CHAPTER 9

LINEBACKER

North Vietnam's invasion of South Vietnam in the spring of 1972 came too soon to topple the Thieu government. While nearly all American ground forces had been evacuated, substantial American air power remained in the theater and more was quickly added. President Nixon proved willing to use that air power in a less restrained fashion than his predecessor, and North Vietnamese ground forces exposed themselves to air power when their tanks moved on the roads and their artillery fired steadily in support of conventional operations.

Air power's achievement in stopping the North Vietnamese invaders would be overshadowed by the collapse of South Vietnam under a similar invasion only three years later, when the U.S. Congress withheld American air power from the struggle. But in 1972 President Nixon used air power to better advantage than President Johnson, and the Air Force demonstrated that it had a potent new weapon in the laser-guided bomb.

Since bringing them to Southeast Asia in 1968, the Air Force had found few good targets for laser-guided bombs until the resumption of full-scale bombing in North Vietnam. During 1972, the Air Force would expend about ten thousand of them.[1] Not again until the Gulf War nearly two decades later would so many laser-guided bombs be used in combat. Their great accuracy often meant dispensing with the old practice of dropping scores of bombs to get one or two on target. A single F-4 with two laser-guided bombs could now drop a bridge span, perhaps two. But these "smart" bombs required good weather, and against the heavy air defenses of North Vietnam they were dropped only in daylight (because jet fighters did not yet carry night target identification equipment reliable above 10,000 feet). Fortunately, the North Vietnamese launched their offensive only a few weeks before the best bombing weather.

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By waiting until March 30, 1972, to begin their invasion, the North Vietnamese had made the fullest use of the cloudy but dry northeast monsoon for moving supplies into stockpiles near jump-off positions. Two divisions attacked across the Demilitarized Zone between North and South Vietnam and a third moved east from Laos toward Quang Tri. Within a week more North Vietnamese divisions were in action further south--two of them in the Central Highlands, where they threatened to cut South Vietnam in half by joining forces with Viet Cong units already operating along the coast. Saigon itself lay in the path of another North Vietnamese division and two Viet Cong divisions

descending from Cambodia on An Loc. Altogether this Easter offensive employed more than 100,000 soldiers and hundreds of tanks in widely separated thrusts.[2]

Before the rains of the southwest monsoon periodically washed the clouds and fog away and permitted American jet fighters to attack, North Vietnamese soldiers had two weeks relatively free from accurate air strikes. As frustrating as this was for American airmen, it was even more frustrating for their President. When he met with the Chairman of the Joint Chiefs on April 4, Nixon told Admiral Moorer to convey to the American commander in Saigon, General Abrams, the need for "maximum aggressiveness" in the use of air power.[3] Nixon was upset that only 136 tactical air sorties had flown against the invaders near the Demilitarized Zone in the last twenty-four hours. Moorer explained the weather problem and noted that the B-52s were bombing through the clouds. Although this appealed to the President's personal preference for B-52s, he was not appeased. Nor was his national security adviser, Henry Kissinger. Moorer had been authorized on April 2 to send fighter strikes up to twenty-five nautical miles north of the Demilitarized Zone. "It seemed to me that our entire Air Force consisted of delicate machines capable of flying only in a war in the desert in July," Kissinger would later recall. "I suggested that if they could not fly maybe they could taxi north for twenty-five miles."[4]

The next day Nixon complained to Attorney General John Mitchell that the weather was not really the problem: "It isn't bad. The Air Force isn't worth a--I mean, they won't fly."[5] Despite his impatience, Nixon indicated that he was ready to play the hand he had been dealt. "The bastards have never been bombed like they're going to be bombed this time," he declared, "but you have to have weather."[6]

In this frame of mind, he met with the new commander of Seventh Air Force, Gen. John W. Vogt, who had been Director of the Joint Staff. Slated for a European assignment, Vogt persuaded Kissinger to send him to Saigon. Nixon told Vogt he had to do the job no matter what the weather was--make maximum use of the B-52s. If Vogt did not succeed in Vietnam, the President noted, the Air Force could not expect White House support on major procurements; moreover, this might well be the last major battle fought by the Air Force and it would be tragic for the service to end its combat career in disgrace. Recalling the complicated chain of command and restrictions which had hampered earlier commanders of Seventh Air Force, Vogt asked for sufficient authority to do the job--he wanted to be General Abrams' deputy commander and not merely deputy for air; Nixon told Kissinger to make it happen, and it did two months later. In any case, Nixon advised Vogt to go around Abrams and communicate directly with Washington. Nixon assured Vogt he had all the authority he needed, but Vogt would later regret that the President did not put this assurance in writing.[7]

Although Nixon no doubt wanted to give his air commander a free hand, there were built-in constraints with which Vogt was as familiar as anyone. His own selection as Seventh Air Force commander underlined the continued intimate involvement of the Pentagon and the White House in the direction of the air war. He was the consummate staff officer, close to his most recent boss, Admiral Moorer, and on good terms with Henry Kissinger. Vogt's Ivy League education (Yale, Columbia, and Harvard, where he first met Kissinger), long series of key staff assignments, and lack of command experience set him apart from most Air Force generals. Not since the 1940s, when he was a fighter ace and squadron commander in Europe, had Vogt commanded a unit in the field. But he had been heavily involved in developing plans and policy for Southeast Asia since 1954, when he was sent to Paris after the fall of Dien Bien Phu. At the beginning of Rolling Thunder, he was in the Office of the Secretary Defense, helping McNamara and Paul Nitze massage target lists. For most of Rolling Thunder, Vogt was the plans and operations deputy at Pacific Air Forces in Hawaii where he worked for General Ryan (before Ryan became Air Force chief of staff).

In Saigon, Vogt found himself answering frequent telephone calls from Admiral Moorer. While sometimes burdensome, these calls indicated the increased stature of the Seventh Air Force commander. Since most American ground forces had already gone home, air was what counted. In any case, Vogt's Army boss in Saigon, General Abrams, was out of favor with the Nixon

administration. Nixon and Kissinger blamed Abrams for the sad fate of the South Vietnamese incursion into Laos early in 1971. Abrams seemed to them a tired and frustrated commander who after three years of routine drawdown was unable to adjust to the new combat demands.[8]

Nixon made a lame effort to cure what Kissinger called the "institutionalized schizophrenia" of the route package system dividing responsibility for the air war over North Vietnam.[9] But when Secretary of Defense Laird and Admiral Moorer opposed attempting organizational changes in the midst of crisis, Nixon backed down. Thanks to a solid base of support in the Congress, Secretary Laird continued to exercise authority essentially independent of the President. The two men responded very differently to the North Vietnamese invasion. Laird saw the invasion as a good test of Vietnamization. Consequently he thought it best to do nothing special for the South Vietnamese, and he strongly opposed the resumption of bombing in North Vietnam. As in earlier crises, Nixon sought to work around Laird by working directly with Moorer. Laird could put his own pressure on Moorer, however, and the upshot was that Laird was sometimes able to put restrictions on renewed bombing in North Vietnam.[10]

Moorer's situation was all the more awkward because his relationship with Kissinger had recently been buffeted by charges that Moorer's liaison officers on Kissinger's staff, Rear Adm. Rembrandt C. Robinson and his successor, Rear Adm. Robert O. Welander, had used Yeoman Charles Radford

to steal sensitive papers (about China and Pakistan) from Kissinger on behalf of Moorer. The yeoman, who had also passed some of these secrets to newspaper columnist and fellow Morman, Jack Anderson, was quickly reassigned as was Welander. Kissinger closed the liaison office. Perhaps because Nixon was himself becoming suspicious of Kissinger's appetite for diplomatic triumphs well-publicized in the press, Moorer's relationship with the President did not suffer.[11]

Both Nixon and Kissinger continued to need Moorer as a way of getting around Secretary of Defense Laird's opposition to their use of military power. Many of the confrontations between the White House and Laird took the form of heated telephone conversations between Kissinger's military assistant, Maj. Gen. Alexander M. Haig, Jr. (Army), and Laird's military assistant, Maj. Gen. Robert E. Pursley (Air Force). Haig had graduated from the U.S. Military Academy at West Point in 1947 two years ahead of Pursley. They had both won promotion to brigadier and major general thanks to their civilian bosses. After earning a master's degree in business administration from Harvard, Pursley had served as military assistant to three secretaries of defense, beginning with Robert McNamara in 1966. It was Laird, however, who twice promoted him. Meanwhile Haig had served as military assistant to Army secretary Cyrus Vance before becoming a battalion commander in Vietnam.[12]

An especially destructive incident in the relationship between Pursley and Haig (and their civilian bosses) had been North Korea's shoot-down of an

~~Air Force~~ EC-121 reconnaissance aircraft on April 15, 1969. Nixon ordered a naval task force into Korean waters, and he became impatient when no movement took place. Haig's repeated calls to Pursley left Haig with the impression that Pursley was being evasive. Finally concluding that Laird had not transmitted the President's orders, the White House sent the orders directly to the Navy.[13] In the three years since that bad beginning, the White House had wiretapped Pursley's telephone. He was still ignorant of that fact in the spring of 1972, when he visited Haig to improve relations. Haig's revelation that the White House had been keeping a record on Pursley spurred the Air Force general to announce his retirement, but Laird talked him into accepting an assignment in Japan.[14] As for Haig, he was becoming increasingly influential with the President. Since Haig did not share Kissinger's inclination to fine tune the bombing of North Vietnam in the service of diplomacy, Haig could consistently bolster Nixon's inclination to make stronger use of air power.

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Nixon and Moorer moved quickly to get more air power into Southeast Asia. While Vietnamization had left considerable American air power in the theater, the remainder was much smaller than the force which had confronted the Tet offensive in 1968. Then the Air Force alone had more than 1700 aircraft on South Vietnamese and Thai bases, not to mention other aircraft within reach like the B-52s on Guam and Okinawa. Now there were fewer

than 800 Air Force aircraft in Southeast Asia, and the half of these in South Vietnam were slated either to move to Thailand or return to the United States. Nixon permitted most of the scheduled moves to take place, but he altered the result by squeezing 350 F-4s and 50 B-52s into Thailand with another 150 B-52s on Guam. While there were 150 fewer Air Force jet fighters than had been available during the Tet offensive, Navy carriers operating in the Gulf of Tonkin increased from two to five before dropping back to four, one more than commonly operated on the line in 1967. With twice as many B-52s as had ever been used in Southeast Asia and an abundance of the new laser-guided bombs for the F-4s, Nixon gathered a more formidable (if less numerous) air armada than the North Vietnamese had yet encountered.[15]

Nixon repeatedly underlined his demand for more B-52s. As early as February he had responded to Abrams' call for renewed bombing of North Vietnam by sending 29 B-52s to Guam. U-Tapao Air Base, Thailand, already carried its maximum of 51 B-52s and nearly as many tankers. Thanks to their proximity to Vietnam, the U-Tapao B-52s were far more valuable than those which had to be based 2400 miles away on Guam. But Guam was as close as newly deployed B-52s could get. Kadena Air Base on Okinawa could no longer be used as a B-52 base, because Nixon had already agreed that Okinawa would revert to Japananese control in May. The Japanese would permit tankers but not bombers to operate from Kadena. Guam would have to absorb some 150 B-52s, far more than Andersen Air Force Base could handle comfortably.[16]

Nixon's immediate response to the Easter Offensive was to deploy 54 B-52s to Guam and 36 F-4s to Ubon Air Base, Thailand. That gave him a total of 134 B-52s to use in the theater, but he soon found that his plans to use them in North Vietnam were constantly meeting objections from Abrams and Laird to use every available B-52 in South Vietnam on the invading forces. In exasperation Nixon called in May for another 100 B-52s. No one in the Pentagon or the Pacific could figure out how to cram an additional 100 B-52s on Guam. After failing to talk Nixon out of this new deployment, Moorer told his staff a story about a farmer who managed to carry four tons of turkeys in a truck with a capacity of two tons by keeping half the turkeys in the air.[17]

Eighth Air Force on Guam finally did manage to absorb another 58 B-52s by closing one of Andersen's two runways and using it to park them. The old B-29 hardstands from World War II simply could not handle the bigger B-52s. The commander of Eighth Air Force, Lt. Gen. Gerald W. Johnson, later recalled that a B-29 stub "would barely take the main gear and everything else would be hanging over the sides. . . . and after they rolled on the stubs a couple of times, we'd go out to get the airplanes and find they'd sunk into the pavement about a foot."[18] For two months while Navy Seabees constructed new hardstands and enlarged old ones, Johnson had only one runway for takeoffs. He had the weeds cleared from an old World War II runway for emergency landings, and the Naval Air Station was also used for this purpose.[19]

Housing the people who came with the newly deployed B-52s caused more problems. Andersen Air Force Base, which only a few weeks earlier had fewer than three thousand people, now had to support more than nine thousand. For a couple thousand people that meant living in tents; for a couple hundred it meant living off base in luxury hotels normally populated by Japanese tourists. Both these new housing options were widely preferred to crowding into the hot quonset huts of "tin city." Most people were working too hard and long to care much about housing. After years of routine "milk runs," Andersen and its sister B-52 base at U-Tapao, Thailand, began to fly missions both more dangerous and more obviously critical to the survival of South Vietnam.

The new dangers facing the B-52s were posed not only by surface-to-air missiles near the Demilitarized Zone and even in South Vietnam, but also by President Nixon's decision to send the B-52s deep into North Vietnam. At least since the covert B-52 raids into Cambodia in 1969, Nixon had taken a special interest in B-52s. During Rolling Thunder, B-52 raids into North Vietnam had been confined to the southern end of the panhandle and the mountain passes into Laos. But Nixon did not share Johnson's fear of triggering a reaction in Moscow and Beijing, which had both responded favorably to Nixon's overtures. Nor was he deterred by the possibility that the heavier air defenses surrounding Hanoi and Haiphong might take a toll on the B-52s.

Yet Nixon did not order the immediate bombing of Hanoi and Haiphong. It took more than a week for him to approve a series of shifts in the northern bombing limit even to nineteen degrees, where it had been during the last six months of Rolling Thunder. He seemed to want Moorer to propose dramatic actions for the President's approval. But Moorer did not yet have in place much of the abundant air power which would soon descend on Southeast Asia, and Laird was opposing any bombing in North Vietnam. Nevertheless, on April 8 when Nixon complained again that there had been only "routine" operations so far, Moorer did promise that at least six B-52s would strike a target deep in North Vietnam before sunset on April 10.[20]

Twelve B-52s from U-Tapao hit the Vinh oil tank farm and the Vinh rail yard before dawn on April 10. To get these twelve bombers into North Vietnam, an armada of fifty-three other aircraft played supporting roles. Navy A-6s and A-7s began the attack by striking surface-to-air missile sites. Air Force F-105 Wild Weasels then threatened those sites, while twenty F-4s laid a chaff trail for the B-52s. This was the first major use of chaff since World War II. The F-4s could not reach the altitude of the B-52s (above thirty-five thousand feet), and the B-52s wanted to stay as far above most flak as possible. As a result, the B-52s rode along above their chaff trail, which both hid their exact location from North Vietnamese radar and alerted that radar to their general flight path.[21]

The North Vietnamese began firing surface-to-air missiles at the attackers even before they had passed over the border from Laos to North Vietnam. More than thirty of the missiles arced through the bomber formation, hitting nothing but still disrupting plans to fly straight and level. The B-52 pilots did follow their orders to "press on" despite SAM or MiG interference, and the MiGs did not come up to challenge this nighttime raid--so far, they were a daytime phenomenon. The twelve B-52s dropped a total of nearly eight hundred bombs, mostly 750-pound and 500-pound high explosive bombs, but including some cluster bombs. The raid, however, was not very effective, probably because the crews tried to use the "skyspot" system for ground radar direction of bombing. Vinh was too far from the radar sites in Thailand and South Vietnam, even if the B-52s had managed to maintain a straight and level bomb run.[22]

Moorer ordered another raid for April 13, this one to penetrate farther north with six additional B-52s (a total of eighteen), all dropping high explosive bombs only and all using onboard bombing radar rather than Skyspot. Mindful of the inaccuracy of the Vinh raid, the new target was chosen for its relative isolation from the civilian population as well as for its importance to the war effort. Just south of the twentieth parallel lay Thanh Hoa's Bai Thuong Airfield, part of North Vietnam's expanded airfield complex to support a growing air force of about two hundred MiGs (double the size it had been during Rolling Thunder). Once again the B-52s struck just before dawn. They

destroyed a MiG-17 on the ground and none came up to oppose them; they left seventeen craters in the runway. The North Vietnamese fired their surface-to-air missiles in as great a profusion as before and with as little result.[23]

The Joint Chiefs had already triggered planning in Hawaii for a third raid to strike three days after the second. This time the targets would be Haiphong and Hanoi. A proposal to increase the size of the raid to forty B-52s, however, gave way to sending eighteen B-52s against an oil tank farm at Haiphong before dawn followed by more than a hundred Navy and Air Force fighters attacking Haiphong and Hanoi targets in daylight. Even the reduced force of B-52s, however, was too much for Abrams, who objected to diverting any of them from South Vietnam while An Loc was under so much pressure. When he got Abrams message, Nixon was upset because he suspected that if the land battle went sour he would be blamed for the diversion. Kissinger, who had supported the raid, now had second thoughts. But Moorer pointed out that the B-52s had already launched and would have to ditch their bombs in the Gulf of Tonkin. Nixon decided to let the mission run its course.[24]

While one of the B-52s aborted with mechanical problems, the remaining seventeen dropped their bombs before dawn on Sunday, April 16, and destroyed or damaged more than thirty oil tanks at Haiphong. Despite the failure of the chaff to disperse sufficiently to form a trail, more than a hundred surface-to-air missiles missed the B-52s and most of their escorts. But a missile did shoot down an F-105 Wild Weasel which had been protecting F-4s

dropping chaff. After daybreak the Navy lost an A-7 attacking warehouses in Haiphong.[25]

The Air Force F-4 raid on a tank farm near Hanoi came off without a loss, and supporting F-4s flying combat air patrol even managed to shoot down three MiG-21s. Yet General Vogt was not entirely pleased with the day's work. Some of his discomfiture may have come from his own peripheral role in the planning, which had been done mostly in Hawaii by a joint team dominated by an admiral and a colonel from Strategic Air Command. Since the Hanoi tank farm was considerably smaller than the Haiphong tank farm and since seventeen B-52s could drop almost ten times as many bombs as thirty-two F-4s, Vogt's F-4 raid was necessarily not as spectacular--even though the F-4s were credited with a higher percentage of destruction. At the time, Vogt bragged that this F-4 raid was "one of the best ever executed" in the Hanoi area.[26] But he was bothered by bombs which missed the target area entirely; they had a potential for exacting civilian casualties and spurring Washington to put important targets off-limits. Vogt became more and more determined to make maximum use of guided bombs.[27]

Whatever Vogt's reservations, for the first time since the beginning of the Easter offensive the President was not disappointed. "Well," Nixon told his chief of staff,"we really left our calling card this weekend."[28] In the glow of this assessment, B-52 raids in North Vietnam were bound to continue for a while longer. About a week later, a pair of strikes on April 21 and 23 used nearly

forty B-52 sorties to hit warehouses near Thanh Hoa. Most of the fighter sorties scheduled to hit other Thanh Hoa targets, like the famous bridge which had withstood so many attacks during Rolling Thunder, were canceled due to bad weather. The B-52s did get their usual escort of F-4s and F-105 Wild Weasels, but for the first time over North Vietnam a B-52 was damaged by a surface-to-air missile. The damaged B-52 completed its bomb run and landed at Danang with three of its eight engines shut down. This was only the second B-52 to sustain combat damage, the first having been hit by a surface-to-air missile three weeks earlier near Quang Tri city, South Vietnam.[29]

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The Thanh Hoa raids were intended to strengthen Henry Kissinger's hand during his visit to Moscow of April 20-24. While advocating strikes south of the twentieth parallel, Kissinger urged the President not to bomb again near Hanoi and Haiphong at least until Kissinger had talked to the Russians in Moscow and the North Vietnamese in Paris, where he was scheduled to meet Le Duc Tho on May 2. Kissinger hoped to bring to fruition Nixon's long-planned "summit meeting" in Moscow, where in late May the President would sign an agreement limiting strategic arms. But Nixon thought that threatening to call off the summit might persuade the Russians to put pressure on the North Vietnamese. During Kissinger's April visit in Moscow, he simply ignored Nixon's instructions.[30]

By the time Kissinger met with Le Duc Tho, the North Vietnamese had overrun the city of Quang Tri and were in no mood to bargain. The national security adviser returned to Washington without a strong diplomatic argument against the President's desire to use B-52s against Hanoi. Kissinger turned to a military alternative he had first considered in 1969--mining the North Vietnamese ports and interdicting their ground transportation routes by attacking them with fighter aircraft. Rolling Thunder's attempts to interdict the roads running from North Vietnam into Laos and South Vietnam had left Haiphong and North Vietnam's other harbors free to import goods from Russia, China, and elsewhere. The Cambodian port of Sihanoukville had also been a conduit for supplies to the communist forces in South Vietnam until the new Lon Nol government had closed it to the communists in 1970. Since North Vietnam's conventional invasion of South Vietnam was consuming large quantities of ammunition and other supplies, Kissinger saw great potential in simultaneous land and sea interdiction.[31]

Nixon's "detente" had proceeded far enough with the Russians and the Chinese for him not to share President Johnson's old fear of sharply increased military intervention on their part. Nixon had already had his summit meeting in Beijing in February 1972. The Russians might pull out of the May summit, but they were not apt to do more militarily than try to resupply the North Vietnamese--a task which could be made far more difficult by mining the ports. The Russians would then be forced to transport those supplies through

a less than friendly China, if the Chinese would permit it. Nixon very much liked the boldness of the proposal, and for a time it did distract him from sending the B-52s north again. On May 4 he terminated military planning for B-52 and fighter raids on Hanoi and Haiphong scheduled for May 6 and 7.[32]

Nixon wanted to make sure that his own actions in Vietnam contrasted sharply with those of his predecessor. Former President Johnson contributed directly to White House resolve on this occasion by sending word that his mistakes had been a product of following advice against his own instincts. Nixon told his close aides that he had experienced the same problem. When the North Koreans shot down the EC-121 in 1969, he should have followed his instinct to bomb North Korea. When he sent American forces into Cambodia in 1970, he should have followed his instinct to mount a full-scale bombing campaign against North Vietnam instead of the few sorties sent then. "If we'd done that then, the damned war would be over now."[33]

Having embraced mining and interdiction as the bold action required, Nixon made his preparations in the greatest secrecy. By the time Nixon permitted his National Security Council to discuss the proposal on May 8, he had already decided to go ahead. Nevertheless, he went through the motions of listening to his critics. As expected, Secretary of Defense Laird opposed the plan, and he was supported in his opposition by the Central Intelligence Agency. They argued that the North Vietnamese already had sufficient supplies stockpiled for the offensive and in any case that air power would fail

to interdict the roads from China to North Vietnam. Kissinger would later claim in his memoirs his own agreement at the time that the effects of the campaign would come too late to affect the North Vietnames offensive: "I agreed, but I was concerned with Hanoi's actions after the offensive."[34]

Four days before the National Security Council meeting, Nixon had called Admiral Moorer into his private office in the Old Executive Office Building to get the Chairman's views and get him planning in the quietest way. Moorer assured the President that Moorer himself had already planned such an operation eight years earlier when he commanded the Seventh Fleet and that the necessary preparations could be made without the press hearing anything about it. Moorer was as good as his word. When Nixon made his television announcement on the evening of May 8 that the new campaign was already underway, he caught Americans and North Vietnamese by surprise.[35]

General Abrams, the U.S. commander in Saigon, was among the Americans surprised by the mining of Haiphong. Suddenly the Navy withdrew gunfire support from scheduled ground operations in South Vietnam. Relations between Abrams and the Commander in Chief Pacific in Honolulu, Adm. John McCain, were already tense. This time Abrams complained bitterly to a visiting assistant secretary of defense about the Navy's lack of cooperation only to learn that the Navy ships had been pulled off to support the mining of Haiphong. That this came as news to him was the clearest sign yet that Abrams had lost the administration's confidence. At least he would no longer

have to argue daily against siphoning B-52s from targets in South Vietnam to strike North Vietnam. For a while that job would be left to fighter and attack aircraft.[36]

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When President Nixon went on national television to tell his fellow citizens about mining North Vietnam's ports, it was nine o'clock on the evening of May 8, 1972. The time in Haiphong was nine o'clock on the morning of May 9. While Nixon spoke, A-6 aircraft from the carrier *Coral Sea* dropped sea mines into the narrow channel connecting North Vietnam's principal port with the Gulf of Tonkin. As Nixon explained, the mines would not activate for three days, during which the twenty-eight foreign ships in Haiphong harbor would be free to leave. That they did not leave appeared to result from North Vietnamese refusal to provide tugboats until the ships had unloaded their cargo. Their stay would be a long one lasting into the following year. The failure of the North Vietnamese to send a minesweeper into the channel confirmed Admiral Moorer's good judgment in restricting the minefield to simple magnetic mines; his own Navy would sweep them in the end.[37]

On the day following the mining of Haiphong, an interdiction campaign began against land routes from China through North Vietnam. During April, Air Force and Navy tactical aircraft had flown nearly two thousand attack sorties into North Vietnam, the bulk of them hitting the panhandle in a campaign called "Freedom Train"; tactical aircraft had also joined B-52s in

attacking a few targets north of the nineteenth parallel. Now the B-52s were withdrawn from North Vietnam for a while, and when they returned in June it would be only to the panhandle. The number of fighter attack sorties in North Vietnam, on the other hand, tripled to six thousand a month--including about a thousand in Route Package Six.[38]

Although the first strikes of May 10, 1972, flew under the old rubric of "Rolling Thunder," this new campaign would be called "Linebacker." Campaign designations often were drawn randomly from approved lists and had no other significance, but "Rolling Thunder" and "Linebacker" seemed more than chance selections. Just as the label "Rolling Thunder" had conveyed the gradualism of that campaign, "Linebacker" was football terminology suggesting the defensive nature of the new campaign. Perhaps it was no mere coincidence that many air planners were avid football fans as was their president; Nixon had even been known to compare international politics to his favorite sport. Instead of tackling football runners or blocking passes, this bombing campaign would attempt to interdict North Vietnamese supply lines.[39]

Yet Rolling Thunder had also been in large measure an interdiction campaign. Why would Linebacker be any more successful? Linebacker's proponents were encouraged by the fact that large North Vietnamese conventional forces were for the first time rapidly expending munitions and other supplies in South Vietnam, while Nixon had moved boldly to close North

Vietnam's ports. The other hopeful factor in the new equation was the laser-guided bomb.

