

General Twining's History of the B-29

The Histories of the Twentieth Air Force and the development of the B-29 are told by Lieutenant General Nathan F. Twining.

The story of the Twentieth Air Force and its employment in the war against Japan should provide the basis for thoughtful reflection on the part of any potential aggressor. It is a typically American story; its ingredients are Yankee foresight and ingenuity, dogged determination, the capacity for infinite labor and the cold bright courage of American fighting men.

The Twentieth Air Force, though not formed until April 1944 and not announced until the first strike against the Japanese home islands in June 1944, had its beginning in an idea of General of the Army Henry H. Arnold, Commanding General of the Army Air Forces as far back as 1939. General Arnold believed that American defense called for a super long-range, hard-hitting, land based bomber. Even though those splendid airplanes, the B-17 and B-24, were just emerging from the assembly plants, General Arnold foresaw that they would be too small for the tests to which American defense might be placed.

He envisioned aircraft which could reach out 1000 miles from our shores, carry heavy loads of bombs and be equipped with devices and trained men to direct those bombs to the annihilation of any threatening force.

In that vision was the birth of the B-29 and the Twentieth Air Force. It was the start of a chain of accomplishments which led to the dramatic morning six years later when the crew of a B-29 over Hiroshima watch the atomic bomb they had released blast an end to the war.

In 1939 General Arnold had passed his idea along to the AAF Material Command and specifications were drawn. Manufacturers were asked to submit bids and the design submitted by Boeing Aircraft Company was accepted.

In 1941, when Pearl Harbor plunged us into war, the concept of the B-29 was altered from that of a defensive weapon to that of a long-range very heavy bombardment airplane. This necessitated radical changes in the designs and blueprints. Army Air Forces engineers worked side by side with the design and production experts of Boeing Company in drafting tons of technical data, in performing thousands of tests and experiments.

In 1942, the first B-29 was flown successfully by the late Eddie Allen, chief test pilot for Boeing and a man greatly responsible for many of its features. By February 1943, three experimental B-29s had been completed and the program looked well started.

Brigadier General (now Major General) Kenneth D. Wolfe, then head of the procurement division of the Material Command and one of the main sparks in the B-29 program, was directed by General Arnold to assume charge of all phases of the B-29 project.

But, in the same month, Eddie Allen and the entire flight test crew were killed in the crash of the first experimental B-29 at Seattle. With them went most of the accumulated knowledge of the mechanical complexities of the new plan.

Another breed of man might have thrown up his hands at this calamity. But instead, General Wolfe came up with a brilliant and daring plan. Why not go ahead with the as yet unfinished plan, commit to production, work out the bugs as they developed, and to speed it into actual combat? Why not start training the crews, accumulating supplies, establishing the overseas bases and getting the organization set up?

General Arnold okayed the plan and once more the B-29 and the Twentieth Air Force were on their way.

On June 1, 1943, the 58th Bombardment Wing...first combat unit of the Twentieth Air Force...was activated and the actual training got underway. Just a year later, the 58th was to strike the first blow against the Japanese homeland since the strike by Lieutenant General Dolittle (then Colonel) from the carrier Hornet.

Those intervening months were grim, wearing, nerve-wracking days and nights of incessant work against formidable odds and overpressing time. At the Cairo Conference in November 1943, President Roosevelt had promised the Chinese that the strategic bombing of Japan would be undertaken from Chinese bases. He promised a definite number of planes and crews by a definite date. Chiang-Kai-Shek, in turn, promised the bases. How those bases were built, literally by hand, is another tribute to the driving genius of American engineers and the fortitude of our Chinese ally.

The bases were built, the planes and crews arrived in India in April 1944 and B-29s landed on Chinese fields later in the month. The promises had been kept. How much had been accomplished in how little time almost staggers the imagination!

