the river from which the base drew its water. Had they done so, the tonnage requirements would have risen to carry out resupply of drinking water.

Even as the battle at Khe Sanh was building in intensity, the North Vietnamese on Jan. 30, 1968, launched the surprise Tet offensive throughout South Vietnam. More than 80,000 North Vietnamese Army and Viet Cong soldiers attacked South Vietnamese military positions, government buildings, and cultural centers. Despite the intense fighting throughout the length and breadth of Vietnam, the US support of the forces at Khe Sanh did not waver.

Some have advanced the argument that Giap never did intend to try to take Khe Sanh but instead used it merely as a diversion to distract US forces from the buildup for the Tet offensive. He

undoubtedly recognized the value of the siege as a diversion, but there is no question that Communist forces would have overrun Khe Sanh if they had possessed the capability to do so.

Giap's losses were severe, with some 15,000 killed, compared to 205 Marine deaths and 500 total US fatalities.

In the end, Westmoreland was correct: US airpower (which operated for part of the time under centralized USAF control) had turned the siege of Khe Sanh into a clear American victory. Giap had made two basic mistakes. First, he had underestimated the effectiveness of US airpower and determination of the American military to break the siege. Second, the forces he had allowed to be decimated around Khe Sanh could have been employed to far greater advantage in support of the Tet offensive, which proved to be an unmitigated military disaster for the Communists, who suffered an estimated 45,000 casualties.

Unfortunately for the United States, Khe Sanh and Tet inexplicably were perceived by press and the public to be defeats. For weeks, journalists and commentators had warned of the certainty that Khe Sanh would turn out to be another Dien Bien Phu-style defeat for a Western military force. When the victory was won, however, accounts of the battle faded out of the headlines and television reports. Tet was broadly construed by the media as an overwhelming defeat for US forces, ostensibly because it showed the potency of Communist forces even after four years of direct American military involvement in Vietnam.

Ironically, the North Vietnamese were well aware that they had been defeated and changed their tactics to adapt to the new reality. Despite the ambiguities of the time, one fact now stands out. The coordinated use of American airpower, augmented by new techniques and technologies, had decisively shattered the besieging enemy forces at Khe Sanh. ■

Walter J. Boyne, former director of the National Air and Space Museum in Washington, is a retired Air Force colonel and author. He has written more than 400 articles about aviation topics and 28 books, the most recent of which is Beyond the Wild Blue: A History of the United States Air Force, 1947–1997. His most recent article for Air Force Magazine, "The Young Tigers and Their Friends," appeared in the June 1998 issue.