"Laser" was an acronym for "light amplified by stimulated emission of radiation." This intense beam of light was produced for the first time at Hughes Aircraft in 1960. Army researchers at Huntsville, Alabama, began to explore the laser's utility for missile guidance. By relying on a pulsed laser beam rather than a steady one, they reduced the weight of a laser generator enough for a missile to carry it. The pulsed laser beam could designate (or "illuminate") a target sufficiently for a missile with a laser sensor to hit it.[40]

When Army money for laser research dried up in 1965, the Huntsville team took their idea to the Air Force Systems Command. Col. Joseph Davis at Eglin Air Force Base steered the effort away from missiles to free-fall bombs. An F-4 could easily carry a laser designator mounted near the weapon system operator in the back seat, while laser-seeker kits combining sensors and control fins (or "canards") could be attached to bombs already in the inventory. Davis encouraged competing proposals for a laser-seeker kit from several companies; Texas Instruments and North American Aviation entered the competition. Prototype tests in 1966 favored the cheaper Texas Instruments design.[41]

Although early work on laser guidance had used 750-pound bombs, testing in Southeast Asia during the summer of 1968 reinforced a growing conviction that the 2000-pound bomb was more suitable. Laser-guided bombs

were obviously more expensive than unguided bombs of any weight, and the Air Force wanted enough punch to take out a bridge span with one bomb. After brief use in the North Vietnamese panhandle, the end of Rolling Thunder meant that for three years laser-guided bombing was done mostly in Laos, where there were few good targets. Destroying small bridges and penetrating cave entrances were among the most appropriate tasks there, but breaching dirt roads was more common.[42]

Even had the White House authorized raids into the Hanoi-Haiphong area during the "protective reaction" years, laser-guided bombs probably would not have been used. The problem was not merely that laser guidance required relatively clear weather to function, but also that the Air Force had not yet developed a way to designate the target without exposing the designating aircraft to the high risk of being shot down wherever enemy defenses were heavy. Since the target had to be illuminated throughout the bomb's glide, the designating aircraft had to orbit over the target until all the bombs dropped by other F-4s had struck.

Although only the F-4 was certified to drop laser-guided bombs, communist air defenses in Laos and South Vietnam were sufficiently light to permit AC-130s, C-130s, and OV-10s as well as F-4s to orbit with laser designators. F-4s could use the same orbiting tactic for laser designation in the panhandle of North Vietnam. But dropping laser-guided bombs in the heavily defended areas closer to Hanoi and Haiphong demanded a new

designation technology. Fortunately, by the spring of 1972 Seventh Air Force had a wing pod which hung the laser designator on a gimbal--permitting it to track the target by swiveling independently of the F-4's maneuvers; the designating F-4 no longer had to orbit and could drop bombs itself. Unfortunately, Seventh Air Force had only six of these "Pave Knife" pods and had no prospect of getting new ones that summer.[43]

General Vogt therefore designed the Air Force's portion of Linebacker to make maximum use of his six Pave Knife pods while preserving them. That meant escorting them with big formations much like those he had developed for the B-52s in April. At first eight F-105 Wild Weasels led the way, but later these were joined by F-4s in hunter-killer teams, since the F-105's anti-radiation missiles only attacked radars and not the surface-to-air missile launchers themselves. Normally the chaff force was considerably smaller than the twenty F-4s used with the B-52s--usually eight F-4s dropping chaff, but sometimes as many as sixteen. At first these were unescorted, but as the MiGs became more active and skillful, up to eight other F-4s were added to escort the chaff F-4s. The strike force itself rarely exceeded eight F-4s, because the dust and smoke kicked up by their bombs soon interfered with the laser guidance of additional attackers. The strike force had a close escort of eight F-4s, not to mention yet another dozen or more F-4s flying combat air patrol in the vicinity. At the outset of Linebacker, supporting combat aircraft outnumbered strike aircraft by more than three to one; by early summer the

ratio exceeded five to one, and that did not count supporting aircraft operating at a distance like the EB-66 jammers, the EC-121 warning aircraft, and the KC-135 tankers.[44]

Vogt's big strike packages did preserve four Pave Knife pods through the campaign. Only two pods were lost, both in July--the first when the designating F-4 was shot down by a surface-to-air missile and the second when an F-4 caught fire after blowing a tire on take-off.[45] Vogt resisted pressure from Washington and Hawaii to increase the number of aircraft dropping bombs at the expense of his escorts. Only when the weather began to sour in August and September, did he permit greater use of unguided bombs in Route Package Six with smaller escort packages. Even then the total of Air Force, Navy, and Marine sorties dropping bombs on North Vietnam usually did not much exceed the two hundred daily with which Linebacker had begun; this was about a third of the available U.S. attack sorties available for all of Southeast Asia. By the end of the summer, the fighters had been rejoined over the panhandle of North Vietnam by about a fifth of the available B-52 sorties (or about twenty of one hundred daily).[46]

From the beginning of Linebacker, two hundred attack sorties a day for North Vietnam seemed much too little to President Nixon. "I am concerned by the military's plan of allocating 200 sorties for North Vietnam for the dreary 'milk runs' which characterized the Johnson administration's bombing . . .," he wrote Kissinger in May. Nixon emphasized that the U.S. had sufficient power

to destroy North Vietnam's "war-making capacity," and that the only question was whether the administration had the will to use that power. "What distinguishes me from Johnson," he declared, "is that I have the *will* in spades."[47]

But Nixon did not simply order the military to increase the weight of effort over North Vietnam. Rather he instructed Kissinger to have the military and the National Security Council staff come up with "some ideas on their own."[48] The only consequence of this instruction was planning during the summer to send the B-52s to Hanoi. Meanwhile the steadily improving situation in South Vietnam diminished Nixon's insistence on doing something more drastic in North Vietnam.

Nevertheless, General Vogt did continue to hear from Admiral McCain in Hawaii on the subject of increased sorties over North Vietnam, especially Route Package Six. As a result of Vogt's emphasis on laser-guided bombing, the Air Force's war over North Vietnam in 1972 looked much different than the Navy's. The Navy was sending about twice as many attack sorties against North Vietnam as the Air Force, and the Navy's greater number of sorties were scattered against many more targets. Not only would the Navy plan to attack more fixed targets each day (often four or five while the Air Force targeted one or two), but Navy armed reconnaissance sorties often hit a dozen or more fixed targets in addition as far north as Route Package Six.[49]

Vogt confined Air Force armed reconnaissance in North Vietnam almost entirely to Route Package One, where few of the targets were fixed and where laser-guided bombs also played an important role against artillery and tanks (the same target sets pursued by laser-guided bombs in South Vietnam, where Seventh Air Force did about half its laser-guided bombing.) In Route Package One and South Vietnam, Vogt could use his older Pave Way laser-guidance systems with the designating aircraft orbiting over the target. This emphasis on guided bombs was not shared by the Navy, which dropped fewer than five hundred laser-guided and TV-guided bombs on North Vietnam while Seventh Air Force was dropping about four thousand.[50]

Vogt persisted with laser-guided bombing because it was yielding remarkable results far superior in accuracy to any previous bombing. He could count on every mission destroying its target unless cloudy weather got in the way. Seventh Air Force, however, ceased to use television-guided bombs in Route Package Six even though both the Navy and the Air Force had developed a heavier 2000-pound version (and thus corrected a major deficiency of the Navy's Walleye during Rolling Thunder). While F-4 aircrews were effective dropping laser-guided bombs from medium altitude above 10,000 feet, getting adequate contrast for a good lock-on with the much more expensive television-guided bomb required them to fly lower into enemy air defenses.[51]

Laser guidance was not without its own drawbacks. In high threat areas it could not be used at night since the F-4 lacked adequate night sensors

and had to rely on aircrew seeing the target with the naked eye. Not only could clouds prevent initial designation of the target, but a passing cloud could interfere with the laser at any time during the bomb's glide. Dust and smoke could also cause the bomb not to guide. The North Vietnamese of course tried to exacerbate this problem with smoke pots, but more often than not a breeze would clear the target long enough for it to be hit. After a couple of hits, however, the resulting dust and smoke could cause later bombs to miss.

The scarcity of laser-guidance systems led Seventh Air Force to concentrate most of them in the 8th Tactical Fighter Wing at Ubon Air Base, Thailand. This one wing did all Air Force laser-guided bombing in Route Packages Five and Six and most guided bombing in Route Package One and South Vietnam as well. During Rolling Thunder the 8th had called themselves the "MiG Killers" and specialized in air-to-air operations, while the F-105s at Takhli and Korat dropped most of the bombs. During the "protective reaction" period, the air-to air job had passed to the 432d Tactical Reconaissance Wing at Udorn together with the famous 555th "Triple Nickle" squadron. Under Col. Carl Miller, the 8th Tactical Fighter Wing in Linebacker would earn the new nickname of "Bridge Busters." Miller had flown F-84s during the Korean War and F-100s in South Vietnam as recently as 1967. He would personally lead many of the pioneering laser-guided bombing missions into North Vietnam.

Miller could not focus on guided bombing alone. In April his four F-4 squadrons had been augmented by two F-4 squadrons from Seymour Johnson

Air Force Base, North Carolina. These two temporary-duty squadrons joined Miller's AC-130 squadron supporting South Vietnamese ground forces. But Miller's four permanent F-4 squadrons also had other duties besides guided bombing. They dropped the chaff for the B-52s as well as for their own bomb droppers, and they provided forward air controllers in Route Package One, both day and night. To perform these many functions, Miller had a base crowded with about a hundred F-4s and a dozen AC-130s.[52]

* * *

As their nickname "Bridge Busters" testified, it was guided bombing for which the 8th Tactical Fighter Wing aircrews would be best known in 1972, and their principal targets were bridges. The development of guided bombs had been closely associated with bridge bombing ever since World War II. While bridges like those across the Seine River in France were severed by unguided bombs, fighter pilots had to take severe risks flying low-level runs to hit those bridges. By the end of the war, however, the U.S. Army Air Forces had developed a radio guidance kit which could be attached to 1000-pound and 2000-pound bombs. These early precision bombs could be guided in azimuth only, not range. Although a B-24 bomber dropping them could stay above eight thousand feet, it had to remain over the target while the bombardier tried to guide a bomb all the way. These precision bombs were used only in Burma, where air defenses were relatively light and where fewer than five hundred radio-guided bombs succeeded in destroying more than twenty bridges.[53]

During the Korean War, the Air Force used improved radio-guided bombs. The addition of range control, however, did little to improve the accuracy of radio-guided bombs and nothing to reduce the vulnerability of bombers dropping them. While B-29 bombardiers where able to judge the correct azimuth, they had great difficulty judging range. In Korea 1000-pound guided bombs encountered bridges for which they were inadequate, stimulating the Air Force to try a 12000-pound version. When it hit a bridge, the big bomb destroyed it, but aircrews discovered to their dismay that the bomb could not be jettisoned without detonating when it hit the ground; a wounded bomber creeping home at low altitude could be blown up if it tried to get rid of its big guided bomb.[54]

Again in North Vietnam, the Navy and the Air Force first used guided munitions too light for some bridges. The Navy's Bullpup missiles (also used by the Air Force) were descended from the Korean War radio-guided bombs with the addition of a rocket engine, but this did not permit much standoff safety because the aircraft had to remain close enough for the crew to see the target--and the rocket engine smoke helped enemy gunners judge the aircraft's position. The 250-pound Bullpup did little damage. In any case, the Bullpup could not be used against the heavy air defenses prevailing throughout most of North Vietnam. The Navy's Walleye television-guided bomb was used against better-defended bridges, because it permitted the aircraft to leave the area after initial lock-on. But the version of Walleye available during Rolling

Thunder was too light (1100 pounds with an 825-pound warhead) to down spans in the stronger bridges.[55]

The toughest bridge in North Vietnam crossed the Song Ma at Thanh Hoa. Only two spans meeting on a central concrete abutment, this bridge took seven years to build and was not completed until 1964. The communists may have taken special care in its solid construction not only because it carried the only railroad running south of Hanoi together with the principal highway, but also because they had themselves blown up its predecessor during their rebellion against the French. Their technique of arranging a head-on collision between two locomotives loaded with explosives could not be imitated by Americans. During three years of Rolling Thunder, hundreds of sorties had suffered eleven losses while fruitlessly attacking the Thanh Hoa bridge with Walleyes, Bullpups, mines and unguided bombs. Transport aircraft even dropped 5000-pound mines upriver at night so that they would float into the bridge abutment, but this attempt also failed--costing a C-130 and its crew. The Thanh Hoa bridge still stood, no span had ever fallen, and none of the damage done had made this bridge unuseable for very long.[56]

On April 27, 1972, two weeks before the mining of Haiphong, eight Air Force fighters returned to the Thanh Hoa bridge with a new generation of guided bombs. One flight carried 2000-pound laser-guided bombs and the other 2000-pound television-guided bombs. Although laser-guided bombs would prove to be normally a little less sensitive to weather, on this occasion

it was the television-guided bombs that got a good enough lock-on for five of them to be dropped; the cloud cover was sufficient to make it unlikely that a laser beam could be kept on the target long enough for bombs to complete their glide, and so no laser-guided bombs were dropped. The television-guided bombs closed the bridge to traffic but did not down a span.[57]

When the 8th Tactical Fighter Wing came back to the Thanh Hoa bridge on May 13, 1972, the fourth day of Linebacker, five of the fourteen strike F-4s carried their heaviest weapons, 3000-pound laser-guided bombs, while the others had 2000-pound laser-guided bombs or 500-pound unguided bombs. The weather cooperated, and for the first time a span of the Thanh Hoa bridge went down. Nevertheless that was not to be the last raid on this bridge. While rail traffic would not cross the bridge for the rest of the year, trucks were soon using it again. The Air Force revisited the bridge twice more, and the Navy came no less than eleven times. Nor did the North Vietnamese fail to use pontoon bridges across the Song Ma. While guided bombs facilitated interdiction, they did not make it easy.[58]

Altogether the Air Force destroyed more than a hundred bridges in Linebacker, some of them several times. The first to go down, even before the Thanh Hoa bridge, was the much longer Doumer bridge over the Red River at Hanoi. Because of its location, it had been a forbidden target during Rolling Thunder until August 1967, when it was attacked by F-105s and F-4s with unguided bombs. On that 1967 raid, F-105s with 3000-pound bombs collapsed

one of the nineteen spans. Although they were dropping bombs from seven thousand feet and pulling out as low as four thousand feet, none of the attacking aircraft was shot down; an F-105 and an F-4 were damaged, both managing to land in Thailand. The back-seat weapon systems officer in the damaged F-4, Lt. Thomas "Mike" Messett, returned to Southeast Asia as a captain in 1972 and sat in the front seat of another F-4 during the first two Linebacker raids on the Doumer Bridge. Most of his fellow pilots were making their initial visits to Hanoi.[59]

On the morning of May 10, 1972, sixteen F-4s attacked the Doumer bridge from twelve thousand feet with guided bombs. Colonel Miller led the first flight of four over the target and dropped television-guided bombs, none of which hit the target. The experience soured both Miller and his boss in Saigon, General Vogt, on television guidance. The other three flights dropped 2000-pound laser-guided bombs, which severely damaged the bridge but failed to down a span. Vogt sent a single flight of four F-4s back the next day with a pair of 3000-pound guided bombs as well as six more 2000-pounders. This time three spans broke away. Not only did the bigger bombs prove as effective as their unguided relatives had been in 1967, but keeping the laser designator on target was easier in the face of the lighter air defenses which confronted the smaller force.[60]

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While all the strike aircraft attacking the Doumer bridge on May 10th and 11th completed their missions unharmed, two escorting F-4s were shot down by MiG-19s on May 10th. These losses were just part of the most intense day of air-to-air fighting in the Vietnam War. In exchange for the two Air Force F-4s, eleven MiGs fell; Air Force F-4s shot down three MiG-21s with Sparrow radar-guided missiles; Navy F-4s shot down seven MiG-17s and one MiG-21, all with Sidewinder heat-seeking missiles. The Navy managed this feat without an air-to-air loss, but did lose an F-4 to ground fire and another to a surface-to-air missile. The latter plane was the very one whose crew had just succeeded in shooting down three MiGs in a single afternoon. Having suddenly won their fifth victory and become the first aces of the Vietnam War, Lt. Randy Cunningham and Lt.(jg) William Driscoll were dumped into the Gulf of Tonkin. Fortunately they were rescued. Driscoll (the backseat radar intercept officer) was the first crew member other than a pilot to get official credit for five victories since World War I; the Army Air Forces had not recognized the claims of bomber gunners in World War II because the size of the bomber formations and the large number of gunners involved in most engagements had made conflicting claims difficult to sort out.[61]

The Air Force's leading contenders in the 1972 race to become aces, Maj. Robert A. Lodge and his backseater Capt. Roger C. Locher of the 432 Tactical Reconnaissance Wing at Udorn, were also shot down on May 10th just after winning their third victory. Major Lodge was killed together with Capt.

Jeffrey L. Harris and Capt. Dennis E. Wilkinson, whose F-4 went down in the same skirmish. Preoccupied with MiG-21s, the F-4s were surprised from the rear by MiG-19s. Captain Locher not only parachuted to survival, but evaded capture for three weeks and was rescued only sixty miles northwest of Hanoi in one of the deepest helicopter penetrations of the war.[62]

Not until another three months had passed would Capt. Richard "Steve" Ritchie and Capt. Charles B. DeBellvue become the Air Force's first aces of the war. They won their initial victory on May 10th in the melee which killed Lodge, Harris, and Wilkinson. The rarity of such heavy air-to-air engagements meant that the Vietnam War would produce only one more American ace, Capt. Jeffrey S. "Fang" Feinstein, an Air Force back-seat weapon systems officer. Only DeBellvue would get as many as six victories. The Korean War, in contrast, had produced eight times as many American aces, and the leading ace won sixteen victories in about a hundred sorties (the usual number flown in a full tour over North Vietnam).[63]

While another day like May 10, 1972, would not occur in the Vietnam War, there would be too many occasions when a North Vietnamese MiG picked off an F-4. This misfortune occurred far more often to Air Force planes than to Navy planes. During 1972 the Air Force lost twenty-three F-4s and one F-105 Wild Weasel to MiGs; the Navy lost just two F-4s and one RA-5 reconaissance plane in this way. The disparity was partly caused by the distribution of enemy air assets. The MiG-21s at Phuc Yen dealt mostly with

Air Force raids in the Hanoi area, while the MiG-17s at Kep concentrated on Navy sorties nearer the coast. The MiG-21s specialized in a single pass from the rear, while the slower MiG-17s depended on their maneuverability in dogfights. The MiG-21s attacked more often, exacting a higher cost and suffering greater losses. Altogether, Air Force F-4s shot down forty-seven MiGs in 1972 (including thirty-nine MiG-21s), while Navy F-4s shot down twenty-four MiGs (fourteen of which were MiG-17s).[64]

Many of the Air Force air-to-air victories came late in the summer, however. For May and June alone, Air Force F-4s shot down only twelve MiGs, while MiGs were shooting down thirteen F-4s. It was the first time the Air Force had been on the losing end of an air-to-air ratio, and the sting was all the sharper because Navy F-4s won nineteen victories with no losses during the same two months. The Seventh Air Force commander was not left to solve this problem entirely on his own. The Air Force chief of staff took a very active interest. General Ryan paid a visit to Saigon in July, and decided to replace General Vogt's chief of operations, Maj. Gen. Alton D. Slay, with Ryan's own director of operations, Maj. Gen. Carlos M. Talbott.[65]

General Slay had also served as General Lavelle's chief of operations and became a focus of some of the controversy surrounding Lavelle's relief. In the summer of 1972 much of the Air Force was divided between supporters of Lavelle and supporters of the man who fired him, Ryan. Lavelle insisted that he did not know about the false reporting that brought him down, and many

of his friends blamed Slay for the false reporting scheme.* That summer, however, Slay found himself in trouble not only with Lavelle's friends, but also with Ryan. The Chief of Staff did not like the way operations were being run at Seventh Air Force.[66]

Slay's replacement, General Talbott, had already served in Saigon in 1966 as deputy director of the tactical air control center. His reassignment to Saigon broke the unwritten rule that the Air Force did not send its generals to Southeast Asia for a second tour. He found a very different headquarters from the one he had left six years earlier. In a combat environment more demanding than the one which had prevailed then, the number of headquarters personnel shrank day by day. The operations center for the out-country war had been combined with the tactical air control center for the in-country war, and this new combined center moved across Tan Son Nhut Air Base to become the Military Assistance Command Vietnam's operations center. Like nearly everyone else at Seventh Air Force headquarters, Talbott "wore a second hat"--that is, he held the same job in the joint headquarters that he did in Seventh Air Force. The consolidation had many advantages, not least the elevation of General Vogt to be deputy commander under the Army's new MACV commander, Gen. Fred C. Weyand.