More remained to be done. Before the Japanese could be hit, the supplies had to be flown into the forward bases in China. For every plane to take off against the Japanese, twelve round-trip flights across the Himalayan Hump had to be made. Ferrying in the gasoline and supplies, General Wolfe, Brigadier General LaVerne Saunders Commanding General of the 58th Bombardment Wing, and their officers and men finished that job too. On June 15, the B-29s lashed out in force at the Japanese city of Yawata and the Twentieth Air Force was announced to the world.

In announcing the Twentieth Air Force with General Arnold as its Commander and Brigadier General Haywood S. Hansell, Jr. as its Chief of Staff, the War Department made this statement:

“The Twentieth Air Force was created by the Joint Chiefs of Staff as the application of a new refinement of global warfare. The great range of the Superfortress made permanent assignment of the Twentieth Air Force to individual commanders uneconomical, since it is capable of striking from many places at a single target, and its employment requires close coordination of operations.

The Twentieth Air Force will be in the nature of an aerial battle fleet, able to participate in combined operations, or to be assigned to strike wherever the need is greatest. Just as the naval fleets are available for assignment by the Joint Chiefs of Staff to any vital project, so the Twentieth Air Force can likewise be assigned. It is not, therefore, because of its great potentialities, the weapon of a single agency of the Army Air Forces, but a central aerial battle fleet in whose employment and deployment all the top commanders, including, air, land and sea, will have a voice and all of whom will be kept in constant touch with its operations.”

It was under this broad scope of operation the Twentieth Air Force, the XX Bomber Command and its combat unit, the 58th Bombardment Wing, were committed to action.

And even as the XXth Bomber Command planes were hitting at Yawata, the XXI Bomber Command was gathering its staff and training its crews at air force bases in Kansas and Colorado. At the same time, acting under orders of the same Joint Chiefs of Staff, the Marines were storming ashore on Saipan to secure the bases from which the XXI Bomber Command was to operate.

With the B-29 and the Twentieth Air Force translated from vision to actuality and the first strike against the enemy's homeland completed, General Wolfe returned to the Material Command as its Commanding General.

In August, Major General Curtis E. Lemay, my predecessor as Commanding General of the Twentieth Air Force, arrived in the China-Burma-India theater to assume command of the XX Bomber Command after commander successively of a group, wing and bombardment division of the Eighth Air Force.

That same month, General Hansell assumed, in secret, command of the forming XXI Bomber Command with headquarters at Peterson Field, Colorado. His post as Chief of Staff of the Twentieth Air Force was taken by Brigadier General Lauris Norstad who had been in on the early planning in the Mediterranean. During these changes in command, the bombing and the training continued.

The early months of operations by the XX Bomber Command were, primarily, months of aircraft and men getting to know each other. But the Japanese were getting to know them too. The Japanese homeland, Manchuria, Occupied China, the stolen empire of Malaya, Burma, Dutch East Indies...all these felt the weight of Twentieth Air Force assaults. And, over this empire of the enemy, the winking eyes of reconnaissance cameras began to lay bare the secrets of his war machine. It is interesting to note that the XX Bomber Command flew more photographic reconnaissance missions than actual bombing sorties.

In the meantime, the Mariana conquest had been completed. Steam shovels and bulldozers were tearing the coral from the pits by day and night to lay the runways for this second phase of Twentieth Air Force operations. This phase was awaited eagerly. The Marianas, on a main water-borne supply line, would have little of the worries about gasoline, bombs and spare parts so well known by the XX Bomber. In October, General Hansell brought the first B-29 to the Marianas. The planes of the 73rd Wing, under Brigadier General Emmett O'Donnell, soon followed.

Even as they settled down on Saipan from their incoming voyage, the steam shovels, bulldozers, and other paraphernalia of construction were going full blast on Tinian and Guam. Construction in the Marianas called for 11 landing strips and hundreds of hardstands. At Tinian, the world's greatest military airport was to be constructed.