Slay refused to talk to his replacement and left a few hours after Talbott arrived. Talbott's impression was that Slay had been cut out of much

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* See Chapter 8.

of the day-to-day management of operations. The intelligence chief dealt directly with Vogt on targets, and there were no daily staff meetings to review yesterday's results and plan tomorrow's operations. Talbott attributed this way of doing business to Slay's lack of operational experience. In any case, those like Talbott who believed Slay's career was over proved mistaken. He would gain two more stars and eventually take charge of Air Force Systems Command.[67]

By the time Talbott reached Saigon in August, Vogt had already taken a number of actions to improve his command's performance. In response to pressure from Ryan, he called his commanders to Saigon in July and told them to hold frequent Linebacker after-action meetings at Udorn. From mid August through December, flying and control units sent representatives to a daily meeting in Udorn to assess the previous day's missions. There was no precedent for this much coordination, and it meant pulling aircrews and controllers away from their jobs for trips to Udorn. During Rolling Thunder, there had been only the occasional "practice reunions" which emphasized comraderie as much as exchanging information.[68]

A major objective of the daily Linebacker conferences in late 1972 was to improve the process by which controllers warned strike forces of impending MiG attacks. Indeed, General Vogt believed that Seventh Air Force's principal problem with the MiGs was a lack of warning. Early in the year F-4s had started to exploit a new capability to interrogate MiG identification (IFF)

transponders, but the North Vietnamese soon caught on to this and turned their transponders off much of the time. The Navy radar control ship in the Gulf of Tonkin received information from several sources about MiG activity in the coastal portion of North Vietnam where Navy planes were operating. Vogt wanted something comparable for the Air Force to bring together information from all available reconnaissance sources (including North Vietnamese radio communications). During Rolling Thunder, Seventh Air Force had attempted to perform this "fusion" function at Monkey Mountain near Danang.* But in 1972, Seventh Air Force was moving out of South Vietnam, and Vogt established his new fusion center at Nakhon Phanom Air Base, Thailand, with the call sign "Teaball." Vogt expected Teaball to provide the earliest possible MiG warning for his strike packages.[69]

Vogt's belief that Teaball turned the air-to-air situation around seemed to be supported by the obvious correlation between Teaball's commencement of operations in early August and Seventh Air Force's dramatically improved performance against MiGs. During the next three months, the score was twenty MiGs down at a cost of only four Air Force F-4s. During and after the war, however, many of the fighter pilots involved questioned the importance of Teaball. In Vogt's view the pilots' low esteem for Teaball derived from their lack of sufficient security clearances to know about Teaball's sources. But how

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* See Chapter 4.

could Teaball have provided useful warnings to pilots without their knowing it?[70]

The Air Force's Tactical Fighter Weapons Center at Nellis Air Force Base, Nevada, systematically gathered documents on air engagements and interviewed crew members. The Fighter Weapons Center concluded that Teaball's contribution was relatively minor and that the Navy radar control ship continued to provide more useful warnings even to Air Force planes. Teaball's defenders objected that the Fighter Weapons Center was concerned only with the utility of warnings which led to shooting down MiGs--Teaball's real purpose was preventing the shoot-down of F-4s. But since F-4 escorts and patrols had borne the brunt of losses to MiGs as well as winning nearly all victories against them, escorts and patrols were the aircraft which most needed the warnings for defensive as well as offensive purposes. It was true that other aircraft maneuvered in response to MiG warnings. But of the seven Air Force chaff, strike, and Wild Weasel aircraft lost to MiGs in 1972, three were lost after the introduction of Teaball.[71]

A major part of Teaball's problem was communications, especially communications from Nakhon Phanom to the strike forces. Because of its great distance from Hanoi, Teaball had to use a radio relay aircraft. For some reason this relay often failed to work well. One theory was that interference from EB-66 jamming aircraft caused the trouble, but this idea surfaced only at the end of the year--too late for any remedy to be applied.[72]

How then to account for the dramatic improvement in Seventh Air Force's performance against MiGs? The Fighter Weapons Center not surprisingly emphasized the importance of aircrew experience. Navy pilots did better at the outset of Linebacker because the Navy had established its Top Gun air-to-air training program after Rolling Thunder. The Air Force had no such program, and its less well trained pilots required a few months of combat to become skilled enough to defeat the MiGs. This argument was sufficiently persuasive for the Air Force to establish its Red Flag exercise program at Nellis, where air-to-air and bombing skills could be honed together in the face of air defenses--including an "aggressor squadron" of T-28s and F-5s mimicking MiG-21s.[73]

During Linebacker, the Air Force did what it could to support its pilots with better tools. The sad performance of air-to-air missiles received a lot of attention. Despite all attempts to improve them, the probability of a missile destroying its target remained less than twenty percent. The principal quick fix for the Sparrow radar-guided missile in the summer of 1972 arrived too late to have much effect, and it was the Sparrow on which Seventh Air Force principally relied. The Sparrow's fundamental problem was that it was designed for a different kind of war--a war in which American pilots would be permitted to fire Sparrows far beyond visual range. In Southeast Asia, pilots were usually required to visually identify the enemy aircraft before they could launch a Sparrow. On at least one occasion an F-4 was shot down while

speeding ahead of its flight to make sure that a targeted aircraft was in fact a MiG. Allegations that this F-4 was hit by a Sparrow launched by another F-4 in the flight were discounted by the Air Force, which concluded that a second MiG-21 had done the job. In any case, the requirement to visually identify MiGs collided dangerously with the requirement for sufficient range to use the Sparrow.[74]

In 1972, Seventh Air Force was using a so-called "dogfight Sparrow," but it still could not be launched from as close to a MiG as the Sidewinder heat-seeking missile could. Aircrews often had difficulty launching either missile within required parameters of range and direction. Even when those parameters were satisfied, the Sparrow frequently malfunctioned because it was very difficult to maintain. An F-4 maintenance officer at Korat discovered that some of the Sparrow's problems could be attributed to the shaking the missiles received when a munitions tractor pulled them across foreign-object-damage (FOD) bumps at the edge of the flight line; these metal FOD strips were intended to shake out rocks, screws, and other objects which might be sucked in by jet engines.[75] At sea, conditions for the Sparrows were even worse, and the Navy chose to rely almost entirely on Sidewinders. Their version of the Sidewinder was reputed to be better than the Air Force's. Sidewinders were, in any case, the most appropriate missiles for close-range, maneuvering dogfights with MiG-17s. The Sparrows, on the other hand, were more suitable for dealing with the faster MiG-21s and their one-pass tactic.

As Air Force pilots gained combat experience using the Sparrow, it became more effective in their hands.[76]

At least as important as improvements derived from Air Force combat experience was the parallel degradation in MiG capability. The North Vietnamese had launched their spring offensive in 1972 with a considerably stronger air force than they had during Rolling Thunder. When American air power had finally begun to attack North Vietnamese airfields in the spring of 1967, the North Vietnamese had about 150 MiG fighters. Those that were not destroyed could not remain on their bases near Hanoi and had to use bases in southern China. But the North Vietnamese air force in late 1967 could take comfort from the fact that their 20 MiG-21s were beginning to shoot down U.S. planes with the new tactic of making a single pass from the rear. After the end of Rolling Thunder in 1968, the North Vietnamese built a stronger air force. The number of MiGs increased to nearly 250, including more than 80 MiG-21s. With the exception of about 30 MiG-17s, North Vietnam's entire air force was pulled out of China and returned to North Vietnamese bases. Many of the aircraft were housed in caves or bomb shelters. North Vietnam built new bases in the panhandle within reach of South Vietnam.[77]

Soon after the beginning of the spring 1972 offensive, American planes resumed bombing North Vietnamese airfields. Most of these raids targeted the panhandle airfields, and the North Vietnamese were not able to move their planes south during Linebacker. On the other hand, operations never ceased

for more than a few hours at North Vietnam's four principal airfields: Phuc Yen (MiG-21s), Yen Bai (MiG-19s), Kep (MiG-17s), and Hanoi's airport at Gia Lam. The Air Force did not attempt to bomb aircraft in shelters or caves. Several raids did attack the air defense command bunker at Bac Mai airfield on the southern outskirts of Hanoi. General Vogt was convinced that his crews finally penetrated the bunker, but the intelligence agencies were skeptical that it had even been hit; the bunker was hard to see from above ten thousand feet.[78]

North Vietnamese air defenses continued to function throughout Linebacker. The MiGs did not flee to China as they had in 1967. Nevertheless, their effectiveness diminished. While the skill of American aircrews increased, the MiG force shrank from nearly 250 to fewer than 200. About half the MiG-21s were destroyed. These losses probably included some of North Vietnam's most aggressive pilots and required difficult adjustments in so small an air force.[79]

Although the MiG pilots for a time outshined their Air Force opponents, they managed to destroy in 1972 only one more American aircraft (twenty-eight) than they had in 1967. Indeed the overall experience of American planes over North Vietnam in 1972 was much healthier than in 1967. While flying about twenty-five percent fewer sorties into North Vietnam, losses there dropped by fifty percent to about a hundred aircraft. The big difference in 1972 was the much diminished effectiveness of North Vietnamese anti-aircraft

artillery. In 1967 artillery had accounted for about two-thirds of Air Force aircraft losses in North Vietnam; in 1972 artillery accounted for less than a third.[80]

American estimates of the number of North Vietnamese anti-aircraft artillery pieces with a bore of at least thirty-seven millimeters declined from nearly eight thousand in 1967 to fewer than a thousand in 1972. Much of this remarkable decline could not be accounted for by pieces destroyed or moved to Laos and South Vietnam. American intelligence analysts became more adept at distinguishing real artillery pieces from dummies. North Vietnam's anti-aircraft artillery inventory may have been nearly as large as it had ever been, especially if guns of somewhat smaller caliber were counted. The North Vietnamese had perhaps three thousand pieces with a twenty-three millimeter bore.[81]

It was not so much North Vietnamese anti-aircraft artillery which changed, but rather the Air Force tactics used against it. General Vogt and laser-guided bombs had moved Air Force strike packages higher in altitude beyond the reach of most artillery. But Navy planes continued to dive lower, and artillery exacted about half the Navy's losses.[82]

At the medium altitudes favored by Seventh Air Force, the principal foes were MiGs and surface-to-air missiles. These also bothered Navy planes enroute to their targets and returning to their carriers. Indeed the Navy was suffering more losses to SAMs than was the Air Force, perhaps because the Air

Force made heavy use of chaff. The ability of F-4s to lay a chaff corridor improved in July with the introduction of a dispenser which released the chaff steadily rather than in the widely separated bunches characteristic of the chaff bombs used earlier in the year.[83]

The F-4s did not rely solely on chaff. The introduction of jamming pods during Rolling Thunder had been a great success, and F-4s in 1972 each carried two jamming pods (rather than the one customary in 1967). For six weeks F-4s with laser-guided bombs dropped them from a formation designed to get maximum protection from the jamming pods. Later the 8th Tactical Fighter Wing discovered that it could still get good results cutting the number of laser designation pods in each flight from two to one, if the flight abandoned jamming-pod formation for about a minute to break into a vertical fan so that all four F-4s could drop their bombs into the laser "basket" formed by the lead F-4's laser designator.[84]

While Seventh Air Force continued to depend on jamming pods, it was noted that no F-4 had been shot down in a chaff corridor. The price the Air Force paid for protecting its laser-guided bombers with chaff was a series of MiG attacks on its big formations. General Vogt could take satisfaction, however, in the fact that MiGs rarely got through his F-4 escorts and patrols to hit either his chaff-dropping F-4s or his strike F-4s. The F-4 escorts and patrols took losses but succeeded in their mission of protecting the strike packages.[85]

Although SAMs turned out to be a manageable problem for Seventh Air Force, they did give officers in Southeast Asia and Washington some worries. The inventory was thought to have increased since Rolling Thunder from perhaps 180 SA-2 launchers to perhaps 240. As it happened, roughly the same number of SA-2s were launched in 1972 as in 1967--about 4000. Nor did their accuracy improve; fewer than two percent brought down an aircraft. But for several months, aircrews and intelligence analysts feared that SA-4s had been introduced into North Vietnam. Aircrews often reported seeing a new SAM, which they called the "Black SAM." New jamming pods for F-4s were rushed to Thailand before analysts finally concluded that this "Black SAM" was a Chinese version of the SA-2 and definitely not an improvement. Not until early 1973 would the presence of SA-3s be confirmed in North Vietnam. The only really new SAM to plague Seventh Air Force in 1972 was the small, shoulder-launched SA-7, which threatened slow aircraft flying low in South Vietnam.[86]

* * *

The most effective North Vietnamese air defense had always been weather. From May through mid July, American planes enjoyed the least cloudy weather of the year in the Red River delta (which meant that about half the planned sorties could strike their original targets and not have to be canceled or diverted to the panhandle). With better luck these relatively clear conditions might have continued well into September. In 1972, however, six

weeks of unusually cloudy weather intervened before a few more weeks of good weather in September. After that the beginning of the northeast monsoon brought with it the increasing cloudiness and mists which would rule out most laser-guided bombing for the next six months.[87]

The Air Force chief of staff, General Ryan, had a long familiarity with the problems posed by the northeast monsoon. As commander of Pacific Air Forces in 1967, he had sought to provide at least a limited bad-weather bombing capability by using two-seat F-105F Wild Weasel aircraft to drop bombs using radar. But while it would have been adequate for nuclear bombing, the F-105's radar could not provide enough accuracy for conventional bombing. "Ryan's Raiders" were not up to the job; nor were the F-4s. Ryan had to wait until six of the new General Dynamics swing-wing F-111s could be deployed in March 1968. Since their arrival coincided with the Rolling Thunder cutback to the panhandle of North Vietnam, the F-111s did not have many targets with a good radar return. But their big problem in 1968 was their terrain avoidance radar; after three of them were lost on low-level missions (flying into the ground it was supposed), the remaining three returned to the United States.[88]

The F-111's first visit to Southeast Asia in 1968 further tarnished that aircraft's already controversial reputation as the product of Secretary of Defense McNamara's aborted attempt to develop a multirole fighter for both the Air Force and the Navy. The Navy managed to get out of the deal, and the

Air Force got a fighter that might be able to bomb but could not fight MiGs. Ryan did not give up on the F-111, for he saw it as the Air Force's best hope for an all-weather bomber. When it did not fly into the ground, its accuracy in the panhandle of North Vietnam was much better than Ryan's Raiders. Bridge bombing was not a good choice, because the F-111 did not yet have a laser target designator. But rail yards, airfields, and supply dumps were suitable targets for the F-111's unguided bombs in bad weather and at night.[89]

When Ryan visited Saigon in July 1972, he urged Vogt to embrace the return of F-111s to Southeast Asia. Vogt had been Ryan's operations deputy in Hawaii during Rolling Thunder, and both men were keenly aware of the Air Force's need for an accurate all-weather bomber. Vogt could see merit in using F-111s rather than B-52s, not only because the F-111s were more accurate, but also because the F-111s could penetrate North Vietnam on their own without the big escort packages required by the B-52s. On the other hand, Vogt was not enthusiastic about Ryan's proposal to send forty-eight F-111s to Takhli in place of the seventy-two F-4s already there. Those F-4s together with a like number at Korat had been the backbone of Seventh Air Force's effort in South Vietnam.[90]

After hearing Vogt's objections, Ryan proceeded with plans to replace the F-4s with F-111s, which began arriving at Takhli near the end of September. A few days later, Vought A-7s began replacing the F-4s at Korat. The Navy had developed both the F-4 and the A-7. Although the Navy had

been using its carrier version of the A-7 in Southeast Asia since the end of 1967, this was the first time the Air Force version was deployed to the theater. The Korat A-7s, which had bad-weather capability superior to the F-4s, would do the work that the Takhli and Korat F-4s together had been doing in South Vietnam. With communist ground forces in South Vietnam in retreat, Ryan was convinced that Vogt could use most of his resources in North Vietnam--including some of the A-7s. Since A-7s and F-111s could reach their targets without aerial refueling, Ryan was able to withdraw from Thailand and Taiwan more than a quarter of the 172 tankers which had been operating in Southeast Asia. Indeed Thailand's insistence that tanker operations from the Bangkok airport cease by mid October bolstered Ryan's argument for replacing F-4s with F-111s and A-7s.[91]

While the F-111 and the A-7 would both prove valuable additions to Vogt's arsenal, he had to put up with a lot of redeployment in the midst of war. Ryan made matters difficult even at Thailand bases which got to keep the F-4 by insisting that they all participate fully in the disruptive service-wide transition from squadron maintenance organizations to consolidated base maintenance organizations. The early F-111 sorties would do little to put a brighter face on the changes imposed by Washington.

A few hours after the first F-111s arrived at Takhli, five of them took off on separate missions into Route Package Five. Before it could be spotted by North Vietnamese radar, each F-111 was to drop to a thousand feet and go

as low as five hundred feet for the bomb run. One of these F-111s did not return and was presumed to have flown into the ground. Although F-111 combat operations were called off for a week while the two-man crews practiced in Thailand, three more F-111s disappeared in the next six weeks. But Takhli was sending out at least twenty sorties a night, and the loss rate was not bad enough to ground the fighters with the most accurate bad-weather bombing capability. The squadron bulletin board warned: "Flak effectiveness is 5%--missile effectiveness is 8%--ground effectiveness is 100%--AVOID GROUND."[92]

Meanwhile, General Vogt was pursuing another approach to bad-weather bombing which proved fairly successful in the panhandle, but did not help much in the Red River delta. When dropping sensors on the Ho Chi Minh "Trail" in Laos, Seventh Air Force had required a precise navigation system. As the operations director at Pacific Air Forces during Rolling Thunder, Vogt encouraged using a Coast Guard Long Range Navigation (LORAN) system for this purpose as well as for bad-weather bombing. An aircraft could determine its location by measuring the time difference in the reception of signals sent by two LORAN ground stations. Despite its name, LORAN's range was insufficiently long to reach dependably to Hanoi from the ground stations in Thailand.[93]

Nevertheless, Vogt did what he could to make LORAN function as well as possible. Even when the ground station signals could be received, LORAN

could not produce accurate bombing unless the exact location of the target was known. During good weather in September, Vogt sent the RF-4s of the 432d Tactical Reconnaissance Wing at Udorn on repeated missions to secure the necessary grid-annotated photography. The RF-4s also served as LORAN pathfinders for F-4s to drop test bombs in good weather as well as bad. By dropping a type of 1000-pound bomb not used before, distinctive craters could tell photo-analysts where LORAN bombs were hitting and permit refinements in the LORAN signal time delays associated with each target. These LORAN sorties were accompanied by other F-4s engaged in unguided bombing without benefit of LORAN. Together they partly answered demands from Washington and Hawaii for more Air Force attack sorties in the northern route packages. With fewer laser-guided bombing missions, more F-4s could bomb instead of performing escort or patrol duties. LORAN missions did not get the big escort packages alloted the laser-guided missions, and F-111s did not get any at all.[94]

* * *

As the northeast monsoon moved into North Vietnam in October and brought a natural end to the bridge-busting campaign, American intelligence agencies remained largely unconvinced that Linebacker had much reduced North Vietnamese imports or stopped the resupply of North Vietnamese forces in South Vietnam. When South Vietnamese forces regained Quang Tri city in September, they captured some North Vietnamese troops who had not eaten in a few days and were short of ammunition. But such shortages could be

attributed to a local distribution problem. In the absence of conclusive evidence, the campaign's critics and advocates retreated into shrill assertion. When Secretary of the Air Force Seamans optimistically told the press that perhaps only a quarter of the supplies the North Vietnamese were sending south reached their destination, he found himself in trouble with the White House for being so pessimistic publicly.[95]

There was little question that laser-guided bombs had limited the railroads to shuttling between downed bridges. Sometimes aircrews did exaggerate their prowess. On May 22, the 8th Tactical Fighter Wing attacked eight bridges with fifteen laser-guided bombs and claimed six bridges destroyed; subsequent photo-analysis found three of the claimed bridges still operational. Quite apart from the difficulty of assessing bomb damage when inflicted, bridge repair often quickly permitted at least trucks to cross. For example, on July 30th thirteen bridges were down on the northwest railroad from China to Hanoi; a week later only four remained closed to all traffic. In the case of longer bridges like some of those on the more important northeast railroad also connecting China and Hanoi, bridge repair might require a month or more. Few if any of the downed bridges could not be bypassed at least by ferry or pontoon bridge. A moveable bridge could be hidden along shore in daytime and put across a river at night.[96]

Nevertheless the Air Force relied almost entirely on the laser-guided bombing of bridges for interdiction in Route Packages Five and Six. This was

a departure from Rolling Thunder, when a considerable effort had been made to made to destroy locomotives and rolling stock. While the Navy in 1972 had some success against such targets in the panhandle, neither service made much of an attempt along the routes from China to Hanoi. There were a few raids on the rail yards there, but little rolling stock was hit and the North Vietnamese continued to use more than two thousand railcars. As in Rolling Thunder, the yards close to the Chinese border remained off limits, as did the one in downtown Hanoi. The much greater success against bridges permitted by laser-guided bombs encouraged the abandonment of riskier raids against rolling stock. Indeed, laser-guided bombs seemed to point the way to a new kind of warfare much less bloody for attackers and attacked.[97]

The bridge campaign in 1972 was sufficiently successful to force the North Vietnamese for the first time to rely heavily on trucks to get supplies from China to Hanoi. South of Hanoi, the North Vietnamese had relied on trucks during Rolling Thunder as well. But at that time with Chinese help they had been able to keep the rail routes open from China to Hanoi. When laser-guided bombs disrupted rail transport north of Hanoi in 1972, the North Vietnamese turned to trucks. For this form of transport they were also heavily indebted to the Chinese.

Since China's largest truck factory at Chang Chun in Manchuria produced some 65,000 trucks a year, replacing North Vietnam's truck losses of at most 4,000 in 1972 was not unmanageable. Throughout the year, American

intelligence estimates put North Vietnam's truck inventory at more than 20,000 or about double its inventory during Rolling Thunder. In the panhandle of North Vietnam, the 8th Tactical Fighter Wing's "night owl" squadron pursued the trucks with flares to pull away the cover of darkness. Most of North Vietnam's truck losses in the summer of 1972 occurred in the panhandle. Such armed reconnaissance was deemed too dangerous in Route Packages Five and Six, where trucks were free to roam night and day.[98]

Until about June 7, 1972, traffic on the ninety miles of highway paralleling the northeast railroad from China to Hanoi was ten trucks per mile. Then suddenly the thousands of trucks filling big truck parks along the Chinese border emptied, and traffic density rose to perhaps forty trucks per mile all the way to Hanoi. The month's delay after the commencement of Linebacker before the big surge in truck traffic has sometimes been attributed to deliberate Chinese stalling in retribution for North Vietnam's warm relations with the Soviet Union. But the closure of Haiphong may have required a month to reroute supplies inland. In any case, traffic on the northeast railroad continued to move until June 7. Only when bombing closed the railroad did truck traffic surge.[99]

While attacking trucks when they could be found in the panhandle, Seventh Air Force tried to reduce truck traffic in Route Packages Five and Six by destroying bridges, maintenance facilities, and supply depots. "We all know we cannot stop truck traffic," General Vogt told his commanders in July.[100]

North Vietnam had insured a reliable fuel supply for its trucks by opening a new oil pipeline in June to join with the one which already connected Haiphong and South Vietnam. During Rolling Thunder, trucks had to carry barrels of gasoline south to refuel themselves. Now they were relieved of that load, and the pipelines gave them a dependable source of fuel. The pipelines were hard to hit even with laser-guided bombs; if hit, the pipelines were very easy to repair. Given this durable link with imported oil, attacks on oil tank farms in North Vietnam could have only fleeting impact.[101]

The trucks continued to roll, but no one in the American intelligence community could be certain whether they carried enough supplies to replace the flow which used to come through Haiphong. It was certain that the North Vietnamese were having to import food. Longterm agricultural problems had been aggravated by a severe typhoon in the summer of 1971. A year later the North Vietnamese had yet to complete repair of the earthen dike system which controlled the Red River and made possible good rice crops. It was typhoon season again. What if more dikes were breached by bombing?[102]

Repeated North Vietnamese allegations that the U.S. was targeting the dikes may well have stemmed from concern that North Vietnam's food supply was in real danger. During Rolling Thunder the Defense Department had studied the possibility of bombing the dikes, but most analysts judged that several bombs hitting close together would be required for each breach in one of the big dikes (levees) along the Red River; these were eighty feet across at

the high-water line. The smaller dikes were judged too numerous and too easy to repair. Nevertheless, some analysts could forsee promising results from bombing the Red River dikes when the water was high during the summer typhoon season--yielding flood damage not only to the rice crop, but also to many facilities near the river in Hanoi.[103]

The belief that flooding would damage targets that were clearly military bolstered the legal case for bombing the dikes. Toward the end of the Korean War, the Air Force had justified the bombing of irrigation dams as a way to flood a railroad--but even then it was the obvious threat to North Korea's food supply which seemed to contribute significantly to a cease-fire. Probably the most influential Air Force officer to take an interest in dike bombing during Rolling Thunder was General Ginsburg, Joint Chiefs liaison on the National Security Council staff. The Air Force chief of staff at the time, General McConnell, dismissed the idea as "a pretty fruitless operation."[104]

The questionable legality of attacking targets so closely linked to agriculture, together with the likelihood of a very bad press, discouraged experimentation with bombing dikes in Rolling Thunder and continued to do so even in 1972--after laser-guided bombs had improved its feasibility. The few bombs which did hit dikes either strayed from a nearby target or sought to destroy air defense artillery or missiles mounted on the dikes. In late July when many American reporters were disseminating Hanoi's claims about deliberate American bombing of dikes, President Nixon declared publicly that

if the United States wanted to breach the dikes, it could do so in a few days. Many found this argument persuasive, and some suggested that the North Vietnamese government was simply trying to blame American planes for its own failure to get typhoon-damaged dikes repaired. In any case, North Vietnam escaped a bad typhoon and severe flooding in 1972.[105]

The dikes were not the only potential targets which the U.S. continued to deny itself during Linebacker operations very much as it had in Rolling Thunder. Although the rules of engagement were less restrictive in 1972, they still put three key regions of North Vietnam mostly off limits: Hanoi, Haiphong, and the northern frontier along the Chinese border. The old restricted circle around Hanoi was reduced from a radius of thirty nautical miles to ten nautical miles--within which every target required the approval of Secretary of Defense Laird. The comparable radius at Haiphong had always been ten nautical miles and remained so.[106]

Similarly, the buffer zone along the Chinese border kept its former depth: twenty-five nautical miles from the Gulf of Tonkin across the northeast railroad to the 106th parallel; thirty nautical miles from there across the northwest railroad to Laos. As in Rolling Thunder, raids on rail targets were permitted to penetrate the border buffer zone; the depth of penetration was increased from ten nautical miles to fifteen nautical miles on the northeast railroad (and from fifteen nautical miles to twenty nautical miles on the

northwest railroad). This enabled key bridges in the border buffer zone to be bombed, but left nearby truck parks unscathed.

Since many potential targets lay within the restricted areas, Secretary Laird's veto power could make a considerable difference. During Rolling Thunder, President Johnson, Secretary of Defense McNamara, and Secretary of State Rusk had winnowed targets over lunch--reinforcing each other's caution by cutting targets not already cut by McNamara. In Linebacker, President Nixon's advocacy of bolder moves was diluted by his leaving to Laird the authority to veto targets.

In May and June, Laird approved more than a hundred targets, about two-thirds of them in the restricted areas; the rest required his approval because they also carried a risk of civilian casualties. Laird began to say "no" more often. When the Joint Chiefs of Staff asked him to approve forty-four targets on June 6, Laird authorized only twenty-eight. For the most part he stood by his vetoes, which included Hanoi's Gia Lam airport (heavily used by MiGs). In a few cases, like a communications site in Hanoi, he eventually relented. But when Admiral Moorer asked for twenty-nine targets on August 30th, Laird denied them all.[107]

One target consistently vetoed by Laird was the Hanoi thermal power plant, which the Navy had successfully struck with Walleye television-guided bombs in 1967. After that strike, the North Vietnamese had kept American prisoners at the site for a several months. This did not eliminate the target

from consideration, but Laird opposed hitting any target so close to downtown Hanoi--with the major exception of the Doumer Bridge. Although Laird did approve bombing most other power plants, Moorer had to go to Nixon for approval to bomb the big new Lang Chi hydro-electric plant about sixty miles west of Hanoi.[108]

Since Lang Chi's three generators could meet about half of North Vietnam's demand for electricity, their destruction was deemed essential. Unfortunately, the generators sat on top a concrete spillway in the middle of an earthen dam, a forbidden target like dikes. Seventh Air Force was expected to destroy the generators without breaching the dam. Even with laser-guided bombs, this was a tall order. General Vogt personally visited Ubon to make certain that Colonel Miller and his crews understood the importance of not breaching the dam. Vogt joked that if they hit the dam they should just fly on to India, where he would join them in exile.[109] When they managed to destroy all three generators on June 10th and still leave a solid dam, Vogt was so relieved that he told a reporter the raid was "the greatest feat in modern bombing history."[110]

Except for attacks on electrical production and distribution, Linebacker remained focused on targets with a more direct connection to interdiction. During Rolling Thunder, the interdiction rationale had been stretched to cover targets like the cement plant at Haiphong (road and runway repair) and the iron foundry at Thai Nguyen (barge construction), but these targets received

less attention in 1972. The Defense Intelligence Agency even advised the joint targeting committee in the Pentagon to cut the iron foundry from the target list. This was not done and the foundry was bombed in late June. Other more typical targets at Thai Nguyen were also hit--including a railroad repair shop, an army supply dump, and a power plant.[111]

Although attacks on transportation and electricity added to the difficulty of life in North Vietnam, Linebacker otherwise made only feeble attempts to reduce the ability of the North Vietnamese authorities to govern their people. The Air Force did drop more than half a billion leaflets on North Vietnam. C-130s and B-52s dropped the bulk of the leaflets; many were released over the Gulf of Tonkin in an often vain hope that they would drift against the prevailing wind and reach the Red River delta. F-4s and drones were the only leaflet-carriers flying over Hanoi, and they could not carry anywhere near as many leaflets.[112]

Besides warning people to stay away from targets, leaflets talked about the need for the North Vietnamese government to sign a cease-fire bringing an end to bombing in the north and troop casualties in the south. Some "inflation" leaflets counterfeited North Vietnamese currency; captured prisoners reported that they had been able to spend this fake currency for awhile in the evening, but its washed-out color did not pass muster in daylight. In another attempt to provide a propaganda tool more attractive and influential than the usual leaflet, the Air Force dropped small radios to enable

more people to hear broadcasts from South Vietnam. None of these psychological operations bore much obvious fruit.[113]

Ever since the beginning of Rolling Thunder, direct attack on North Vietnam's leadership in Hanoi had been ruled out. The Johnson administration had committed the U.S. not to threaten the overthrow of the communist government in Hanoi--while the communists were making every effort to overthrow the non-communist government in Saigon. Although Nixon sometimes seemed ready to do more, through the summer of 1972 he kept within the bounds of the old policy. The Air Force asked to bomb the Ministry of National Defense facility in downtown Hanoi, but the Defense Intelligence Agency raised the possibility that American prisoners might be held there and questioned whether it was still an important headquarters. The only leadership facility Secretary Laird permitted the Air Force to attack was the air defense control bunker at Bac Mai airfield just south of Hanoi.[114]

Even within the constraints of a bombing policy which put enemy leadership off limits, a much stronger effort might have been made to sever the leadership's telecommunications links with its forces and its people. Unfortunately, the two principal telephone switching centers in North Vietnam were located next to facilities in Hanoi that inhibited bombing; one was adjacent to the International Control Commission and the other to the Soviet embassy. But the location of a dozen other communications nodes (including Radio Hanoi) was known, and yet they too were not attacked.[115]

Linebacker subordinated all else to interdicting supplies coming into North Vietnam and heading south. Given the volume of truck traffic which continued to move, the campaign's effectiveness could be questioned. Air operations in South Vietnam had a more obvious role in stopping the enemy offensive there. Certainly the Air Force put the preponderance of its war effort in South Vietnam. Most of the heavy tonnage of unguided bombs (dropped by B-52s and fighters) fell in South Vietnam, and much of the remainder in Route Package One. About half the laser-guided bombs expended in 1972 were used against targets in South Vietnam and Laos, especially artillery and tanks.[116]

North Vietnam had gradually built up its stockpiles of invasion supplies before launching its spring offensive. Rapid expenditure of those supplies in the spring and summer of 1972 meant that the stockpiles could be maintained only by a much more intense supply operation. Linebacker together with mining made it difficult for North Vietnam to continue sending supplies south at the same rate, let alone a much increased rate. To the extent that the Hanoi regime did try to resupply the invasion forces, it had to reduce the supplies available to its people in North Vietnam who were having to cope with daily bombing raids.

By the fall, both the North Vietnamese offensive and the South Vietnamese counter-offensive had lost momentum. North Vietnamese invaders had been driven away from the cities of South Vietnam but not out of the country. The principal remaining leverage the U.S. had on North Vietnam was

the demonstrated capability to bomb targets there--and that leverage was weakened by the northeast monsoon.

* * *

On October 23, 1972, President Nixon stopped bombing north of the twentieth parallel. Military leaders like General Vogt thought this was a poor move to make in advance of a cease-fire agreement. Henry Kissinger argued that he and Le Duc Tho had agreed on all important points in Paris; Le Duc Tho had finally conceded that the Thieu government would not have to resign before a cease-fire. But President Thieu did not welcome this news. Although he had for more than a year seemed ready to accept a cease-fire in place (with North Vietnamese forces remaining in South Vietnam), he had not expected or wanted such an agreement. In any case, the spring invasion greatly increased the size of North Vietnamese forces which would be left in South Vietnam.[117]

As a reward to the North Vietnamese and a signal to Saigon that it was time to settle, Kissinger wanted to stop the bombing of North Vietnam entirely. This Nixon would not do. "I was not going to be taken in by the mere prospect of an agreement as Johnson had been in 1968," Nixon later wrote.[118] By cutting back to the panhandle at the beginning of the northeast monsoon, Nixon gave up mostly what the weather would no longer permit him to do. F-111, A-6, and F-4 LORAN bombing could have continued in the Red River delta, but the weather would make bridge-busting with laser-guided bombs usually impossible. Only B-52s could make a major difference in the delta

during bad weather, and for months they had been restricted to the panhandle. Since Nixon's problem was at the moment more with Saigon than Hanoi, he was not yet ready to send the B-52s to bomb the Red River delta.[119]

Nixon's disagreement with Kissinger about continuing to bomb North Vietnam was part of their larger disagreement about how to negotiate a cease-fire. For months Nixon had been uncomfortable with Kissinger's use of restrictions on bombing to facilitate negotiations. Secretary of Defense Laird, on the other hand, was happy to indulge Kissinger in this practice. Consequently, the Chairman of the Joint Chiefs found himself making changes he did not like. "Kissinger endeavored to orchestrate the bombing," Moorer later recalled. "I personally don't think the North Vietnamese had any idea whether we sent a hundred bombers or eighty bombers or whether we sent them up above the twenty-first parallel or the twentieth parallel."[120]

Before going to Moscow in May, Nixon had insisted that there be no reduction in bombing during the summit meeting. But in fact bombing was forbidden within ten nautical miles of the center of Hanoi or five nautical miles from the center of Haiphong during that meeting. Later for a week in mid June, strikes were forbidden not only in those normally restricted areas, but also anywhere in Route Packages Five and Six--to avoid an incident while Soviet President Nikolai Podgorny visited Hanoi (even though Kissinger had only promised the Russians not to bomb Hanoi and Haiphong). After Podgorny left Hanoi, bombing resumed throughout North Vietnam except in the

restricted areas (Hanoi, Haiphong, and the buffer zone along the Chinese border); there no strikes were permitted until Kissinger completed his own visit to Beijing in late June. Since Nixon also wanted to use improving relations with the Russians and the Chinese to pressure the North Vietnamese, he went along with Kissinger's limitations on bombing.[121]

The most fundamental disagreement between Nixon and Kissinger on cease-fire negotiations concerned timing. Kissinger believed that the U.S. could get a better deal by reaching an agreement before the November presidential elections. But Nixon came to expect a landslide over his Democratic opponent, Senator George McGovern of South Dakota, without a cease-fire. Although McGovern had himself bombed Germany During World War II as a B-24 pilot, he now promised to pull out of Southeast Asia even before making arrangements for the return of the communists' American prisoners. Public opinion polls indicated that Nixon's Vietnam policies, including the bombing of North Vietnam, were popular. A cease-fire before the election could only raise questions about his political motives, just as he had questioned President Johnson's four years earlier.[122]

Johnson's failures and fortitude continued to affect Nixon, even inspire him. When the Democratic candidate for vice president, Sargent Shriver, called Nixon "the number-one bomber of all time," Nixon joked with Johnson's former press secretary that Johnson should be pleased. "I don't believe so," George Christian replied. "LBJ never likes to be number two in anything."[123]

But Nixon was already contemplating how he could use B-52s after the election in a more dramatic way than they had ever been used before.

Notes

Chapter 9

Linebacker

1. Maj Donald L. Ockerman, "An Analysis of Laser Guided Bombs in SEA," Air Operations Report 73/4, HQ 7AF, Thailand, Jun 28, 1973, AFHRA K740.041-4, pp ii, 9, 36-46.

2. Hist, USMACV, Jan 1972 - Mar 1973, annexes J, K, and L.

3. Msg, Moorer to McCain and Abrams, 040006Z Apr 72, PACAF Source Documents for Corona Harvest V, Vol I, Tab 14, AFHRA 717.03-221.

4. Kissinger, *White House Years*, p 1098.

5. Hersh, *Price of Power*, p 506, citing a White House tape-recording made public during the Nixon impeachment proceedings.

6. *Ibid.*

7. *Haldeman Diaries*, Apr 6, 1972; intvw, Lt Col Arthur W. McCants, Jr., and James C. Hasdorff, Air Force history program, with Gen John W. Vogt, Annapolis Md., Aug 8-9, 1978; intvw, Lt Col Lyn R. Officer and Hugh N. Ahman, Air Force history program, with Robert C. Seamans, Jr., Washington DC, Sep 1973 - Mar 1974. Secretary of the Air Force Seamans discussed the meeting with Vogt shortly after it occurred.

8. *Haldeman Diaries*, Apr 6, 1972; Kissinger, *White House Years*, p 1111; Lewis Sorley, *Thunderbolt: General Creighton Abrams and the Army of His Times* (New York, 1992), pp 312-16.

9. *Ibid,*, p 1112,

10. Intvw, John T. Mason Jr., U.S. Naval Institute, with Adm Thomas Moorer, Washington DC, 1975-81.

11. Moorer intvw; Hersh, *Price of Power*, pp 465-79; Gen Alexander M. Haig, Jr., with Charles McCarry, *Inner Circles*,p 245; Walter Isaacson, *Kissinger* (New York, 1992), pp 380-85.

12. Intvw, James C. Hasdorff, Air Force history program, with Lt Gen Robert E. Pursley, Stamford Conn., Sep 16, 1983; Alexander M. Haig, Jr., *Inner Circles* (New York, 1992).

13. Haig, *Inner Circles*, p 206.

14. Pursley intvw. See also Hersh, *The Price of Power*, pp 576-77.

15. PACAF SEA Ops Summaries, especially Mar 1968, Jan 1972, Jul 1972. A detailed summary of carrier deployments is in Rene J. Francillon, *Tonkin Gulf Yacht Club* (Annapolis, 1988), especially pp 83-86.

16. Charles K. Hopkins, "SAC Bomber Operations in the Southeast Asia War," HQ SAC, 1983, pp 657-755.

17. Gen Louis T. Seith (USAF, Ret) worked for Adm Moorer as Vice Director of Joint Operations (J-3) in 1972. Seith recounted Moorer's turkey story in intvw, Lt Col Arthur W. McCants, Jr., Air Force history progam, with Seith, 27-28 Oct 1980. See also Secretary of the Air Force Seamans' recollections of Moorer's attempt to persuade Nixon not to deploy more B-52s in intvw, Lt Col Lyn R. Officer and Hugh N. Ahman, Air Force history program, with Seamans, Sep 1973 - Mar 1974.

18. Quoted in Hopkins, "SAC Bomber Operations," p 690.

19. Lt Gen Gerald W. Johnson, end of tour report, Sep 1971 - Sep 1973.

20. JCS Hist, Vietnam 1971-73, p 356.

21. PACAF Corona Harvest rpt, "USAF Air Operations Against North Vietnam, 1 July 1971 - 30 June 1972," AFHRA 1007439, pp 68-70.

22. Hist, 307 Strategic Wing, Apr-Jun 1992; Hopkins,"SAC Bomber Operations," pp 733-34.

23. Hist, 307 Strategic Wing, Apr-Jun 1972; Hopkins, "SAC Bomber Operations," pp 734-35.

24. Moorer intvw; JCS hist, p 367.

25. PACAF SEA Ops Summary, Apr 1972; Bernard C. Nalty, "Tactics and Techniques of Electronic Warfare: Electronic Countermeasures in the Air War Against North Vietnam, 1965-1973," Office of Air Force History, 1977, p 89.

26. Msg, Vogt to Ryan and Clay, subj: Daily Wrap-up, 161115Z Apr 72, AFHRA 717.03-221.

27. Minutes, Seventh Air Force Commanders Conference, Jul 18-19, 1972, AFHRA 1009446. See also SAC ops input to Corona Harvest, 1 Jul 1971 - 30 Jun 1972, pp 27-33, AFHRA DABIN 579870.

28. Nixon, II, 65; *Haldeman Diaries*, Apr 16, 1972.

29. SAC intel input to Corona Harvest, 1 Jul 1971 - 30 Jun 1972, AFHRA DABIN 579869, pp 155-58.

30. Kissinger, *White House Years*, pp 1154-64.

31. Kissinger, *White House Years*, pp 1180-81.

32. JCS Hist, p 378; Nixon, *RN*, II, 78-86; *Haldeman Diaries*, Apr 26, 1972.

33. Nixon, *RN*, II, 79; *Haldeman Diaries*, May 4, 1972. Alexander Haig carried the message from Johnson to Nixon. See Haig, *Inner Circles* (New York, 1992), pp 285-86.

34. Kissinger, *White House Years*, p 1180. See also pp 1181-86.

35. Moorer intvw, Aug 24, 1976.

36. Sorley, *Thunderbolt*, pp 323-25.

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CHAPTER 10

B-52s AT LAST

During eleven of the twelve nights from December 18 to December 29, 1972, B-52s pounded railroad yards and other area targets from the outskirts of Hanoi and Haiphong almost to the Chinese border. The big bombers' airborne radar permitted them to work regardless of weather. F-111s used their terrain-following radar to make low-level attacks on airfields just before the B-52s arrived over North Vietnam. In daylight other fighters bombed through the clouds by using weak signals from distant long range navigation (LORAN) transmitters in Thailand. When the weather cleared briefly on a couple of occasions, F-4s attacked targets in downtown Hanoi with laser-guided bombs. Only on Christmas day did the bombing pause. Nevertheless the press called this campaign the "Christmas Bombing." The Joint Chiefs of Staff called it "Linebacker II."

Linebacker II was by far the heaviest two weeks of bombing in the Hanoi-Haiphong region. All of the massive air power gathered in and near Southeast Asia was focused on this one region. The two hundred B-52s based

in Thailand and Guam dropped about fifteen thousand tons of bombs in Route Package Six, and fighters added more than two thousand tons.[1] This was enough tonnage to have leveled Hanoi and Haiphong, but the Nixon adminstration wanted B-52s to bomb only on the periphery of the cities--close enough to scare city dwellers while not killing many of them. Although a few strings of bombs went astray and enemy dead numbered perhaps two thousand, that contrasts with the tens of thousands killed in a single night by bombing raids during World War II.[2]

While B-52 losses were less than the Air Force's prediction of three percent for the whole campaign, they were double that on the third night and surface-to-air missiles ultimately destroyed fifteen B-52s (less than three percent of more than seven hundred sorties).[3] This came as a shock to B-52 crews accustomed to years of sorties further south without a loss until one in November 1972 during a raid on Vinh. Now in two wrenching weeks they saw more than thirty of their comrades killed and more than thirty captured. After six B-52s fell on the third night, tactical changes reduced B-52 losses to no more than two per night. Throughout Linebacker II, the B-52s remained above effective artillery fire and the MiGs proved able to do little more at night than gauge B-52 altitude for surface-to-air missiles. B-52 gunners outperformed the MiGs and shot down at least two of them; two escorting F-4s were also fired upon by B-52 gunners--fortunately with less accuracy.[4]

Air Force and Navy F-4 crews destroyed four MiGs at a cost of two F-4s and a Navy RA-5 reconnaissance aircraft. Meanwhile, North Vietnam's initial lavish expenditure of missiles led to American attacks on storage and launch sites, followed by a decline in the number of launches. Although attacks on launch sites did not do much damage, the attacks on warehouses where the North Vietnamese were believed to assemble imported SAMs may have contributed to a shortage of usable missiles--or expenditure may simply have outrun supply.[5]

President Nixon chose not to exploit Hanoi's apparent shortage of missiles by further bombing, however, when North Vietnam agreed to return to the negotiating table in Paris. Nixon's many critics emphasized that the cease-fire agreement signed in January 1973 was little better than the one North Vietnam had agreed to in October. There was some new language about respecting the Demilitarized Zone, but (as Nixon wrote to President Thieu of South Vietnam) none of the provisions of the agreement meant as much as the ability to enforce them in the absence of American ground forces. Linebacker II concluded Nixon's demonstration of what American air power could do in that regard, and the campaign may have helped persuade the South Vietnamese government to acquiesce in a cease-fire agreement. In any case, Nixon left the South Vietnamese with little choice, and by the time they needed his air power again, he had been forced out of the White House.[6]

* * *

Air Force plans to bomb Hanoi with B-52s had been pushed aside ever since 1964. After North Vietnam acquired surface-to-air missiles in the summer of 1965, General McConnell became more wary of using B-52s. But his successor as Chief of Staff, General Ryan, thought that B-52 losses over Hanoi would be acceptably low.[7] In President Nixon the Air Force gained a leader far more willing than President Johnson to send the B-52s north. Nevertheless, after five raids above the twentieth parallel in April 1972, the B-52s were pulled south before striking Hanoi. General Abrams' desire to use all the B-52s nearer the battlefields of South Vietnam was reinforced by Henry Kissinger's preference for avoiding political and diplomatic complications by using only fighter-bombers against the urban north.