Then, on November 24, just three days after the China-based planes of the XX Bomber Command under General Lemay had struck the Japanese at Omura in their 18th mission, the Saipan-based planes of General Hansell hit Tokyo. The noose was beginning to tighten.

Here, let me pause to repeat that the Twentieth Air Force was conceived and put into operation as a global air force, operating with headquarters in Washington under the direct command of General Arnold acting for the Joint Chiefs of Staff. In its operations, all top commanders, including air, land, and sea, had a voice. And all of them were being

kept informed constantly of those operations.

In the decision to take the Marianas, air force leaders had had a large voice. The islands were taken by Marine and US Army forces under the command of Fleet Admiral Chester W. Nimitz. Later on, this constant interweaving of forces and strategy were to be even more plainly evident.

With the Twentieth Air Force B-29s of General Lemay striking from India and China, and those of General Hansell striking from the Marianas, the air battle of Japan truly had been joined.

The Twentieth Air Force, on moving into battle, had been given this broad directive from the Joint Chiefs of Staff. "...the earliest possible progressive destruction and dislocation of the Japanese military, industrial and economic systems and to undermine the morale of the Japanese people to a point where their capacity for war is decisively defeated." It also had been generally bound to support the broad Pacific offensive, as I already have indicated.

The Joint Chiefs of Staff had instructed that its planes be directed against coke and steel, aircraft, oil and shipping targets and against the urban industrial areas of Japanese cities.

The Committee of Operational Analysis had placed these targets in this priority, (1) Aircraft (2) Urban Industrial Areas (3) Shipping.

Two phases of this directive had been accomplished and the third was just starting when the Japanese quit.

The XX Bomber Command, due to the tremendous problems inherent in supply and operating bases, had been forced to vary this order. But the XXI, with no such problems, went to work immediately on classification No. 1...aircraft production.

Even before the bombers themselves were unloading their cargoes, the cameras of the 3rd Photo Reconnaissance Squadron had been prying loose the carefully guarded secrets of Jap factories...their size and location. One B-29 of the 3rd Photo Reconnaissance Squadron was first over Tokyo. Pictures taken by this squadron gave precise information about installations which previously had been only rumor or, at best, meagerly described by tourists or engineers.

The vast Mitsubishi Aircraft Works at Nagoya and the Nakajima Musashino Aircraft Engine Plant near Tokyo were selected as top priority targets. It was against these installations that the XXI Bomber Command's first missions were directed.

At this time, the Twenty-first's own bases on Saipan were under attack from the enemy planes based on Iwo Jima. Before this forsaken lump of sulphurous rock finally had been subdued, twelve B-29s had been lost on the ground. In the neutralization and later conquest of Iwo Jima, Army Air Forces, Ground Forces, Service Forces, Marines, Navy, and Seabees all played their parts. Five of the XXI Bomber Command's early missions were against the airfields and installations of the island.

In January 1945, General Hansell set up his headquarters on Guam, moving from Saipan where he had been directing operations since before the first strike against Tokyo. At Tinian, bases were completed and the 313th Bombardment Wing, under Brigadier General John H. Davies, was moving into position.

On Guam, the aircraft of the 314th Bombardment Wing, under Brigadier General Thomas S. Power, were starting to arrive.

But the problems of the Twentieth Air Force in fulfilling its mission against the Japanese still were plentiful. In China, the problem of supply was as acute as ever, though

the splendid efforts of the Air Transport Command had relieved some of the burden of freighting gas and supplies over the Himalayan Hump. In the Mariana, the XXI had run into a new and formidable enemy - weather. Between the islands and Japan, the air crews encountered weather as variable as the Japanese themselves from severe icing, extreme turbulence, solid overcasts to winds of up to 200 miles an hour over the targets. And, at those targets, the bombardiers rarely had a clear visual shot owing to the almost constant cloud cover.