Throughout the summer of 1972, the new commander in chief of Strategic Air Command, Gen. John C. (usually called "J. C.") Meyer, urged Admiral McCain in Hawaii to send the B-52s north. While McCain could not authorize so dramatic an escalation on his own, he did tell Meyer and the commander of Pacific Air Forces, Gen. Lucius D, Clay, to plan some B-52 raids on North Vietnamese airfields. Since Meyer and Clay were more interested in using the B-52s against rail yards and supply dumps, McCain agreed to recommend Meyer's first choice--the Kinh No rail yard north of Hanoi. But the Joint Chiefs turned it down. When McCain retired late that summer, he was replaced by Adm. Noel Gayler. The focus of B-52 planning for North Vietnam

then shifted back to airfields, and in the fall newly arrived F-111s were added to B-52s in the airfield strike plans.[8]

An unusual feature of Admiral Gayler's approach to B-52 planning was his decision to put coordination of the operation under the commander of the Pacific Fleet, who delegated the responsibility to the commander of Seventh Fleet, who further delegated the job to the commander of Task Force 77, Adm. Damon W. Cooper. Meyer had to send his plans to Cooper for integration with fighter attack and support sorties.[9] When Linebacker II was executed in December, however, the dominant role in coordinating fighter support reverted to General Vogt at Seventh Air Force. In any case, Linebacker II was mostly Meyer's show and the fighter commanders were often left to throw together their support packages at the last minute.

The return of the B-52s to the northern route packages came in gradual increments. Through the summer they had been restricted to Route Package One and points south. With the onset of the northeast monsoon in the fall, however, laser-guided bombing was rarely possible--strengthening the argument for using B-52s in the northern route packages. In October, General Ryan took advantage of serving as acting chairman of the Joint Chiefs to propose sending B-52s as far north as the nineteenth parallel. Although the Joint Chiefs approved Ryan's proposal, they subsequently pulled the B-52s back to Route Package One when intelligence indicated that the North Vietnamese were getting advance warning of targets and strike times.

Secretary of Defense Laird was so concerned that he launched an investigation into the vulnerability of American air operations to enemy intelligence. But there had never been much surprise involved in bombing North Vietnam--due to the smallness of the country, the limited choice of targets, the dependence on air refueling with all its regularities, and the ease with which enemy eyes could observe aircraft taking off from bases throughout Southeast Asia. The Russian trawler lying off Guam could give especially early warning of B-52s launching there. Even without communications intercepts and headquarters spies (both of which may have been abundant), American air operations tended to be big and obvious.[10]

Whatever the risk to the B-52s and their crews, President Nixon wanted to use them to show the North Vietnamese that American eagerness to settle had not yet deprived him of his all-weather air weapon. That eagerness had grown in October together with public knowledge of the South Vietnamese government's unwillingness to go along with the tentative cease-fire agreement. Only two days after Nixon had cut back the bombing of North Vietnam to the twentieth parallel, Radio Hanoi broadcast the terms of the tentative cease-fire agreement and accused the United States of reneging on it. When Henry Kissinger went on national television to explain the need for revising the agreement, he raised expectations unduly by declaring that "peace is at hand."[11]

Under the circumstances, Nixon knew that any overt escalation of the air war was bound to be unpopular. But he quietly enlarged the scope of the B-52 attacks in early November with an upper limit first set at eighteen degrees forty-five minutes and then nineteen degrees fifteen minutes. After his re-election on November 7, Nixon approved B-52 bombing as far north as the twentieth parallel. There the limit stayed while Kissinger returned to Paris with South Vietnam's proposed changes in the cease-fire agreement.[12]

Nixon had been less disappointed than Kissinger when negotiations with the North Vietnamese stumbled on the eve of the election. Given an overwhelming lead in the polls over the Democratic challenger, Senator McGovern, Nixon did not need a cease-fire to win the election. Indeed moves toward a pre-election settlement had opened the President to accusations of playing politics with the issue. Moreover, after the election Nixon could use the B-52s in controversial ways without worrying about their impact on re-election. Despite his crushing victory on November 7, however, Nixon found himself with little room to maneuver on Vietnam. His election strategy of remaining in the White House above the political battle had cost him support in Congress.[13]

Even before the election, a majority in the Senate had voted to pull out of Southeast Asia without even getting a cease-fire; the Senate's only condition was the return of the communists' American prisoners of war. Although supporting the President's actions against the North Vietnamese invasion, the

American electorate voted for a new Congress still more anxious than its predecessor to end American involvement in the war. Nixon understood that he had less than two months before the new Congress would arrive to cut off funding for further air action. He had to act quickly or not at all.[14]

When Kissinger brought the South Vietnamese demands to Paris, the North Vietnamese were in no mood for further negotiation; the American congressional election results promised to reward uncompromising communists. There was no chance that North Vietnam would agree to Thieu's call for withdrawing their soldiers from South Vietnam. The Nixon administration had long since given up really trying to gain that concession. Kissinger did try to get language affirming respect for the Demilitarized Zone between North and South Vietnam. In conjunction with North Vietnam's promise to stay out of Laos and Cambodia, a truly Demilitarized Zone would in theory seal off South Vietnam from North Vietnamese infiltration. To give such provisions some meaning, Kissinger sought to create an international inspection team large enough to observe violations of the agreement. North Vietnam's chief negotiator, Le Duc Tho, stalled progress by refusing to consider protocols for implementing the basic agreement while it was still in question. From time to time he made a new demand of his own, or he withdrew his approval of a provision previously agreed upon. Kissinger came to the conclusion that the North Vietnamese had decided not to settle before the arrival of the new American Congress. In Kissinger's view, Le Duc Tho continued to negotiate

principally to avoid giving Nixon an excuse to escalate the air war. Finally on December 12, Le Duc Tho announced his decision to return to Hanoi for consultations. He and Kissinger had a final fruitless meeting on December 13. With Christmas so near at hand, Le Duc Tho may have thought that there was little risk of Nixon taking dramatic military action.[15]

In fact Kissinger had been about to break off the negotiations himself, and he had recommended to Nixon an intensification of the bombing of North Vietnam. Unfortunately the President had already taken his advice in late November to cut the number of sorties hitting North Vietnam by a fourth.[16] While Nixon had long favored using B-52s against Hanoi before signing a cease-fire, he now realized that the big bombers could ignite "peace is at hand" sentiment. He blamed Kissinger's press conference for some of that sentiment, but more to blame was the disclosure of North Vietnamese terms acceptable to most Americans. The root problem was Thieu's refusal to go along. Nixon reluctantly concluded that he would have to threaten Hanoi as well as Saigon if he wanted to get out of Vietnam with a respectable cease-fire agreement before the new Congress made matters still more difficult.

On November 30, Nixon alerted a few of his subordinates to the possibility that he would order B-52s against Hanoi if the North Vietnamese refused to complete a cease-fire agreement--or having signed one, broke it. He said as much in a meeting that day with Secretary of Defense Laird and the Joint Chiefs of Staff; Kissinger was also in Washington during an intermission

in the Paris talks and attended the meeting with his assistant General Haig. Over the next two weeks, the administration wrestled with the question of whether to escalate and how much. Laird opposed any escalation in the bombing. As usual, Moorer found himself caught between Laird and Nixon. Until Nixon made his decision, Moorer remained sufficiently cool toward using B-52s against Hanoi that Laird could tell Nixon that Moorer also opposed it. When Haig called to check on this, Moorer insisted that Laird misunderstood him. Moorer may well have been of two minds. He had learned from the Air Staff to expect both B-52 losses and Russian gains in knowledge about the aircraft with its advanced radar jamming capabilities. These costs may have seemed too much when the Defense Department was writing off Vietnam and looking to the future.[17]

Kissinger also remained reluctant to use B-52s against Hanoi. He preferred to restrict that job to fighters as in the past and keep the B-52s further south. But the northeast monsoon would prohibit much fighter bombing before spring, and even if the Congress still permitted bombing then, fighters could only provide more of what the North Vietnamese had already experienced. Kissinger could not offer a persuasive alternative to B-52 strikes in the Hanoi-Haiphong region, a course fervently advocated by General Haig. On December 14, Nixon gave the orders to launch a three-day campaign (subsequently extended) in Route Package Six with B-52s and tactical air. According to Nixon's original orders, the bombing was to be preceded by

reseeding mines in the harbors. These orders were altered so that the mining followed the commencement of the bombing and did not rob it of surprise. The services gained an extra day to prepare when Nixon decided to begin bombing on Monday, December 18, rather than Sunday; he did not like the symbolism of beginning on Sunday, and Kissinger wanted to wait until after Le Duc Tho left Beijing.[18]

To weather the bad publicity bearing down on him, Nixon chose to remain silent. He sent Kissinger to explain to the press why the talks had broken down, and during Linebacker II the President refused to comment. Administration spokesmen did object to charges that Hanoi had been leveled by B-52 "carpet bombing," but they did not release intelligence photos to prove that point until months later.[19] Although friends of the administration despaired at the President's silence, it did have advantages. Since he had issued no ultimatum, Hanoi could return to the bargaining table with less loss of face. Since he did not seem personally concerned about allegations of leveling Hanoi, he might appear more likely to do just that--the publicity could get no worse. In fact Nixon was bluffing, and the B-52s were given targets only on the outskirts of Hanoi.

* * *

During his service in South Vietnam, General Haig had seen B-52s hit enemy forces within a few yards of his American troops. This extraordinary accuracy made a great impression on him, and he assumed that the B-52s over

Hanoi could bomb with the same accuracy. Haig did not understand that the ground-controlled "skyspot" bombing system could not reach into the Red River delta. There B-52s had to rely on their own radar. There enemy missiles and MiGs made accurate bombing far more difficult than in the more friendly skies of South Vietnam. Under the circumstances, Linebacker II was remarkably accurate. But stray bombs did provide grist for North Vietnamese propaganda by hitting homes and a hospital.[20]

The North Vietnamese had taken care to have American visitors who preferred a communist victory to a continuance of the war. On Saturday, December 16, four Americans arrived in Hanoi with Christmas mail for American prisoners. Through displays of this kind, the North Vietnamese government and the American anti-war movement continued to exploit the plight of the prisoners. Visitors usually provided rave reviews of North Vietnam's treatment of American prisoners--after meeting only those few deemed reliable. In recent months, Hanoi's American visitors had included former Attorney General Ramsey Clark and film actress Jane Fonda, both of whom performed their propaganda roles with relish. Fonda even posed for a photograph as a crew member on an anti-aircraft gun ready to shoot down fellow Americans; she returned home to marry the onetime student radical Tom Hayden, who had visited Hanoi twice during Rolling Thunder.[21]

In this Christmas 1972 group of visitors, the regime took the unusual risk of including Telford Taylor, a Columbia law professor who as an Army

brigadier general just after World War II prosecuted German war crimes cases at Nuremberg. Like other visitors to Hanoi, Taylor had made no secret of his opposition to American involvement in the Vietnam War. But Taylor's familiarity with Nazi Germany and bombing there gave him a standard of comparison sorely lacking among American pilgrims in Hanoi. By the same token, anything favorable he said about the North Vietnamese or critical of American air operations would carry more weight than the less well-informed reactions of his traveling companions: Michael Allen, assistant dean of Yale Divinity School; Barry Romo, "Maoist" and representative of Vietnam Veterans Against the War; Joan Baez, singer and pacifist whose former husband had gone to jail for resisting the draft.[22]

Two days before Linebacker II, the Taylor group entered an Hanoi full of adults and children. As so often in the past, the regime's evacuation orders were widely ignored. The citizens had long since learned that Hanoi was the safest place in Vietnam, north or south. Monday evening, December 18, when the bombs began to fall in unprecedented numbers on the airfields and rail yards north and west of the city, a real evacuation began. By the end of the campaign, more than half the residents may have left at least for awhile. Those who did not go far enough soon found that they had left the relative safety of Hanoi for the suburban target area.[23]

As for the Taylor group, they learned that they could not leave Hanoi either to explore Haiphong and other places in the targeted region or to return

home. Their planned one-week visit extended to two weeks, because their flight was canceled after the terminal at Gia Lam airport suffered bomb damage probably intended for a nearby rail yard. An occasional Chinese plane was the only way out of North Vietnam, and Taylor had to beseech the Chinese ambassador for seats. The group left on December 29, a few hours before the last bombs fell in the Red River delta.[24]

Their stay in Hanoi necessarily conformed to the rhythm of the bombing. At first the B-52s came in three long waves spread through the night. Later a compressed single wave permitted a better night's sleep especially if it came before midnight. Once the B-52 bombing was over for the night, Hanoi could look forward to several quiet hours until the fighters came in the early afternoon searching for a break in the clouds which would permit laser-guided bombing of targets downtown. The quiet morning hours were ideal for showing the American visitors bomb damage, newly captured B-52 crews, and model prisoners. Much of the rest of the day and night was spent in the Hoa Binh Hotel bomb shelter, where Baez sang her songs, tape-recording them with the rumble of distant bomb explosions for a new album.[25]

Taylor's first dispatch to the *New York Times* appeared on Christmas day while he was still in Hanoi. He wrote it just after visiting Bac Mai Hospital, which had been hit by bombs intended for an adjacent supply dump. Taylor could see oil storage tanks and Bac Mai airfield; he assumed that they were the targets and not the hospital. In his major exaggeration of damage,

Taylor reported that the hospital was "destroyed." Later some readers would learn that only part of the complex had been destroyed, and that all patients had been evacuated before the bombing. While Taylor was moved by the "terrible scene," he knew that (after four days of bombing) "Hanoi looks nothing like the Berlin or Hamburg of World War II," that the bombing had been "relatively concentrated in certain areas," and that "one can drive through the city for many blocks and see no damage whatever."[26]

Amid shrill vituperation of the bombing in the press, including the *New York Times*, Taylor provided some reasonably accurate information. In this respect his articles were a welcome contrast to Harrison Salisbury's Christmas series five years earlier.[27] Unlike Salisbury, Taylor saw bombing operations as well as bomb damage. Even though he did not approve of those operations, Taylor had definite views about how downed aircrews should be treated. He disliked seeing the North Vietnamese publicly display their new captives. After his first such session at the International Club, he complained to the authorities, and his group was not invited again--even Baez, who deemed the aircrews guilty of genocide and thought that the North Vietnamese officials were handling the prisoners with "great restraint."[28]

Taylor was even more unhappy to discover that American prisoners were not provided with bomb shelters. His group had been taken to the southern outskirts of the city to visit the prison camp called the "Zoo" by its inmates; toward the end of the war, a few cooperative prisoners were

segregated there and it became known as a "good guy camp" to the majority of prisoners incarcerated downtown or along the Chinese border. The North Vietnamese apparently wanted to show off some minor roof damage in the compound. After Taylor criticized the lack of bomb shelters, prisoners were given shovels and told to start digging. Fortunately for the North Vietnamese, Taylor did not realize that the conditions about which he was objecting were among the mildest the prisoners had endured.[29]

Taylor's perspective was much different than that of prisoners at Hoa Lo (or the "Hanoi Hilton" as they called it), to whom he was not introduced even though their cells were much closer than the "Zoo" to his hotel. He thought the citizens of Hanoi were bearing up extremely well under the bombs and showing a lot of the "London pride" he recalled from World War II. The prisoners at the "Hilton", on the other hand, could compare the behavior of their guards during these raids with what it had been before. For the first time many of the guards seemed afraid and even deferential. Few made much of an effort to stop the prisoners from cheering the B-52s.[30]

Except for a daytime laser-guided strike on a rail yard only a couple blocks west, the "Hilton" prisoners were at least a mile away from the bombing until the night after Christmas. Then a load of B-52 bombs fell on shops and homes along Kham Thien Street not far south of the same rail yard. More than two hundred people were reported to have died in the most deadly bombing error of the campaign. The natural supposition that the downtown

rail yard had been the target was wrong. Only laser-guided bombing was permitted against targets near so densely populated a neighborhood. The B-52 targets that night were a couple miles away.[31]

In the case of the Bac Mai error a few nights earlier, a much smaller miss had probably been the result of a B-52 being hit by a surface-to-air missile just before bomb release. A similar occurrence may well have contributed to the bombing error which demolished the flimsy buildings on Kham Thien Street, but so large an error suggested that a crew may have confused the downtown rail yard with one of the four suburban rail yards targeted that night: Gia Lam, Kinh No, Duc Noi, and Giap Nhi. The Gia Lam rail yard was often called "Hanoi rail yard" in the planning documents and distinguished from the downtown Hanoi rail yard only by their assigned target numbers, so there may have been a misunderstanding about which yard was to be attacked. More likely, the radar image of the downtown rail yard was mistaken for another yard. Like the downtown yard, Giap Nhi was southwest of the Red River. In the case of Kinh No, an exceptionally large supply dump lay next to the yard and bombs were aimed at the supplies outside the yard as well as the rails inside.

On the night of the Kham Thien bombing, two B-52s were hit by surface-to-air missiles near the time they released their bombs. One (whose target was Giap Nhi rail yard) crashed southeast of Hanoi--killing two crew members and putting the surviving four in prison. The other crippled B-52

(whose target was the Kinh No rail yard and supply dump) limped back to Thailand with a wounded gunner. Rather than bail out over northern Thailand, the pilot was told to bring his wounded gunner all the way back to U-Tapao. But the pilot, the navigator, the radar-navigator, and the electronic warfare officer perished in the crash landing. The wounded gunner pulled himself from the wreckage. The co-pilot also survived thanks to the courage of Captain Brent O. Diefenbach, a B-52 pilot who had just landed. He saw the crash, flagged down a Thai truck, and told the driver to take him to the site, where he got the injured co-pilot out of the cockpit just before the plane exploded.[32]

Each of the two B-52s lost on this the eighth night of Linebacker II was especially vulnerable because another B-52 in its three-ship cell had dropped out with mechanical difficulties. Two-ship cells proved much less effective than three-ship cells in jamming missile radar and guidance signals. Yet Strategic Air Command continued to insist that two-ship cells press on, and the next night two more B-52s were shot down in the same way.

* * *

To the end of Linebacker II, Strategic Air Command maintained the requirement that each B-52 crew "press on" unless their bomber developed truly crippling mechanical difficulties; if some of its jammers were not working or if another ship in its cell had to abort, a B-52 was still expected to "press on" despite its increased vulnerability to enemy air defenses. In other respects,

however, Strategic Air Command made major tactical changes after the third night, when six losses spurred criticism from the White House as well as from crews flying the missions. Despite Kissinger's assurances that the B-52 loss rate was bound to decline as the B-52s attacked targets further from Hanoi, President Nixon was upset. "I raised holy hell," Nixon would recall, "about the fact that they kept going over the same targets at the same time."[33] Although Nixon's diagnosis missed key tactical problems with Linebacker II, he was right to think that Strategic Air Command could do better.

Strategic Air Command's major problem was insufficient compression. On the first night, 129 B-52s flew over the Red River delta one cell of 3 B-52s at a time. They came in three waves at four-hour intervals, each wave requiring a half hour to drop its bombs. The three-wave procedure was repeated on the second and third nights with 90 B-52s each night using basically the same routes. The interval between waves gave the surface-to-air missile launchers enough time to reload. Normally about 70 missile launchers were within reach of the B-52s; at no time were they able to knock down more than 3 B-52s in a single wave even when the wave took a half hour to pass over. Finally on December 26, Strategic Air Command sent more than 113 B-52s over the delta in only fifteen minutes; the missile launchers could fire only once in less time with more targets--they got 2 B-52s rather than the 6 they had hit on the night of December 20-21, when three widely separated waves

had permitted reloading. The compression of December 26 was achieved by sending the B-52s in from seven different directions simultaneously.

Since compression proved to be so significant, why did Strategic Air Command wait so long to adopt it? In fact, Strategic Air Command had thought its opening wave on December 18 was already extraordinarily compressed. Never before had more than forty B-52s hit the same target area in half an hour, and they were part of a strike package of about a hundred aircraft (not counting the tankers which refueled the B-52s from Guam or the tankers which refueled the fighter aircraft from Thailand). Just getting so many B-52s in the air at once was a challenge, not to mention merging B-52s from Guam and Thailand in a single wave. Fears of a mid-air collision were fed by memories of four B-52s lost on Southeast Asia missions a few years earlier in two such accidents, which killed crew members and a major general.[34]

Strategic Air Command sought to preserve as much as possible of the routine quality of the missions the crews were accustomed to flying in South Vietnam. Each cell of three B-52s would fly nearly the same route over the target area, one cell at a time. If that was not bad enough, SAC planners made the job of enemy missile crews even easier by requiring the B-52s to make a sharp post-target turn as soon as they had dropped their bombs. In theory, this turn would get B-52s out of the target area as soon as possible.

In fact, it was a turn into the strong wind with which the B-52s had flown over Hanoi from the northwest.

"They had us turning into a hell of a head wind, about 100 knots from west to east," one crew member recalled. "As a result out airspeed was about 200 knots less than it was going in, which didn't help any."[35] Not only would the B-52s have cleared the target area more quickly by continuing to the southeast, but their post-target turn interfered with their ability to jam surface-to-air missile radar; most of the B-52s lost on the first three nights of Linebacker II would be hit by missiles in the post-target turn. Especially vulnerable were the B-52Gs, which had yet to receive some of the new jamming equipment already installed in the older B-52Ds; midway in the disastrous third night, Strategic Air Command pulled the B-52Gs off targets near Hanoi and kept them away for the rest of the campaign. Strategic Air Command was slower to abandon the post-target turn, which had been adopted years earlier for dropping nuclear bombs. Rather than give it up, Strategic Air Command first tried having the B-52s release chaff during the turn, a technique scorned by the command's own analysts.

To support three waves a night, Seventh Air Force could provide two flights of chaff-dropping F-4s per wave. Since each of these chaff flights could create one corridor, Strategic Air Command was limited to two bomber streams per wave. This restriction proved worse than fruitless, because the high winds above thirty-thousand feet played havoc with the chaff corridors, and most of

the B-52s flew their missions largely without benefit of chaff until Strategic Air Command and Seventh Air Force agreed to abandon corridors in favor of a chaff blanket. The only way Seventh Air Force could provide enough chaff to blanket Hanoi was to compress the three waves of the early nights into one wave a night--a compression which had the even more important advantages already discussed. While thinking through these changes, Strategic Air Command for four nights simply cut its effort to a single wave of thirty B-52s per night and hit mostly targets many miles from Hanoi. Then on the night after Christmas all the principal elements in Strategic Air Command's new approach to bombing near Hanoi came together with a full complement of more than a hundred B-52s, one-wave compression, a chaff blanket, and replacement of the sharp post-target turn by at most a gentle dogleg.[36]

With all these improvements, Strategic Air Command still lost two B-52s on the night of December 26. As already mentioned, both of the B-52s lost that night had been deprived of normal jamming support when one of the three ships in its cell had aborted with mechanical difficulties. But Strategic Air Command did not take the natural next step of requiring an entire cell to abort if one of its three B-52s could not complete the mission. The SAC commander, General Meyer, insisted that his B-52s "press on" in keeping with Washington's demand for a "maximum effort." This phrase from World War II had been introduced into Linebacker II planning by Lt. Col. Richard Secord, an Air Force special operations officer then serving in the Office of the Secretary of Defense.

Secord's insistence on "maximum effort" stimulated Joint Staff questions about its meaning if any, but it resonated with Meyer--one of the leading fighter aces of World War II.[37]

Meyer called not only for his B-52s to press on, but also for the other two World War II fighter pilots commanding Linebacker II forces to attack surface-to-air missile sites more effectively. Like Meyer, both General Johnson at Eighth Air Force on Guam and General Vogt at Seventh Air Force near Saigon were aces. Like Meyer, both won their victories in Europe. Although Johnson shot down seventeen German aircraft, he himself was shot down, imprisoned, and for a time overshadowed by a Pacific ace with the same name (except a middle initial of "R" instead of "W") and five more victories. Meyer's twenty-four victories ranked him twelfth among American pilots in World War II and he added two more victories as a jet pilot in Korea. While Vogt's eight victories in World War II ran well ahead of what anyone achieved in the Vietnam War, they had not been enough to make him a leading ace in a war with hundreds of aces. He found himself in Linebacker II relegated to third place in a pecking order established three decades earlier in the skies over Germany.

Meyer was clearly in charge, and Vogt usually learned Meyer's plans with barely enough time to throw together support packages. Throughout the Vietnam War, Strategic Air Command had refused to subordinate its contribution to the operational control of the Seventh Air Force commander.

This had always irritated the latter, whoever he was. Now Strategic Air Command was not merely going its own way, but instructing Seventh Air Force to follow along smartly. After the severe B-52 losses of the third night, Meyer communicated his frustration to Vogt: "If unable to provide SAM suppression as requested would appreciate your letting me know in some detail."[38] While Vogt promised a "max effort," he noted that Meyer's plan simultaneously to go after targets as widely separated as Hanoi and Quang Te airfield (thirty miles south) would require him to split his missile suppression forces. Those forces remained inadequate even after pairing F-4C Wild Weasels with F-4Es in hunter-killer teams so that the threat of the Weasel's radar-seeking missiles would in theory be bolstered by the ability of the F-4Es to attack launchers and crews with cluster bombs. As Vogt knew from the outset, however, the F-4Es were not apt to contribute much at night especially in bad weather.[39]

During the summer, Vogt had considerable success with pairing F-105 Wild Weasels and F-4Es, but those missions had been in daylight during relatively good weather. Some of his F-105 Weasels were replaced by F-4Cs, which he had refrained from sending to the Red River delta because in the Weasel configuration they carried only one jamming pod rather than two. But in Linebacker II, Vogt risked sending the F-4C Weasels north to maximize his missile suppression force. They did have the virtue of flying more easily in formation with F-4Es than had the F-105 Weasels--which were left to operate

independently of the hunter-killer teams. If Strategic Air Command restricted itself to one wave going against targets close together, Vogt could provide five hunter-killer teams (a total of ten F-4s) plus five F-105 Weasels and eight Navy A-7Es.[40]

F-4C Weasels and F-105 Weasels encountered a new problem during Linebacker II. A single radar site appeared to be involved in shooting down about half the eleven B-52s lost on the first four nights. Instead of the Fan Song radar associated with surface-to-air missiles since Rolling Thunder, this deadly new site had a Team Work radar using frequencies which the Weasels could not track. Team Work radars had been active through the summer, but only in support of anti-aircraft artillery. Given the Air Force's emphasis on dropping laser-guided bombs from medium altitude, artillery had usually not been able to reach high enough with accuracy. Shifting Team Work to missile support suddenly left the Air Force without an effective response. None of the B-52 jammers was very effective against Team Work, and the jamming itself could be tracked adequately to permit barrage firing of surface-to-air missiles.[41]

Vogt attributed the failure of his hunter-killer teams to suppress surface-to-air missile expenditure during Linebacker II mostly to the difficulty those teams had operating at night. About all they could do then was fire anti-radar missiles at suspected sites just before the B-52s arrived. That might keep the sites from turning on their radar. The Weasels soon ran out of Standard anti-radar missiles and had to rely on their older Shrikes. In any

case, they could intimidate only Fan Song radars and not the new Team Work radar. While Meyer was more interested in Vogt's results than Vogt's problems, Vogt did receive vocal support from the commander of Pacific Air Forces, General Clay, who was even more thoroughly cut out of Linebacker II planning than was Vogt. Clay proposed daylight B-52 raids so that the hunter-killer teams could do a better job of suppressing surface-to-air missiles.[42]

Given the prevalence of bad weather, however, F-4Es were unlikely to have much more opportunity to attack missile sites in daylight. Any slight improvement in missile suppression would be purchased at the price of a greater threat from the MiGs, which would perform better in daylight. Meyer responded that he might try a daylight B-52 raid in the less well-defended parts of North Vietnam, but even there he continued to operate only at night.[43]

Meyer was more taken with the idea of attacking missile sites with B-52s, F-111s and A-6s. Because Strategic Air Command had originally been told to attack all its targets in three nights, no thought was given then to attempt "rolling back" North Vietnamese air defenses. Now the indefinite extension of Linebacker II and the heavy early losses of B-52s combined to encourage directly attacking those defenses before they reacted and not just reacting to them with Wild Weasels and hunter-killer teams. When on the fifth night all thirty B-52s were scheduled to bomb targets near Haiphong, Strategic Air Command asked the Navy to attack the missile sites in that area with A-6s before the B-52s arrived. The Navy complied and no B-52s were lost

that night. The next night the B-52s themselves attacked missile sites, and F-111s also turned their attention to the missile sites after Christmas.[44]

Pacific Air Forces analysts later questioned the wisdom of the planned strikes on missile sites, because those strikes all used high explosive "iron bombs" rather than cluster bombs. Except for an operating radar's vulnerability to radar-seeking warheads, the scattered equipment at a missile site was hard to hit. Consequently the hunter-killer teams used the shotgun effect of cluster bombs. But A-6s and F-111s came in over their targets at a few hundred feet and were not permitted to risk shooting themselves down with cluster bombs. B-52s, on the other hand, were capable of dropping cluster bombs safely but did not. Pacific Air Forces estimated that four B-52s dropping cluster bombs could have been more effective in suppressing a missile site than more than two hundred B-52s dropping iron bombs--which was another way of saying that the twenty-one B-52 sorties actually employed against missile sites had a very low probability of success. Two of thirteen sites attacked by B-52s and F-111s, however, were judged to have suffered fifty percent destruction, and the B-52s got the credit for one of these sites. Another two sites were empty when attacked; since it only took about four hours to move missile launchers away from a site, the attackers were fortunate that this was not more of a problem.[45]

The last B-52 lost in Linebacker II was hit by a missile on December 27 just after bombs away against a missile site. The crew made it back to

Thailand before bailing out; for returning his crew safely, Captain John D. Mize won the first Air Force Cross awarded to a Strategic Air Command pilot in Southeast Asia. His crew had already run into more than their share of trouble when their B-52 was damaged on two earlier nights. This time they thought that their bombs struck the very missile site that got them; they were hit ten seconds after bomb release and their bombs required fifty seconds to reach the target. But Strategic Air Command concluded not only that their bombs had missed the targeted missile site, but that the missile in question had been launched by another very successful site which had already been bombed by B-52s and F-111s--and was about to be struck again by B-52s on the 27th without apparent success.[46]

While missile sites may have been a poor target for F-111s and B-52s, it was probably true that shifting them from attacking airfields was a good idea. The MiGs had given the B-52s little trouble at night, and there was slight evidence that airfield attacks had much to do with this happy outcome. The major factor seemed to be a lack of night-flying experience on the part of the MiG pilots. Although runways were frequently cratered, they were operational most of the time. The F-111s' most successful moment came when a single sortie managed to cause a brief hiatus in operations at Yen Bai airfield after a big raid with forty-four A-7s and F-4s failed to make an impression. But one or two F-111 sorties per airfield could not drop enough ordnance to produce much more than harassment.[47]

Nevertheless, Linebacker II was a breakthrough for the F-111s, which until then bore a reputation for flying into the ground. When forty-eight F-111s had arrived at Takhli Air Base, Thailand, less than three months before, they were still under the cloud of the losses suffered during the 1968 deployment. Four losses in the fall of 1972 did not improve their image. There was a strong suspicion that heavy rain had caused the F-111's terrain-following radar to go blank--a fatal shock to crews accustomed to flying low over the deserts of the American West. By mid December, however, the storms of the southwest monsoon had given way to the incessant clouds and light rain of the northeast monsoon. In Linebacker II, F-111s did not fly into the ground. Indeed, the airfield and missile-site raids were conducted without a loss. Two F-111s were lost on raids closer to downtown Hanoi; one after attacking a radio transmitter and the second after attacking port facilities on the Red River. The latter's crew was the first to gain enough altitude to eject safely and be captured; upon their eventual return to the United States they would report that small arms fire had ruptured their F-111's hydraulic control system. Flying low usually emancipated the F-111 from missiles and artillery, but brought new risks from less formidable weapons.[48]

Possibly more effective than strikes on airfields or missile sites were strikes on suspected missile storage and assembly facilities. Just before Christmas, Strategic Air Command recommended striking the Quinh Loi storage facility in southeastern Hanoi. Reconnaissance photography indicating

missile equipment in the compound led to the inference that at least some of about twenty warehouses might contain missiles. When the Joint Chiefs vetoed using B-52s against this urban target because civilian casualties were likely, General Meyer in Omaha called General Vogt in Saigon. Vogt then asked the Chairman of the Joint Chiefs to permit a daylight bad-weather raid by fighter aircraft using the long range navigation (LORAN) transmitters in Thailand. LORAN often did not function well at the fringe of its range in the Hanoi area, where heavy anti-aircraft fire discouraged F-4 pilots from making a sufficiently straight and level bomb run. Admiral Moorer's authorization of the Quinh Loi raid indicated the seriousness with which Washington viewed the missile threat.[49]

Vogt made the most of this authorization, and sent thirty-two A-7s led by eight LORAN-equipped F-4s on December 28. A fortunate break in the weather permitted half the force to drop its bombs visually, and five of the warehouses suffered extensive damage. On the next two nights a total of forty-three B-52s struck the missile support facility at Phuc Yen near the major MiG base; as expected, these much heavier raids (twenty miles northwest of Hanoi) did much more damage than the Quinh Loi raid. Meanwhile another package of F-4s and A-7s made a daylight raid on the missile support facility at Trai Ca, thirty miles north of Hanoi. This target was also in a rural area and fifteen B-52s struck it that night. But here there were no secondary explosions

as at Phuc Yen; the hundreds of bomb craters were scattered through a much less compact facility than the one at Quinh Loi.[50]

Since the number of missile launches detected by American intelligence dropped from seventy-three on December 27 to forty-eight on December 28 to twenty-five on December 29, the Phuc Yen, Quinh Loi and Trai Ca strikes may have been very successful. General Vogt was especially enthusiastic about Quinh Loi, and after the war he liked to tell how "SAC bombers were literally saved by tactical application of all-weather bombing."[51] Apart from the fact that the Phuc Yen raids did more obvious damage, there is the larger question of the effectiveness of all these attacks on missile support facilities during the last two days of the campaign. Admiral Moorer would later recall that American intelligence's assessment of a missile shortage was based not only on missile launches but also on North Vietnamese complaints about a shortage.[52]

Nevertheless, it should be noted that earlier in Linebacker II missile launches had declined even more sharply only to recover. After peaking at more than two hundred on the third night, missile launches dropped to forty on the fourth night and fell to a mere four on the sixth night (December 23). During this period, Strategic Air Command cut B-52 sorties from about a hundred in three waves per night to thirty in one wave per night. Then too, targets were attacked further from Hanoi. On the nearly missile-free sixth night, B-52s began by hitting missile sites for the first time; three sites fifty

miles northeast of Hanoi were hit before other B-52s dropped their bombs on the Lang Dang rail yard--even farther from Hanoi and protected principally by the three missile sites just struck. To supplement a paltry four surface-to-air missiles launched, the MiGs made an unusually determined effort, but their air-to-air missiles missed. Although a B-52 gunner's claim of two kills could not be verified, it was clearly a very bad night for North Vietnamese air defenses. From this nadir, missile launches rose on the two nights after Christmas to about seventy per wave (a rate equal to that of the first three nights).[53]

Judged solely on missile launches then, there was no guarantee that an extension of Linebacker II would not have been met by a resurgence of missile launches. On the other hand, the North Vietnamese may have been suffering from a real and fairly persistent missile shortage. America's own lavish expenditure had quickly run dry the supply of the newer Standard anti-radar missiles, leaving only the older Shrikes. But when American chaff supplies in theater ran short, they were replenished from outside the theater. Similarly, for the North Vietnamese much may have depended on whether new Russian missiles were being trucked across the border by the Chinese. At any rate, Linebacker II had no way of stopping truck traffic.

* * *

Although Strategic Air Command did make several worthwhile changes in tactics during Linebacker II, B-52 crew members grumbled that those

changes should have been adopted much earlier, even before the beginning of the campaign. In November, a crew had bailed out over Thailand after their B-52 had been hit by a surface-to-air missile near Vinh, North Vietnam. It was the first B-52 ever lost to enemy fire, and bomber crews in Thailand and Guam did not think Strategic Air Command headquarters in Omaha, Nebraska, seemed sufficiently concerned about the loss. The SAC commander insisted that every B-52 "press on" in contrast to earlier guidance urging avoidance of enemy air defenses. Washington was demanding a "maximum effort" and General Meyer expected to take some losses as a consequence. Although he had a computer model for estimating attrition of B-52s on nuclear missions against the Soviet Union, Meyer had nothing comparable for a conventional war. His intelligence chief suspected that Meyer may have applied some "political English"; Meyer's estimate of losing three percent of the sorties both alerted the administration that American lives would be lost and indicated that Strategic Air Command could do this job at a cost modest by the standards of World War II.[54]

From the point of view of the B-52 crews, General Meyer was simply too far away in Omaha to confront the reality of their situation adequately. Meyer's own staff had difficulty getting decisions from him early enough in the planning cycle. "After about two days of clock fighting, including handing bags to crews as they were taxiing out," his intelligence chief recalled, "a critical path chart was developed to help 'stimulate' General Meyer to a decision. This

chart was approximately 20 feet long, and turned out to be a remarkably useful tool."[55] It made clear to Meyer the many necessary steps which had to be taken in the limited time between his decisions and bombs on target. At any moment during the campaign, the staff was planning strikes two days ahead while making changes in the orders for the next day and getting feedback on the current day. With an eleven-hour time difference, nighttime strikes in Hanoi occurred during the daytime shift at Strategic Air Command headquarters. The staff work went on around the clock there as well as in other headquarters acting in response to orders from Omaha: Eighth Air Force on Guam, Seventh Air Force at Saigon, and Task Force 77 in the Gulf of Tonkin. When final guidance reached the wings and squadrons, there was usually little time to spare.

To begin with, Meyer had been given three days warning to launch a three-day campaign; a fourth day of preparation added for political and diplomatic reasons helped by permitting the timely deployment of more tankers. Compressing the daily hundred sorties into three waves a night (rather than the usual routine of sending B-52s out around-the-clock in cells of three) strained maintenance and control as well as air refueling. Fortunately, Guam had gained some relevant experience a few weeks earlier when a typhoon had required the rapid evacuation of B-52s. Nevertheless, there was a collective sigh of relief when the first night's operations went off reasonably well. The loss of two B-52s that night was within Meyer's

prediction of three percent, and a loss-free second night seemed to confirm that Meyer knew his business.

The six losses on the third night upset Meyer's subordinates and his superiors. After the first wave lost two B-52Gs and a B-52D attacking the Yen Vien rail yard northeast of Hanoi, Meyer cancelled a second-wave strike by six B-52Gs on the Gia Lam rail yard and repair shops just across the Red River from downtown; the third-wave strike by B-52Ds on Gia Lam was permitted to proceed at the cost of one B-52D. When two B-52Gs in the third wave were lost attacking the Kinh No rail yard and storage area northwest of Hanoi, Meyer banished the B-52Gs from the Hanoi area for the remainder of a campaign which President Nixon had extended indefinitely on the second day.[56]

Authorization of new targets sometimes caused Meyer to modify his orders rather late in the planning cycle. For example, on December 23 after giving Eighth Air Force targets for the following night (December 24) in the Thanh Hoa area well south of Hanoi, Meyer received permission to hit Kep and Thai Nguyen rail yards north of Hanoi; he changed the targets for December 24 accordingly rather than wait until after Christmas to hit the new targets.[57]

Secretary of Defense Laird asserted his authority in Linebacker II just as he had in Linebacker. Until December 27, Admiral Moorer had to gain Laird's approval for every target; on that day, Laird agreed to give Moorer the authority to approve targets for tactical aircraft outside the Hanoi and Haiphong control zones and the buffer zone along the Chinese border, provided

those targets had been authorized during Linebacker. Although Laird approved most of the targets nominated by Moorer, the Secretary denied a request to hit Gia Lam airfield--where the terminal had already been hit by stray bombs probably intended for the neighboring rail yard. On the other hand, he approved a guided-bomb strike on the Hanoi power plant, which had been off-limits throughout Linebacker.[58]

While Meyer usually found himself in the position of seeking Washington's approval to hit a target, in the case of Lang Dang rail yard Moorer repeatedly called for strikes. Consequently this yard became the most heavily bombed target in the campaign. More than eighty B-52 sorties dropped about 4500 bombs (nearly 1500 tons) on Lang Dang in four raids. The principal justification for this target was the large number of freight cars counted in reconnaissance photography. Lang Dang was in the buffer zone along the Chinese border, and the North Vietnamese were using the northeast railroad to bring supplies from China at least as far as Lang Dang. Another attraction of Lang Dang for Moorer may have been the ability of the B-52s to strike it without a loss. The first attack there on December 23 made that point. It was a good place to send the B-52Gs, whose jammers had proved inadequate against Hanoi's air defense radar network.[59]

Despite all the changes in targets and tactics which were making Linebacker II more survivable for B-52 crews, some of the crew members carried a lingering bitterness toward General Meyer. This was especially true

on Guam. When he came to Andersen Air Force Base after the campaign to present medals, tension would lead to stories about a near riot--albeit one which occurred mostly within the minds of those hostile to Meyer.[60]

Although U-Tapao air base had the only B-52 crew member who refused to fly a Linebacker II mission, less discontent boiled up there than on Guam.[61] On the first three nights, U-Tapao suffered only two losses compared to Guam's seven. All of Eighth Air Force's vulnerable B-52Gs were based on Guam, and at first the more important targets near Hanoi were assigned mostly to the Guam bombers. On opening night, Guam B-52s hit the priority targets--rail yards at Kinh No, Yen Vien, and Gia Lam--while U-Tapao attempted to suppress MiG activity by raiding the airfields at Phuc Yen, Kep, and Hoa Lac (all further from Hanoi than the targeted rail yards). While the Guam crews were experiencing especially severe losses on the third night, one U-Tapao crew member even managed some humor by blowing time-out on a whistle; his comrades swore afterward that the North Vietnamese stopped firing missiles for ninety seconds.[62]

The Guam crews were left with far more time than the U-Tapao crews to brood about their losses. During three out of the next four nights, U-Tapao flew all of the Linebacker II B-52 missions and Guam returned to the relatively safe missions over South Vietnam. Even counting the southern runs, Guam crews were expected to fly no more than every other day and most flew less. The long twelve-hour missions which reduced the frequency with which

Guam crews could fly also provided many uneventful hours in the air for sharpening grievances.[63]

For the first five nights of Linebacker II, most U-Tapao crews flew every night. While their missions lasted only three hours, night after night of combat was exhausting and Eighth Air Force finally shifted enough crews from Guam to U-Tapao so that crews there would have to fly only every other night. Making maximum use of U-Tapao made sense; a B-52D from there could carry a bomb load to Hanoi (thirty tons) more than three times that of a B-52G flying from Guam (nine tons) and nearly twice that of a B-52D flying from Guam (sixteen tons), four times as fast. With a third as many B-52s, U-Tapao dropped twice as much tonnage in Linebacker II. When Guam crews were pulled out of Linebacker II following the severe losses of the third night, U-Tapao crews began to bomb easier targets with the improved tactics already being adopted by Strategic Air Command. Since most Guam crews did not participate in this evolution, many got the wrong impression that the Omaha headquarters failed to react until after Christmas.

For U-Tapao a major upturn in morale came on the fifth night, when new tactics combined happily with an absence of losses. Someone posted a score for the evening; "Christians 30; Gomers 0."[64] The crews called it the Bob Hope Special in honor of the famous comedian who had entertained them before they took off, just as he had entertained so many other servicemen over the years. "The best damn thing that happened during the whole non-stop

operation to take a lot of the pressure off was the Bob Hope Show," one captain recalled. "It saved a lot of guys."[65] After the show, Hope met all the crews in their pre-mission briefings. "He was very sober about it," another captain remembered. "He said he didn't know anything funny to tell about the situation," but he did tell a World War II North African story which "calmed the atmosphere."[66]

Another encouraging aspect of Linebacker II was the lackluster performance of the MiGs. A few came up every night probably to determine the altitude of the B-52s for the missile sites. When the MiGs did threaten the B-52s directly, B-52 gunners proved more than equal to the occasion. The gunners' response to success was less ebullient, however, than the way fighter pilots celebrated victories. Airman First Class Albert E. Moore, who shot down one of the two MiGs for which B-52 gunners received credit, felt some ambivalence. "On the way home," he said afterward, "I wasn't sure whether I should be happy or sad. You know, there was a guy in that MiG. I'm sure he would have wanted to fly home, too. But it was a case of him or my crew."[67]

While very satisfied with the way MiGs were handled from the beginning, B-52 crews complained about their vulnerability to surface-to-air missiles especially during the first three nights of the campaign. Although many of their complaints were met by improvements in the orders issuing from Strategic Air Command headquarters, other complaints encountered resistance all the way up the chain of command. After the early missions, wing

commanders at both U-Tapao and Andersen scolded some of their pilots for making evasive maneuvers during the bomb runs. Not only was this insistence on steady bomb runs an old tradition associated with General LeMay in World War II, but there were new technical reasons to uphold it. A steady run improved accuracy as always, but now in the same way B-52s could maintain the three-ship cells that best employed electronic jamming to fend off surface-to-air missiles. The big B-52s were far less agile than the fighter aircraft which had proved themselves capable of out-maneuvering missiles.[68]

The temptation to maneuver during the bomb run was a hard one for the B-52 pilots to resist. They had not experienced this kind of stress before, and it took them a few days to get used to a more threatening environment. One navigator noted the confusion caused by a particularly bright planet low in the sky on the first night: "The pilots kept seeing the damn thing and thinking it was a SAM and it was just some planet floating out there in space."[69] Although they were above 30,000 feet beyond the range of accurate anti-aircraft artillery fire, the guns below nevertheless put on an unnerving show. As a crew member put it, "it's like watching the Fourth of July from the top looking down."[70]

The problem with Strategic Air Command doing most of the planning for Linebacker II in Nebraska was not distance from Hanoi but distance from the aircrews. The staff at Offutt was bigger and better equipped, but the men flying combat missions naturally took a dim view of a remote headquarters

telling them how to risk their lives. It would have been better to have staff work from Omaha support the Eighth Air Force commander in the theater--rather than tell him exactly what to do. This procedure would not necessarily have produced better orders, but crew members might have been better disposed to receive them from a commander in their midst.