And crewmen from the Marianas on each mission faced a 3000 mile round trip all over water with fierce resistance by enemy fighters and anti-aircraft. With the long watery route back to base, a plane damaged was almost as bad as being shot down over the target. Early ditching was pretty apt to be fatal.

There have been lots of comparisons of German flak and Japanese flak but the men of the XXI, seeing their buddies go down in flames or ditch their planes in the vast Pacific, did not bestow such labels as "Flak Alley, Nagoya" in jest.

But difficulties of supply in China, weather over the Pacific, fierce resistance over Japan, these did not stop the Twentieth Air Force blows. These were falling with increasing rapidity and weight on the Japanese home islands and on the occupied territories of Manchuria, China and the East Indies.

Early attacks had caused a dent in Jap aircraft production and on January 19, 1945, a major blow to that production was dealt by General Hansell's fliers when they blasted the Kawasaki Aircraft Company plant at Akashi, near Kobe. From this attack, the Kawasaki factory never fully recovered although the Japanese attempted repair and it was attacked again five months later.

On January 20, 1945, General Lemay was placed in command of the XXI Bomber Command in the Marianas and Brigadier General Roger M. Ramey, the XXI Chief of Staff, was given command of the XX Bomber Command in India-China. General Lemay brought with him to the Marianas his Chief of Staff, Brigadier General August W. Kissnou, and key men of his staff. In the next few weeks, the integration of the Twentieth Air Force with other forces in the Pacific was clearly demonstrated. The Iwo Jima campaign was imminent and the B-29s joined with other Air Forces aircraft, and with Navy and Marine forces in the softening up process.

In addition to bombing attacks on the Iwo airfields and fortifications, the XXI Bomber Command B-29s attacked Nagoya providing a diversion for the fleet as its carrier-based aircraft attacked Tokyo and surrounding airfields on February 5-16.

At the same time, far to the west, aircraft of the Twentieth Air Force 3rd Photo Reconnaissance Squadron were searching Okinawa's secrets with their cameras.

During these weeks, further blows had been given the Jap. The XX Bomber Command, in a spectacular example of high-level precision bombing, had blasted the large floating drydock at Singapore, denying its use to the hard-pressed Jap navy and had blown out an important communications link...the Rama VI Railroad Bridge in Burma.

In addition, the airfields and aircraft production facilities on Formosa had been effectively neutralized. The XXI Bomber Command Superforts had put a further crimp in the Nip plane production with a thorough blasting of the Nakajima Ota Plant near Tokyo.

Then on February 25, Japanese cities got a warning of what was to come. More than 200 B-29s (the greatest number up to that time) representing three wings - the 73rd, 313th, 314th - joined together to hit Tokyo urban industrial areas. What seemed then to be a vast area...one square mile...was destroyed.

On March 4, another important event occurred. A B-29, in trouble from a strike over Tokyo, landed on Iwo Jima. The long "sweat" home was over for the B-29 crews. Iwo cut the return trip in half. Up to the end of the war, the crews of more than 2000 Superforts were to find haven there.

The ten days, March 10-19 broke the Jap's back. Making one of the great tactical decisions of the air war, General Lemay sent his XXI Bomber Command bombers, now 300 strong, in at altitudes of from 5,000 to 10,000 feet at night to sear and burn the heart out of Japan's key cities...Tokyo, Nagoya, Osaka, and Kobe.

The achievements of General Lemay's staff, his fliers, ground crews and supply personnel during those ten days were almost unbelievable. Those blows were the real turning point in the war against Japan.

March saw the beginning of another operation which was to surprise, bewilder and strangle the enemy. Working in close cooperation with the Navy, the B-29s of the 313th Wing began the systematic mining of the home waters of Japan.

Those operations were to extend and grow until even the closed waters of his Inland Sea became a death pond and supplies for the homeland piled up on the docks of Korea.

In March, the Twentieth Air Force had come of age. Its fleets of Superforts numbered more than three times the original force. Its crews and planes had been battle tested and battle proven.