* * *

General Meyer's emphasis on bombing rail yards and supply depots made sense. They were good area targets, and they had been very little damaged by the summer's laser-guided bombing. Most important, several of them lay on the outskirts of Hanoi and Haiphong where few civilians would be killed but many in the adjacent cities might be frightened by the unprecedented torrent of bombs exploding so near.

A defect of the rail yards as a target system was the location of the largest and most important yard in the heart of Hanoi. While the city train station was hit by laser-guided bombs during Linebacker II, the yard as a whole could only be seriously damaged by B-52 area bombing and that was forbidden to protect civilians downtown. Just across the Red River from downtown Hanoi lay the Gia Lam rail yard, which was bombed by B-52s and suffered severe damage not only to locomotives, rolling stock, and track, but also to its important repair facility. This was one of nine yards which Air Force intelligence judged more than fifty percent destroyed by Linebacker II. The nearby storage area at Gia Thuong also suffered heavy damage, and the

adjacent Thanh Am oil tank farm was hit again after losing two-thirds of its capacity earlier in the year.[71]

Another badly damaged rail yard and associated storage area was at Yen Vien, across the Canal Des Rapides a couple miles further up the northeast railroad where it intersected with the northwest railroad. Although a longer and less important route to China, the northwest railroad included a rail yard of great importance at Kinh No (where the northwest line intersected with a short line running to the iron foundry at Thai Nguyen and joining the northeast line at Kep). Around the rail spurs at Kinh No lay the largest storage complex in North Vietnam. For months this had been Meyer's top priority and here Strategic Air Command had its greatest bomb damage to a rail yard in Linebacker II, achieving seventy-five percent destruction. Although a nearby yard at Duc Noi was judged to be only fifty percent destroyed, its adjacent storage facility was almost entirely gone.[72]

The weight of bombs on Kinh No was exceeded only by the bombing of Lang Dang rail yard (sixty miles from Hanoi on the northeast line near the Chinese border), but American intelligence judged that less than a third of this busy facility was destroyed. When Washington demanded that it be hit repeatedly late in the campaign, the thousands of bombs which cratered the yard managed to miss most of the hardware. Better luck rewarded strikes on rail yards at Thai Nguyen and Kep, as well as on a rail siding near Haiphong.

The rail yard in downtown Haiphong like the one in Hanoi remained off limits to B-52s, but the oil tank farm on the edge of Haiphong went up in smoke.[73]

As an interdiction campaign, the strikes on rail yards and supply areas had limited potential. The summer assault on bridges had caused the North Vietnamese to shift most of their imports to trucks. That shift was even easier during Linebacker II, when pervasive bad weather permitted only one laser-guided bomb attack on a bridge; a flight of F-4s took down the main bridge over the Canal Des Rapides. F-111 low-level attacks with unguided bombs failed to bring down two other bridges. The only other bombed targets at all related to truck traffic were the oil tank farms and the vehicle repair shops. The principal truck repair shop was at Van Dien on the southern edge of Hanoi; twenty-one B-52 sorties damaged about a fourth of this facility. Even total destruction could have had only a modest impact, since neighboring China was not only the source of truck cargoes but also of the trucks themselves.[74]

Fear, not interdiction, was the most promising product of B-52 assaults on Van Dien, Gia Lam, Yen Vien, Kinh No and other targets ringing Hanoi. The B-52s attacked at night to gain the protection of darkness from MiGs, but night was also the most fearsome time to attack. Hanoi had been accustomed to daylight attacks by a few fighters. Now hundreds of big B-52s dropped thousands of bombs on the edge of the city. An occasional error brought B-52 bombs into the city's heart and underscored the implied threat that more might follow. If the Americans were willing to send fighters against the

downtown rail station (albeit with guided bombs), might they ultimately use the B-52s there just as they had against all the rail yards in the outskirts? Indeed the string of B-52 bombs which hit Kham Thien Street on the south side of the Hanoi rail yard gave the false impression that the Americans had already done so.

The shock value of Linebacker II was enhanced by an initial element of surprise. The scale of this campaign was probably far beyond anything expected by the North Vietnamese. Nevertheless there had been warning signs which helped them prepare. The breakdown in the talks on December 13 was followed by a renewal of tactical reconnaissance sorties over the Red River delta on December 15, together with an increase in SR-71 and drone reconnaissance sorties. Thirty tankers from the United States reached Okinawa on December 17 and 18 to support the compressed B-52 waves from Guam; another twenty-five for refueling fighters would go to the Philippines after the start of the campaign, bringing the total number of tankers working in the theater to nearly two hundred.[75]

On December 16 the North Vietnamese cancelled orders deploying a surface-to-air missile regiment from Hanoi to South Vietnam. That would have reduced the number of Hanoi's active missile sites from twelve to eight. Whatever concern existed at the top of the Hanoi regime failed to stir Hanoi's air defense troops. The commander of the regiment whose move south had been cancelled decided to go on leave as did his two battalion commanders and

many of their men. Even when the General Staff called for the highest state of readiness on December 17, that regimental commander stayed on leave.[76]

Meanwhile signs of impending attack mounted. Early on the morning of the eighteenth, the North Vietnamese intercepted a Navy carrier message about rescue helicopters and at noon intercepted an RF-4 message reporting weather in the Hanoi area. When more than forty B-52s took off from Guam in the afternoon, there was no way to hide the fact from a Russian trawler sitting off shore. Always before Guam had launched three-ship cells more than half an hour apart--except on the seventeenth there had been no B-52 launches at all. The North Vietnamese General Staff told the air defense forces to expect a B-52 attack that night. A car was sent to fetch the missing regimental commander. He arrived in time for the first wave, but one of his battalion commanders did not. Nevertheless, another of his battalions shot down the first B-52 lost in Linebacker II.[77]

"The enemy could not achieve the element of surprise," Lt. Gen. Hoang Phuong would brag years later, "because they could not maintain the secrecy of their strategic intentions, the targets they intended to attack, the forces they were going to use, the direction of attacks, the flight paths to attacks, the opportunities for attacks etc. Although this is something that should never be done in military operations, it was a mistake that the enemy made."[78] This postwar bravado at least indicated the importance of shooting down B-52s for North Vietnamese morale. It may well be true that if no B-52s had launched

from Guam before U-Tapao B-52s had launched, Strategic Air Command might have achieved greater surprise for the first wave. Thereafter the element of surprise was bound to shrivel. Greater variation in tactics during the first three nights might have helped in the duel with the missile sites. Although shock effect could be achieved at first despite some warning, Hanoi's citizens were bound to become somewhat inured to the B-52s as night after night most of the bombing remained outside the city. They might begin to feel helpless, however, if bombing were to continue without any opposition from missiles.

Fighter aircraft may also have made a direct contribution to the psychological impact of Linebacker II. Most of the electric lights went out in Hanoi. The city's power plant, which had been off limits during Linebacker, ceased to operate after a flight of four F-4s dropped laser-guided bombs on its boiler house, generator hall, control building, and machine shop. Linebacker had already done severe damage to the national power grid, and several electrical targets were hit again in Linebacker II. On four occasions a total of six F-111s made low level strikes with unguided bombs on the heart of the grid, the transformer station at Dong Anh just north of Hanoi. Once again Dong Anh was put out of operation, as it had been in Rolling Thunder and Linebacker.[79]

Perhaps the most important bomb dropped by a fighter in Linebacker II was one whose malfunctioning laser guidance system caused it to miss the Hanoi power plant and hit an office building. This occurred on the afternoon

of December 21, when a break in the weather afforded the best opportunity for laser-guided bombing during Linebacker II. General Vogt sent three flights of F-4s against three different targets in Hanoi--it was the most he could send since each flight required one of his precious four laser-guidance pods (leaving only one for backup). Despite the relative clarity of the weather, the flight attacking the power plant ran into some clouds which forced the F-4 with the laser designator to descend to 2500 feet. Even such risk-taking did not succeed in getting all eight bombs on the target. Two failed to guide. When the flight returned to Ubon, the crews reported that one of the no-guides had struck a big building well south of the power plant. Seventh Air Force intelligence concluded that the bomb had hit communist party headquarters, and General Vogt expected dire repercussions. But since North Vietnam said nothing about it, it never got into the press. "And you know," Vogt would say after the war, "I think it had a salutary effect on the outcome of the negotiations, because I really think these guys thought we were now going after communist leadership."[80]

Whatever the truth of Vogt's deduction, the decision of the United States at the beginning of the war not to threaten the existence of the North Vietnamese regime had limited the impact of American air operations there. In Linebacker II the only authorized target linked directly with the leadership was Radio Hanoi. This propaganda tool and symbol of the regime was bombed several times, but not even a laser-guided attack succeeded in putting it off the

air. So eager had Washington been to hit this target, that on the first two nights General Meyer had sent B-52s against it. Area bombing was ill suited to so small a target. Yet several communications targets and missile sites were bombed by B-52s, which had slight chance of doing any effective damage. These awkward missions were born of frustration over the lack of precision bombing capability in bad weather.

Bad weather also kept Strategic Air Command and Seventh Air Force from seeing what if anything they had hit. Bomb damage assessment was difficult in the absence of photography, which had to wait on better weather. Even reconnaissance drones, which could fly through any weather at low altitude, could still be foiled by the misty conditions of the northeast monsoon. In any case, the Strategic Air Command was launching only four drones a day at the beginning of Linebacker II; after Christmas the launch rate increased to six a day when a third C-130 launch aircraft was deployed. Traveling at a few hundred feet over the Red River delta, the drones were limited in the number of targets they could photograph. Often imperfect navigation caused a drone to miss a planned target entirely. Fewer than half the drones followed their planned route. Sometimes route planning was the problem. Two drones missed photographing the Bac Mai hospital because the Defense Intelligence Agency had provided the wrong street address.[81]

Emphasis on photographing the bombing error at the Bac Mai hospital indicated the extent to which drones had to answer to Washington's political

requirements rather than to the theater's tactical requirements. Had the destruction of particular targets been truly critical to Linebacker II, the reconnaissance problem would have been more than frustrating. But the critical requirement of Linebacker II was dropping a lot of bombs near Hanoi; so long as they did not kill too many civilians, it did not much matter to the Nixon administration what they hit.

It did matter how many planes were lost, not least because those losses presented the Nixon administration's enemies in Hanoi and Washington with political ammunition. B-52 losses were the most costly, because of the aircraft's fame as a nuclear bomber as well as its size and the size of its crew. The B-52's normal crew of six (pilot, co-pilot, navigator, radar navigator, electronic warfare officer, and gunner) meant that Hanoi could quickly increase its collection of American prisoners. While five of the fifteen B-52s lost to surface-to-air missiles in Linebacker II managed to limp out of North Vietnam, a radar navigator disappeared after bailing out over Laos and the crash landing at U-Tapao took four more lives. Of the thirty-four B-52 crew members known to have been captured by the North Vietnamese, one died in captivity: Lt. Col. Keith R. Heggen, the deputy airborne commander of the Andersen strike force in the third wave on the third night. Twenty-seven others were missing in North Vietnam and later presumed dead. For many surviving B-52 crew members, Linebacker II had been a close call. In addition

to the fifteen B-52s lost, three were severely damaged and six more suffered minor damage.[82]

B-52 losses overshadowed but did not diminish the loss of eleven fighter, attack and reconnaissance aircraft, not to mention an Air Force rescue helicopter and an Air Force EB-66 jammer--the latter brought down by engine failure. The Air Force lost two F-111s (at least one to small arms fire) and two F-4s on air-to-air missions in daylight (both to MiGs). The Navy's six losses included two A-6s, two A-7s, an F-4 and an RA-5; anti-aircraft artillery accounted for three, surface-to-air missiles for one, MiGs for one, and for one the cause was unknown. The cause of the loss of a Marine A-6 was also unknown. Although the number of B-52 losses was not much greater than that of these smaller aircraft, three times as many aircrew were involved in the B-52 incidents.[83]

Since fighter aircraft suffered less expensive losses than B-52s while flying more than three times as many Linebacker II sorties, the Pacific Air Forces commander, General Clay, could argue that the entire job of bombing the Red River delta should be returned to the fighters. On December 28, he declared that there remained "few if any targets" worth losing more B-52s.[84] Given Clay's displeasure over Strategic Air Command's dominance of the campaign and his own limited role, this suggestion did not carry much weight in Washington. In any case, Hanoi's indication that it was eager to complete

a cease-fire agreement was all that President Nixon required to call off all bombing north of the twentieth parallel on December 29.[85]

By that time General Haig had already visited President Thieu in Saigon with President Nixon's ultimatum: go along with a cease-fire now or go on alone. By underlining Nixon's promise to react against another North Vietnamese offensive, Linebacker II may have helped this medicine go down a little easier--as did a surge of imported American military equipment (including planes and tanks). Haig tried to get General Vogt to add his assurances that the United States would come to the aid of South Vietnam if North Vietnam attacked, but Vogt refused. "I could see the resolutions that were being introduced in Congress against any resumption of bombing," he recalled years later after the North Vietnamese conquest of South Vietnam. "And I didn't feel I could, in good conscience, offer reassurances to these people under those circumstances. I can sleep nights as a result. I wonder if other people do."[86]

SECRET

Notes

Chapter 10

B-52s At Last

1. A thorough accounting of B-52 bombs dropped by target and by unit is in HQ SAC's "Chronology of SAC Participation in Linebacker II," Aug 12, 1973. The data there is more complete than HQ PACAF's "Linebacker II USAF Bombing Survey," Apr 1973, AFHRA 1011707, which accounts for only about 35,000 of the more than 48,000 bombs dropped by the B-52s in Linebacker II. The figures given in Appendix 1 of Karl J. Eschmann's *Linebacker: The Untold Story of the Air Raids over North Vietnam* (New York, 1989) are drawn from the PACAF survey. On bombing statistics for fighter aircraft, see also PACAF SEA Ops Summary, Jan 1973.

2. North Vietnam's official statements on casualties for Linebacker II were published in a single volume by the DRVN Commission for Investigation of the U.S. Imperialists' War Crimes in Viet Nam, *The Late December 1972 U.S. Blitz on North Vietnam* (Hanoi, 1973). These statements give the number killed at Hanoi (1318) and Haiphong (305). The number killed in other cities and villages is not always rendered so precisely but appears to be about 400. In this volume the only total figure for North Vietnamese killed by Linebacker II is "thousands," which was probably thought to be the most impressive way of rendering "two thousand."

3. Adm Moorer's testimony, hearings, House Appropriations Subcommittee on Dept of Defense, "Briefings on Bombings of North Vietnam," Jan 9, 1973, pp 18-21; SAC Linebacker II Chronology.

4. Hist, 8 TFWg, Oct-Dec 1972.

5. SAC Linebacker II Chronology, p 315; PACAF Linebacker II Bombing Survey. Col Herman Gilster, who wrote the PACAF survey, later published an expanded version as part of his *The Air War in Southeast Asia: Case Studies of Selected Campaigns* (Montgomery, Alab, 1993); here Gilster expresses his skepticism that North Vietnam was running out of SAMs, but intelligence data at least indicates a sharp decline in SAM launches on the last two nights.

6. The text of the cease-fire agreement signed in Paris on Jan 27, 1973, cam be found in the appendices to Allan E. Goodman's *The Lost Peace: America's Search for a Negotiated Settlement of the Vietnam War* (Stanford, Calif, 1978). Nixon's letters to Thieu are appended to Nguyen Tien Hung and Jerrold L. Schecter, *The Palace File* (New York, 1986); see especially Nixon's letter of Nov 14, 1972, pp 385-86.

7. Ryan intvw, May 20, 1971.

8. Hist, SAC, FY 1973, pp 98-104.

9. Hist, SAC, FY 1973, p 102.

10. Hist, SAC, FY 1973, pp 102-06; hist, JCS, Vietnam 1971-73, p 436.

11. For Kissinger's own regrets about using this phrase, see his *White House Years*, pp 1399-1400.

12. Nixon, *RN*, II, 209; hist, SAC, FY 1973, pp 102-106.

13. Kissinger's memoirs stress his differences with Nixon on the urgency of settling with North Vietnam before the election. See *White House Years*, p 1308. Nixon on the other hand, recalls that in October he was leery of escalating the bombing after the election. See *RN*, II, 201.

14. On the administration's view of Congress, see Kissinger, *White House Years*, pp 1306-07 and 1426.

15. Kissinger, *White House Years*, especially pp 1418-41.

16. Kissinger later agreed that his advice had been bad in this case. See *White House Years*, p 1426.

17. Adm Elmo R. Zumwalt, *On Watch: A Memoir* (New York, 1976), pp 412-15; Nixon, *RN*, II, 230; Kissinger, *White House Years*, pp 1420-35; Haig, pp 306-09; Moorer intvw, Mar 18, 1977; Richard Secord with Jay Wurts, *Honored and Betrayed* (New York, 1992), p 106.

18. *Haldeman Diaries*, Dec 15, 1972; hist, JCS, Vietnam 1971-73, pp 663-70. For the Linebacker II execute order, see msg, JCS to CINPAC and CINCSAC, subj: Linebacker II Operations, 170010Z Dec 72.

19. The long sought photographs appeared in *Aviation Week & Space Technology*, Apr 25, 1972, pp 14-23; see also p 9.

20. Haig, p 308.

21. Sixteen years later, a few months before leaving Hayden, Fonda apologized on national television for her infamous anti-aircraft photo. She also apologized for calling former POWs liars in 1973 when they said they had been tortured. These apologies came during an interview with Barbara Walters on ABC's "20/20," Jun 17, 1988. On Ramsey Clark's visit, see hearings, Aug 16-17, 1972, Senate Judiciary Subcommittee to Investigate Problems Connected with Refugees and Escapees, *Problems of War Victims in Indochina, Part III: North Vietnam* (Washington, 1972).

22. In addition to Telford Taylor's newspaper articles cited below, see Joan Baez, *And a Voice to Sing With: A Memoir* (New York, 1987), pp 193-225.

23. Hearings, House Appropriations Comm, Subcomm on Department of Defense, *Briefings on Bombing of North Vietnam*, p 18.

24. Baez, pp 221-22.

25. Baez's Hanoi album, *Where Are You Now My Son?*, was released by A&M in 1973.

26. Telford Taylor, "Hanoi is Reported Scarred But Key Services Continue," *New York Times*, Dec 25, 1972. See also Frank McGee's televised intvw with Taylor, NBC, The Today Show, Jan 3, 1973. For bomb damage photography of Bac Mai hospital, see Hays Parks, "Linebacker and the Law of War," *Air University Review*, Jan-Feb 1983, pp 22-23. On press reaction to Linebacker II, see Martin F. Herz, *The Prestige Press and the Christmas Bombing, 1972* (Washington, 1980).

27. See Chapter 2 above.

28. Baez, p 213.

29. Telford Taylor, "Hanoi Exhibits Downed Yanks to Boost Morale," *Chicago Tribune*, Jan 10, 1973.

30. Lt Col Jon A. Reynolds, "Linebacker II: The POW Perspective," *Air Force Magazine*, Sep 1979, pp 93-94. Other POW memoirs are cited in Chapter 7 above. See, for example, Larry Guarino, *A POW's Story* (New York, 1990), pp 328-33; Jim and Sybil Stockdale, *In Love and War* (New York, 1984), pp 431-32.

31. Telford Taylor, "Hanoi Under the Bombing: Sirens, Shelters, Rubble and Death," *New York Times*, Jan 7, 1973; SAC Linebacker II Chronology, pp 221-52.

32. Hist, 307 Strat Wg, Oct-Dec 1972.

33. Nixon, *RN*, p 246. See also *Haldeman Diaries*, Dec 20, 1972.

34. For insight into thinking at SAC HQ, see the long letter from Brig Gen Harry Cordes (USAF Ret) to Brig Gen James McCarthy, undated (1977), AFHRA 1028673.

35. Capt Burke, quoted in hist, 307 SW, Oct-Dec 1972.

36. SAC Linebacker II Chronology, especially pp 221-52.

37. Secord, pp 105-08.

38. Msg, Meyer to Vogt, subj: Linebacker II, 210220Z Dec 1972, Vogt read file.

39. Msg, Vogt to Meyer, 210540Z Dec 1972, Vogt read file. The fourth night's missions went off as planned against widely separated targets. Seventh Air Force continued the practice begun in August of bringing together representatives from each unit involved for after-action discussions. For example, the fourth night's mission was discussed at Udorn on Dec 24. See msg, Col Olsrefski, 7/13 AF, to Gen Vogt, subj: Linebacker Conference, 241715Z Dec 72, AFHRA 1009448.

40. PACAF Corona Harvest rpt, "USAF Air Operations in Southeast Asia, 1 July 1972 - 15 August 1973," vol II, sec IV, pp 195-203, 276-82.

41. PACAF Corona Harvest rpt, "USAF Air Operations in Southeast Asia, 1 July 1972 - 15 August 1973," AFHRA 1008185, pp IV-273 through IV-282.

42. Msg, Clay to Meyer and Vogt, subj: B-52 Operation, 221935Z Dec 1972, Vogt read file.

43. Msg, Meyer to Clay and Vogt, subj: B-52 Operation, 232020Z Dec 1972, Vogt read file.

44. PACAF Corona Harvest rpt, "USAF Air Operations in Southeast Asia, 1 July 1972 - 15 August 1973," Vol II, Sec IV, pp 276-86.

45. PACAF Linebacker II Bombing Survey, pp 16-18. Navy A-6s appear to have had about the same level of success against the Haiphong missile sites that B-52s and F-111s achieved in the Hanoi area. Adm Moorer told a House appropriations subcommittee that in both areas a total of five occupied sites were known to have been damaged. Hearings, House Appropriations Subcommittee on Dept of Defense, "Briefings on Bombings of North Vietnam," Jan 9, 1973, pp 20-21.

46. Hist, 307 Strat Wing, Oct-Dec 1972; SAC Linebacker II Chronology, p 263.

47. PACAF Linebacker II Bombing Survey, pp 14-16.

48. Col A.A. Picinich et al, "The F-111 in Southeast Asia, September 1972 - January 1973," HQ PACAF Project CHECO, Feb 21, 1974.

49. PACAF Corona Harvest rpt, Jul 1972 - Aug 1973, Vol II, Sec IV, p 269; Vogt intvw, Aug 1978; hist, 8 TFWg, Oct-Dec 1972.

50. SAC Linebacker II Chronology, pp 273-309; PACAF Linebacker II Bombing Survey, pp 41-42; HQ USAF Intel photo rpt, "Linebacker II," undated (1973).

51. Vogt intvw, Aug 1978.

52. Moorer intvw, Sep 10, 1976.

53. SAC Linebacker II Chronology, especially pp 182-99.

54. Ltr, Brig Gen Harry Cordes (USAF Ret) to Brig Gen James McCarthy, undated (1977), AFHRA 1028673.

55. *Ibid.*

56. For an account by a crew member on one of the B-52Gs shot down on the third night, see Maj Robert A. Clement, "A Fourth of July in December: A B-52 Navigator's Perspective of Linebacker II," Student Report 84-0540, Air Command and Staff College, Mar 1984.

57. SAC Linebacker II Chronology, pp 184-85.

58. Hist, JCS, Vietnam 1971-73, pp 666-78.

59. Hist, SAC, FY 1973, pp 112 and 120; SAC Linebacker II Chronology, p 303.

60. A former B-52 pilot, Dana Drenkowski, brought crew grievances to public attention with articles in *Soldier of Fortune* and *Armed Forces Journal* (Jul 1977, pp 24-27). The Air Force took these allegations seriously enough to publish an official response in the latter journal (Aug 1977, pp 24-25).

61. For a different interpretation, see Jeff Ethell and Joe Christy, *B-52 Stratofortress* (New York, 1981). They conclude that morale at U-Tapao was worse than on Guam; in gauging morale, much depends on whom you interview. In addition to the B-52 crew member who refused to fly, an F-4 crew member also refused.

62. Hist, 307 Strat Wg, Oct-Dec 1972, pp 70-71.

63. For accounts of Guam operations, see Brig Gen James R. McCarthy and Lt Col George B. Allison, *Linebacker II: A View from the Rock* (Maxwell AFB, Alabama, 1979) and "Supplemental History on Linebacker II," 43 Strat Wg and 72 Strat Wg (Prov).

64. Hist, 307 Strat Wg, Oct-Dec 1972.

65. *Ibid.*

66. *Ibid.*

67. Hist, 307 Strat Wg, Oct-Dec 1972.

68. Supplemental hist, Linebacker II, 43 and 72 Strat Wgs (Prov); hist, 307 Strat Wg, Oct-Dec 1972.

69. Hist, 307 Strat Wg, Oct-Dec 1972.

70. *Ibid.*

71. HQ USAF Intel photo rpt, "Linebacker II," undated (1973), p E-1.

72. PACAF Linebacker II Bombing Survey, pp 40 and 52. The Secretary of Defense's Scientific Advisory Group also examined Linebacker II and came to similar conclusions. See memo, R.F. Linsenmeyer, J35, to J3, subj: Linebacker II Operational Report, Jul 2, 1973, AFHRA 1009451.

73. Hist, SAC, FY 1973, pp 112-20.

74. PACAF Summary Air Ops SEA, Jan 1973. This issue (which appeared in Mar 1973) covers Linebacker II. See especially pp 4-B-35 through 4-B-38.

75. SAC Linebacker II Chronology, pp 84-86.

76. Maj Gen Tran Nhan, "The Aerial Dien Bien Phu," *Nhan Dan*, Dec 1987, FBIS-EAS-88-006 and 008. Tran Nhan was deputy commander of the Hanoi air defense sector in Dec 1972.

77. *Ibid.*

78. Lt Gen Hoang Phuong, "The 12-Day Air Defense Campaign in December 1972," *Tap Chi Quan Doi Nhan Dan*, Oct 1987, JPRS-SEA-88-009.

79. Adm Moorer's testimony, hearings, House Appropriations Subcommittee on Dept of Defense, Jan 9, 1973, "Briefings on Bombings of North Vietnam," p 19.

80. Vogt intvw, Aug 8-9, 1978; see also msg, Vogt to Ryan, Meyer, and Clay, subj: Daily Wrap Up, 211045Z Dec 1972.

81. Maj Paul W. Elder, "Buffalo Hunter," CHECO rpt, PACAF, Jul 24, 1973, p 35.

82. SAC Linebacker II Chronology, pp 313-15. During the Vietnam War, the Air Force lost a total of 25 B-52s, including 17 in combat and 8 by accident (for example, air refueling collisions); the first combat loss occurred in Nov 1972 and the seventeenth in Jan 1973 (both over North Vietnam).

83. Michael M. McCrea, "U.S. Navy, Marine Corps, and Air Force Fixed Wing Aircraft Losses and Damage in Southeast Asia (1962-1973)," Center for Naval Analyses, Aug 1976. This report includes microfiche with details on each loss.

84. Msg, Clay to Meyer and Vogt, subj: B-52 Operations in NVN, 281913Z Dec 1972, Vogt read file.

85. Kissinger, *White House Years*, pp 1457-59; msg, JCS to CINCPAC and CINCSAC, 291407Z Dec 72.

86. Vogt intvw, Aug 8-9, 1978. See also Haig, pp 309-11.

CHAPTER 11

REVERBERATIONS

In 1975, two years after signing a cease-fire agreement in Paris, the North Vietnamese invaded South Vietnam again. This time the United States refused to intervene. Charged with covering up his administration's responsibility for breaking into Democratic party headquarters at Washington's Watergate building, Richard Nixon had resigned the presidency to avoid impeachment. Although Nixon's successor, Gerald Ford, had been House minority leader, he could not muster enough support in Congress for renewed involvement in South Vietnam. Without American air power, the South Vietnamese army disintegrated in two months.

America's sour aftertaste of the Vietnam War was sweetened for the Air Force by the obvious success of American air power in 1972, a success only underlined in 1975 by the disastrous consequences of American air power's absence. In public discussion, the Air Force tended to emphasize the dramatic contribution of the B-52s in Linebacker II rather than the pathbreaking use of laser-guided bombs against bridges in North Vietnam and tanks in South

Vietnam. In contrast to laser-guided bombing, B-52 area bombing was an older technology available at the beginning of the war and useable in any weather. Linebacker II could bolster the Air Force's argument that had B-52s been used in the Red River delta at the outset, the war would have come to a much quicker and more satisfactory conclusion.

The situation in 1972 differed in important respects from 1965. An open invasion exposed communist forces to air power in ways that North Vietnam's earlier support for insurgency had not. Having built relationships with the Soviet Union and China which reduced their support for North Vietnam, President Nixon sought only a cease-fire which left North Vietnamese forces in South Vietnam. These differences in the contexts of Rolling Thunder and Linebacker caused doubts about claims that the war might have been won by launching a Linebacker II early in Rolling Thunder. Skepticism inside the Air Force eventually found public expression, most prominently in Maj. Mark Clodfelter's *The Limits of Air Power* (New York, 1989). Too young to have served during the Vietnam War, this Air Force Academy professor found it "difficult to fathom" the "lingering conviction" of Air Force generals that their way of using air power could be decisive in a limited war.[1] Clodfelter was most concerned about guerrilla war, but he also worried about the utility of air power in more conventional forms of limited war under the threat of nuclear retaliation.

Soon after the publication of Clodfelter's book came a radical transformation of world politics. In the waning days of the Soviet Union, American air power proved very effective against an Iraq waging conventional war without any major allies. For those persuaded by the Vietnam War that American air power was ineffective, the Gulf War came as a great surprise--not least for the Iraqi dictator, Saddam Hussein, who had bragged about his ability to emulate Hanoi's victory. In August 1990, Saddam told Dan Rather of CBS Television that "the United States depends on the Air Force. The Air Force has never decided a war in the history of wars."[2]

Since Iraq did not resort to nuclear, biological or chemical weapons, the Gulf War remained limited not only to conventional weapons but to targets that could be hit without endangering civilian residences. The Johnson administration's avoidance of enemy civilian casualties had been so thoroughly inculcated that it was an integral part of the air campaign plan the Air Force produced for President George Bush. But this self-imposed restraint did not hobble air power, because Desert Storm exploited the precision of laser-guided bombing in dramatic new ways.

The laser-guided bombs which "plinked" tanks in Kuwait had their predecessors in the laser-guided bombs which destroyed tanks in South Vietnam. The laser-guided bombing of Iraq, however, was quite different than the laser-guided bombing of North Vietnam. Linebacker's laser-guided bombs had hit mostly bridges. Desert Storm's laser-guided bombs first struck Iraq's

command centers and communications nodes. Unlike North Vietnam's rulers, the Iraqi regime and its ability to lead were threatened from the outset.

The improved accuracy of laser-guided bombs meant that their targets in Iraq could be more precisely defined--not just a particular office building, but a particular office. Indeed the precision of bombs often exceeded the precision of intelligence about enemy activity. The bomb itself could give the first close look at a target, as a camera electronically transmitted imagery showing the target growing larger and larger in the center of the bomb's field of view until detonation. When some of this video tape appeared on commercial television, the American public got a new image of air power. During the Vietnam War, the care of aircrews to avoid civilian casualties had never overcome the image of leveled cities which the public had derived from the Second World War. In Desert Storm the public saw a precision so amazing that some came to expect air warfare without any civilian casualties at all.

The major incident involving civilian casualties in Iraq occurred when two laser-guided bombs hit a targeted bunker. A great improvement in the newer laser-guided bombs used in Desert Storm was their ability to penetrate bunkers, but intelligence about what was in the bunkers was not equally penetrating. Target planners did not know that the Iraqi leadership was using the bunker as an air raid shelter as well as a command center. Publicity about these casualties caused Washington to restrain bombing in the capital city of Baghdad for the remainder of the Gulf War. Those who fought the air war

over North Vietnam were very familiar with enemy willingness to put its military assets amid its civilian population or anywhere else American bombs were apt to yield useful propaganda. In such matters the Iraqi regime was in fact far less skilfull than the Vietnamese communists.

Better led than the Iraqis, the North Vietnamese also enjoyed the great advantage of worse weather for bombing. Although American air power made great strides during the 1980s in its ability to operate at night, laser-guided bombing continued to depend on clear weather. Even in the relatively poor Iraqi weather of Desert Storm, the skies were clear enough that over the course of six weeks laser-guided bombs fell in Iraq every day but one. The contrast with North Vietnam is evident when it is recalled that in the two weeks of Linebacker II, laser-guided bombing was possible on only two days.

When the weather did break in Linebacker II, General Vogt had only four laser designation pods which could be used in the high-threat area around Hanoi and Haiphong. Two decades later General Charles A. Horner, the Desert Storm air commander (who had flown in Rolling Thunder and was determined not to repeat its errors), could call upon more than a hundred aircraft with laser-designation capability. Horner did not have to build big formations to protect his precision bombers, not only because they were more plentiful, but also because his forces attacked enemy defenses at once. Some of his aircraft used new "stealth" technologies to hide themselves from enemy radar while they were bombing Irag's air defense control centers; stealth was

the product of research stimulated by North Vietnam'a air defenses. In Rolling Thunder, the Air Force had been forbidden to attack enemy airfields for two years. In Desert Storm, enemy airfields were attacked on the first night.

The intensity of laser-guided bombing in Desert Storm was a function of American leadership and planning as well as favorable weather and improved technology. Although some Air Force generals did propose gradual escalation during the early planning for Desert Storm, the old aversion to gradualism reasserted itself in the Air Force and in the White House. There was a realization that for an air campaign, timing is as important as weight of effort. This fundamental truth had been trampled in the 1960s by the Rolling Thunder campaign. Eventually almost all the targets in North Vietnam on the original ninety-four target list were bombed, but eventually was not nearly soon enough. Targets which should have been bombed in the first few days were kept off limits for years.

Meanwhile the bombs kept falling on less important targets, so that in the end North Vietnam absorbed more than eight hundred thousand tons. Yet this was only about a tenth of the eight million tons dropped on Southeast Asia as a whole, with South Vietnam bearing the brunt of this onslaught and nearly all the additional eight million tons of artillery shells. No other part of the world had ever been bombed so heavily. In Germany during World War II, the rate of bomb tonnage reached the same level by 1945, but the Vietnam War lasted twice as long; Japan suffered a half million tons in less than a year. Of

course the bombing of Germany and Japan was far more devastating, because their cities were demolished. A high proportion of the bombing in Southeast Asia did nothing more than tear up the jungle.

American air power dropped about a hundred thousand tons of bombs on Iraq and Kuwait in six weeks--close to the rate bombs had fallen in Southeast Asia, Germany, or Japan. But the Gulf War was over in six weeks, thanks in part to an acceleration in target destruction permitted by greater precision. Once again B-52s were largely confined to bombing troop positions in the south rather than urban targets in the north. This time, however, fighter aircraft were better equipped to attack urban targets than they had been in Rolling Thunder or even Linebacker. This time the President authorized urban targets from the beginning.

Despite the fact that much of the leadership of the Air Force in Desert Storm had served in Southeast Asia, not all of those men saw the importance of attacking targets in Iraq far removed from the Iraqi invasion force in Kuwait. Plans to begin Desert Storm with an air campaign against Iraq had to overcome a pattern of thinking which increased its hold on the Air Force after the Vietnam War. While focussing on the defense of Europe in the 1970s and 1980s, many in the Air Force came to see the role of fighter aircraft as restricted to bombing enemy troops and supply lines. The bombardment of Russian cities was the job of nuclear missiles and bombers; it was to be avoided if at all possible, because it would mean a nuclear war devastating to

friend and foe alike. Strategic bombardment was synonymous with nuclear bombardment. When the Air Force had to think about waging war against Iraq, many Air Force officers had difficulty coming to grips with a "strategic air campaign" which would be waged with conventional bombs dropped by fighter aircraft.

To some degree, this conceptual problem was already present during the Vietnam War. Since Rolling Thunder and Linebacker were waged mostly with fighter aircraft dropping conventional bombs, commanders tended to define those campaigns as tactical interdiction rather than strategic campaigns. It was certainly true that since the North Vietnamese had to import nearly all their military supplies, an air campaign confined to bombing North Vietnam could not hit the factories and refineries on which the enemy war machine depended. On the other hand, the Air Force did want to threaten enemy leadership--an objective that was traditionally "strategic" and during Rolling Thunder politically unacceptable. The Johnson administration confined Rolling Thunder largely to interdiction, but President Nixon's Linebacker II campaign moved beyond interdiction to intimidation.

Even Rolling Thunder interdiction had a strategic component, for the objective was not merely to limit the flow of supplies to South Vietnam but to hurt the North Vietnamese economy. Indeed the latter objective may well have been the one toward which the most progress was made. Russian and Chinese military supplies could more than keep up with American interdiction, but

North Vietnam lost the few industries which carried its hopes for modernization. Although the United States refrained from bombing dikes, for years a considerable portion of the agricultural labor force was diverted to the war effort; North Vietnam had to import rice.

The North Vietnamese leaders became so accustomed to concentrating on war, that even after the collapse of South Vietnam they had trouble thinking about anything else. They had to fend off a Chinese invasion while bogged down fighting an insurgency in Cambodia. Together with the severe handicap imposed by their Marxist ideology and by an American trade embargo, the old men of the communist regime in Hanoi permitted their country to fall father and farther behind Thailand and the other booming economies of Southeast Asia. Even gigantic China was quicker to encourage capitalist practices. Not until the late 1980s and a new generation of Vietnamese leaders, did the Vietnamese economy begin to improve.

The war which left Vietnam saddled with an aging leadership actually facilitated an important transition in the leadership of the U.S. Air Force. The dominance of the Strategic Air Command began to unravel in Southeast Asia. Fighter pilots played a more central role in the war than did B-52 pilots, who spent most of the war bombing the jungle of South Vietnam. The very fact that an aircraft designed to drop nuclear bombs on Russia was used instead to provide close air support signalled the need to reconsider the mission of the Strategic Air Command. Eventually fighter pilot veterans of Vietnam took

charge of the Air Force, eliminated the Strategic Air Command, and put long-range bombers together with fighters in a new Air Combat Command.

Long before those developments, General McConnell began to prepare the way for them as Air Force chief of staff. He sent an especially able fighter commander, General Momyer, to take charge of Seventh Air Force and helped Momyer get a fourth star. At the same time, McConnell sent General Ryan from Strategic Air Command to get some fighter experience as commander of Pacific Air Forces before becoming chief of staff of the Air Force. McConnell then replaced Momyer at Seventh Air Force with General Brown, who had begun his career as a bomber pilot in the Second World War, but had been a fighter operations deputy in the Korean War. Although Brown had never served in the Strategic Air Command, he became Air Force chief of staff in 1973 and chairman of the Joint Chiefs of Staff a year later. When Brown went to Seventh Air Force, McConnell sent General Holloway, a World War II fighter ace, to take over the Strategic Air Command; this shock led to others for SAC, and their next commander was an even more famous World War II fighter ace, General Meyer.

In 1982 General Gabriel became Air Force chief of staff, the first of a succession of Vietnam War fighter pilots in that job. The fact that he had risen to the top even after his involvement in the Lavelle affair demonstrated the degree to which the Air Force had been able to deflect the political currents

swirling around the Vietnam War. The Lavelle affair had divided the Air Force for a while, but only Lavelle himself was sacrificed.

The Air Force's essential response to the Vietnam puzzle was to work toward coming out of the war in the best shape possible. Since there seemed to be no permissible way to win the war, the Air Force looked for ways to fight that would build its technology and preserve the precious lives of its aircrews. The other services sought similar ends, and while the Air Force did more to develop new technology, the Navy was quicker to exploit the value of realistic air combat training. Because common sense (supported by the Air Force's own studies) had long indicated that a pilot was most vulnerable and least effective in his first few combat sorties, Seventh Air Force followed the practice throughout the war of keeping aircrews away from Route Package Six until they had flown several sorties in Laos or the panhandle of North Vietnam. But the Navy's Top Gun training program went further and clearly helped the air-to-air performance of their pilots in Linebacker.

After the war, the Air Force began its Red Flag exercises at Nellis Air Force Base, Nevada, where units could attack ground targets in the face of extraordinarily realistic air defenses--not just fighters, but anti-aircraft artillery and surface-to-air missiles as well. Here allied air forces learned to work with Americans very much the way they would in the Gulf War. This training would permit remarkably smooth operations with remarkably low losses from the opening night of Desert Storm.

Those who compare the Air Force's concern for aircrew survival in Iraq and North Vietnam unfavorably with the bold expenditure of aircrew lives during World War II miss the fundamental differences in the character of those wars. Whether the U.S. should fight smaller wars with less at stake than World War II is another question--one about which the Air Force has not been given and will not be given much to say. But the Air Force can have considerable impact on the degree of sacrifice which a war exacts.

The Vietnam War cost the lives of more than a million Vietnamese, and more than a million Cambodians died at the hands of Pol Pot's communist regime in the aftermath of the war. While the American sacrifice exceeding fifty thousand lives was painful, it is well to remember that four times as many South Vietnamese government troops died in combat. During the war, most of the killing occurred in South Vietnam. The bombing of North Vietnam probably killed fewer than a hundred thousand North Vietnamese.[3]

Combat over North Vietnam accounted for more than a quarter of the almost two thousand Air Force people killed or missing in Southeast Asia. Of about twenty-two hundred Air Force planes lost in the war, more than six hundred were shot down over North Vietnam.[4] Nearly three hundred of the Air Force men shot down over North Vietnam were captured and came home at the end of the war. Unlike most of the Vietnam veterans who had returned individually to cool or even rude receptions, the groups of released prisoners were welcomed warmly by crowds of Americans. The disturbing fact that the

prisoner exchange included only seven Americans captured in Laos (where the Air Force alone had lost more than four hundred planes) fed fears that Vietnamese and Laotian communists might still be holding American prisoners.* The families of the missing were sufficiently well organized to keep the Defense Intelligence Agency at work for decades after the war in an unprecedented effort to determine the fate of every American lost in Southeast Asia.[5]

Except for one Marine who decided to come home after collaborating with the communists, the families of the missing got back only remains.[6] Even the remains came out slowly enough to bolster allegations that the Vietnamese government had a warehouse of them to release little by little, at least until the U.S. government ceased to embargo trade with Vietnam. The end of the embargo in 1994 angered families who believed that the American government had thereby reduced pressure for determining the fate of their relatives.

The Vietnam War veterans who commanded air power in the Gulf War were determined that the coalition sacrifice in Southwest Asia would be far less than the allied sacrifice in Southeast Asia, let alone World War II.

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* In 1993, Stephen J. Morris, an Australian researcher associated with Harvard University and Washington's Woodrow Wilson Center, found a startling document at the communist party central committee archives in Moscow. The document appeared to be a Russian translation of a September 1972 report to the North Vietnamese politburo by Lt. Gen. Tran Van Quang; the document stated that the North Vietnamese then held 1205 U.S. prisoners of war, not merely the fewer than 600 released about six months later. After Vietnamese and U.S. officials challenged the authenticity and accuracy of the document, relations between the two countries continued to improve.

General Horner told his aircrews that no target was worth their lives unless they were operating in close support of troops. With their new technology and greater freedom to use it to its best advantage, his crews proved able to take out their targets quickly while sparing almost all their own lives and making possible the survival of almost all coalition troops. The U.S. sent more than half a million men and women to the Gulf, and fewer than two hundred were killed in action.

For General Horner the Gulf War's extraodinarily low cost in lives was a great relief and a great satisfaction. He knew all too well from his own experience as a Wild Weasel pilot over North Vietnam during Rolling Thunder that war could be far more lethal. Only a year before the Gulf War, he had occasion to recall a Vietnam dilemma publicly and help change the Air Force's official view of it.

On June 30, 1989, General Horner pinned the Silver Star on Lt. Col. John R. "Bob" Pardo (USAF, retired) and Col. Stephen A. Wayne for an act of life-saving courage over North Vietnam on March 10, 1967. Captain Pardo and Lieutenant Wayne were pilot and backseater of an F-4 bombing the Thai Nguyen iron works. They were hit by anti-aircraft fire while pulling off the target. Normally, getting themselves out of North Vietnam would have been enough of a challenge, but another F-4 was in even worse shape and running short of fuel. Pardo and Wayne did the unthinkable and gave the other F-4 a push by wedging its lowered tail hook (a vestige of the F-4's naval origin)

against their fuselage; the lowered hook permitted them to stay below the tail wash. Both aircraft made it to Laos before the crews had to bail out, and all four men were rescued.

"Pardo's Push" became famous at air bases throughout Southeast Asia--so much so that a briefing team made the circuit to discourage any more pushing. Logic seemed to dictate that this novel technique could cost more aircraft than it would save, and that therefore Pardo and Wayne had set a bad example which should not be honored. But a warrior's calculus of risk is as much a matter of emotion as of logic. In the end Pardo and Wayne got their reward, and it was not merely a medal, for on the same day they received the medals the pilot of the other F-4 (Earl D. Aman) retired from the Air Force with twenty-two more years of service than on that much more difficult day over North Vietnam. In finally honoring Pardo and Wayne, the Air Force was saluting all the men who had taken great risks to bring their comrades home.[7]

When General Horner subsequently told his aircrews in Saudi Arabia that targets were not worth their lives, he echoed senior officers in Thailand. Such admonitions were not always phrased with sufficient care to have the intended effect. On the very morning of Pardo and Wayne's celebrated sortie over North Vietnam, F-4 aircrews were advised that "our little brown brothers aren't worth any one of you getting killed."[8] Pardo was disturbed by the remark, which undervalued the unavoidable risks aircrews were taking.

Senior officers walk a fine line between getting crews to avoid unnecessary risks and honoring their courage.

As for most of us looking back upon the men who risked their lives in the deadly skies over North Vietnam, we can honor their courage only with our attention. We may never be able to agree about the political significance of their war, but even across the years we can sense their worth.

Notes

Chapter 11

Reverberations

1. Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York, 1989), p 209.

2. Transcript of Rather's intvw with Saddam Hussein, Aug 29, 1990, FBIS-NES-90-170.

3. Estimates of Vietnamese casualties are provided by Guenter Lewy, *America in Vietnam* (New York, 1978), pp 442-54; Thomas C. Thayer, *War Without Fronts: The American Experience in Vietnam* (Boulder, Colo, 1985), pp 101-08 and 125-34.

4. John M. Granville, "Summary of USAF Aircraft Losses in SEA," TAC, Jun 1974; Michael M. McCrea, "U.S. Navy, Marine Corps, and Air Force Fixed-Wing Aircraft Losses and Damage in Southeast Asia (1962-1973)," CNA, Aug 1976.

5. For a harsh critique from the left, see H. Bruce Franklin, *M.I.A. or Mythmaking in America* (New Brunswick, NJ, 1993).

6. For Robert Garwood's version of his collaboration, see Winston Groom and Duncan Spencer, *Conversations with the Enemy: The Story of PFC Robert Garwood* (New York, 1983).

7. *Red River Valley Fighter Pilots* (Paducah, Kentucky, 1989), pp 55-57.

8. *Ibid.*, p 55.