On April 7, the first fighter escorted mission was flown by the Twentieth Air Force B-29s and P-51s rising from the still bloody dust of Iwo. The target was Tokyo. On the same day, another force of B-29s laid to rest an old enemy – the Mitsubishi Aircraft Engine factory in Nagoya (largest in the world)...94% destroyed.

And on April 12, the Nakajima Musashino plant at Tokyo...the target first attacked back on November 24...was blasted. After this attack the plant was more than 60% out of operation.

In the period between April 17 and May 11, the Twentieth Air Force carried out the second part of its directive from the Joint Chiefs of Staff, "...to support the Pacific offensive." The attack on Okinawa had been started. The battle ships, carriers, and cruisers of the Pacific Fleet supporting that operation were feeling the sting of the Jap suicide planes. To ease these attacks, the XXI Bomber Command carried out 97 separate strikes against the airfield of Kyushu and Shikoku in the attempt to rob the enemy of the bases from which the suicide attacks were launched.

A total of 7,850 tons of bombs were dropped on those targets. During the period indicated, only eight strategic bombing missions were flown.

One of these eight had real significance. On May 5, the Hiro Naval Aircraft factory, near Kure, was heavily blasted by B-29s from the Marianas...planes of the 73rd and 58th Wings. Yes, the 58th Wing; originally based in India and China, had been transferred quietly to the Marianas, bringing the battle-wise, accurate bombing crews who now had the full supplies they had longed for so long. The Twentieth Air Force B-29s now were all together.

By this time, the Twentieth Air Force blows had seriously crippled Japanese aircraft production. Accordingly, attention was switched from aircraft to oil and on May 10, the Japanese lost its fueling stations, storage tanks and refining facilities at Tokuyama, Oshima and Otake.

Then, on May 14, the B-29s, numbering more than 500, started another series of incendiary attacks that were to remove the cities of Nagoya, Tokyo, Osaka, Kobe and

Yokohama from the list of targets.

The Twentieth Air Force was in full swing. Using varying tactics, various bomb loads, hitting by day and by night...mining, blasting and burning, it raged over Japan at will. In June, the smaller cities began to wither and die under the rein of incendiaries.

The critical industrial targets such as the Nagoya Arsenal factories, the light metal plants at Osaka, the Kure Naval Arsenal and the rest of the aircraft plants...these became heaps of rubble.

On June 26, the specially-trained and equipped 315th Wing, under Brigadier General Frank Armstrong, went into action with Japan's remaining oil and gasoline resources as its list of targets. In a little less than two months, the 315th Wing was to destroy almost completely the cream of those targets.

During July, the Twentieth Air Force B-29s were like locusts over the land. They celebrated the 4th of July over the Empire with more than 600 Superforts in the air. During July, just thirteen months after the first attack on Yawata by less than 100 airplanes, Twentieth Air Force B-29s flew 6500 sorties and dropped 42,000 tons of bombs and mines. By now, 800 B-29s were able to take the skies on simultaneous operations.

On July 5, General Carl A. Spaatz took command of Strategic Air Forces in the Pacific with headquarters on Guam. Lieutenant General Barney Giles became his Deputy Commander. The XX and XXI Bomber Commands became the Twentieth Air Force, under command of General Lemay. The Strategic Air Forces were to embrace the Twentieth and also the Eighth, coming over to Konawa from England under Lieutenant General James Doolittle, the man first to bomb Tokyo in April 1942.

On August 2, General Lemay was made Chief of Staff of Strategic Air Forces under General Spaatz and I took over the Twentieth. On August 6, the atomic bomb fell from a Twentieth Air Force B-29 over Hiroshima and to all purposes, the war was over. In the fourteen months of its operation, the Twentieth Air Force B-29s had ranged from Sumatra to the borders of Russia and from India to Marcus Island...an area of more than 10,500,000 square miles, an area which would stretch from San Francisco to Bermuda and from the Gulf of Mexico to the Arctic Ocean.

Three hundred sixty four regularly scheduled bombing and mining missions had been flown against the Japanese. In addition, thousands of miscellaneous missions...weather, photographic, rescue training...had been flown. Approximately 170,000 tons of bombs had been dropped. An aggregate of 32,612 flights by individual aircraft had been executed, covering more than 100,000,000 miles. Four hundred thirty seven B-29s were lost, along with 297 B-29 crews.

Sixty-six Japanese cities, representing populations of more than 20,000,000 had been attacked. The major portion of the industrial productive capacity of 59 of these had been destroyed. In six others, industrial capacity had been partially destroyed. The Japanese themselves said that almost one-sixth of home land population had been casualties or made homeless.

Almost 600 important factories were either destroyed or damaged. Included were 23 major factories of Japan's aircraft industry, destruction of which resulted in an estimated 60% reduction in production. Included also were six of Japan's major arsenals, two plants producing tetra ethyl lead, two major steel plants damaged to the extent that Japan's steel capacity was reduced 15% and eight oil storage and refinery installations. Included were the urban areas of Hiroshima and Nagasaki, both blasted by the atomic bomb.

In their operations against Japan, the Twentieth Air Force destroyed or damaged more

than 2,285 enemy aircraft in the air and on the ground.

Some 12,049 mines had been sown in enemy waters, snarling the enemies sea borne supply and communications, and causing destruction or damage of up to 1,000,000 tons of shipping.

And, at the end of the war, the Twentieth Air Force still had not reached its top strength. Plans were under way which would have put more than 1,000 B-29s into the air at one time. Five wings, the 58th, 73rd, 313th, 314th and 315th were in full operation from bases on Guam, Tinian and Saipan. The largest air depot in the world was supplying these bases from Guam. The staging area at Iwo Jima under Colonel John G. Fowler had come into operation and B-29s staging from Iwo runways had brought all points in the Jap homeland within range.

The Seventh Fighter Command on Iwo under Brigadier General Ernest Moore had become a part of the Twentieth Air Force and could put more than 300 long range hard-hitting P-51s and P-47s into the air.

Under the Strategic Air Forces, and in conjunction with the Eighth Air Force, the Twentieth Air Force at war's end was ready to bring to Japan such destruction as the world had never seen. As General Arnold had promised on June 15 on Guam, "Japan would have become a terrible place to live in, if in all truth, one could have lived at all."

I cannot close this brief history without paying full tribute to all the branches of the armed forces and those of our allies which made the Twentieth Air Force not only effective, but possible at all. I cannot close this brief history without paying full tribute to all the branches of the armed forces and those of our allies which made the Twentieth Air Force not only effective, but possible at all. Army engineer and Chinese civilians built our bases in China.

Air Transport Command pilots dared the Hump to fly in our supplies. Fighter pilots of the 14th Air Force flew cover over our China bases. Marines, Army and Navy men died to take our Mariana bases and Iwo Jima. Crews of submarines, Navy vessels and aircraft risked death time after time to rescue our crews from ditched aircraft. SeaBees and Aviation Engineering Battalions accomplished construction feats outclassing the building of the Pyramids.

All these, and thousands of others, played their parts with splendid, unselfish cooperation giving everything they had...frequently their lives.

Of the men of the Twentieth Air Force themselves, I have little to say. What they have done in bringing this war to its successful conclusion is known to the world. Following the first big incendiary strike on Tokyo on March 10, General Lemay said, "If my men have shortened this war by one hour, they have accomplished a high purpose." They shortened it not by hours but by days, weeks, and months. I'm proud to have served as their Commanding General.

To the Joint Chiefs of Staff, the Twentieth Air Force can report, "Directive carried out."

Nathan F. Twining
Lieutenant General, USA
Commanding
