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# PLANNING THE AMERICAN AIR WAR

## Four Men and Nine Days in 1941

James C. Gaston

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*An Inside Narrative*

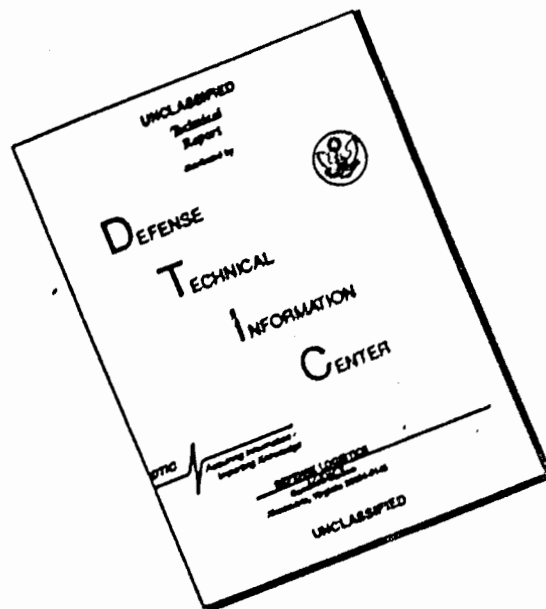
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World War II B-17 Flying Fortresses of U.S. Eighth Air Force flying toward the oil plant at Mersburg, Germany, in one of the many attacks against Nazi oil sources.

# PLANNING THE AMERICAN AIR WAR

**Four Men and  
Nine Days in 1941**

*An Inside Narrative*

by

**James C. Gaston**

**1982**

**National Defense University Press  
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Washington, DC 20319**

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A friend remarked that "compared to the British we did not seem to know there was a war on. It seemed to me, as it had before, that far from being a reproach or sign of weakness, this might very well, if really true, be a sign of strength."

James Gould Cozzens,  
diary entry for  
Thursday, 20 April 1944

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## FOREWORD

Even if it hadn't been used, the United States' air war plan for World War II would have been uniquely significant. It marked the first time that airmen in the Army Air Forces were permitted to do their own planning; thus it was a crucially important step in their move toward independence. Further, it raised seriously the question of whether a major industrial nation could be defeated solely through air bombardment. For these reasons and others, the plan deserves attention from all who concern themselves with strategies for national defense. We are thus pleased that our NDU Press can make these few moments of history available to you.

But plans don't write themselves, and the planning process, rather than the finished document, is the focal point of this study. The author, Lieutenant Colonel Jim Gaston, uses the plan, AWPD-1, as a lens for studying that process. He looks through the

document to follow events on the floor of the planners' arena.

What he finds is that the arena is far from an impersonal, purely intellectual environment. Intellect counts there, he says, but so does the political savvy of a Hal George, the abrasive intransigence of a Ken Walker, the icy persistence of a Laurence Kuter, and the quiet urgency and forethought of a Haywood Hansell. Even a noisy hallway or a foggy bay in Newfoundland can sometimes influence the process. Life isn't always quiet and clear while planners make national choices that shape world history.

Though the people and events in this narrative were important to the development of the Air Force, this isn't merely an Air Force story. It's a unique look at the characteristically human process of planning. All who concern themselves with national defense can learn from what four men did in nine days in 1941.



**JOHN S. PUSTAY**  
**Lieutenant General, USAF**  
**President**

## THE AUTHOR

Lieutenant Colonel Jim Gaston learned about war plans in Southeast Asia in 1969–1970. After flying more than 130 combat missions, he was chosen In-Country Fighter Representative for Headquarters Seventh Air Force War Plans. He was responsible for various contingency plans, and he assisted in the massive planning effort for withdrawing U.S. Air Force units from their Vietnamese bases.

Since then he has earned a master's degree at Rensselaer Polytechnic Institute and a doctorate at the University of Oklahoma. In addition to flying and teaching recently, he has published two books (dealing with such diverse topics as airpower and eighteenth-century literature) and contributed to several others. When he wrote this narrative, he was a student at the National War College and a Senior Fellow and Associate Professor of Research at the National Defense University. In 1982 Colonel Gaston was (Acting) Head of the Department of English, US Air Force Academy.

## PREFACE

I have several reasons for calling this book "an inside narrative." For one, I'm watching the planners from inside the planning room. I'm also trying to narrate a story in a way that reveals the human context of an event, much as Herman Melville was doing when he called *Billy Budd* "an inside narrative." Finally, I'm relying on private, unpublished materials. These sources of "inside" information include the diaries of Henry H. Arnold and James Gould Cozzens (Pulitzer Prize winning author of *The Just and the Unjust*, *Guard of Honor*, and *By Love Possessed*), the fragmentary autobiography of Laurence S. Kuter, a scrapbook maintained by the men who wrote the air war plan, and a lengthy interview with Major General Haywood Hansell. For permission to use these materials, I am especially grateful to General Hansell, Mrs. Kuter, and William Bruce Arnold.

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For their patient, painstaking reading of the manuscript, I'm also most grateful to General Hansell, Herman Wolk, DeWitt Copp, Charles Nolan, and Colonels Fred Kiley, Bill Cassady, and Jim Abrahamson. Special thanks go also to Colonel Frank Margiotta, who gave me time and encouragement; to Major Jim Aubrey, who copy-edited the final version; to Evelyn Lakes, who shepherded the manuscript through publication; and to Ensign John Finch, who found most of the photographs. Each of these thoughtful people improved the manuscript and made my own work more enjoyable.

JAMES C. GASTON  
Lieutenant Colonel, USAF

*sunday, 3 august 1941*

## **TAKEOFF AT GRAVELLY POINT**

On Saturday evening, 2 August 1941, Henry Harley Arnold, Chief of the Army Air Forces, slept in his own bed in his red brick quarters on the post at Fort Myer. It was the first time he had slept there in several days, and twelve days would pass before he would do so again.

At 4:30 Saturday afternoon he had returned from an inspection tour of Air Force activities at Savannah, Tampa, Tallahassee, New Orleans, Houston, and San Antonio. He had flown back non-stop, in fact, from San Antonio to Washington, responding to a tersely worded radio message from his boss, General George C. Marshall, Chief of Staff of the Army: "Return to Washington, arriving not later than 10:00 P.M. Saturday, August 2nd. Marshall."

As soon as Arnold was on the ground in Washington, he called his boss, only to receive further

cryptic instructions. Arnold was to pack for another trip, including enough clothes to be gone for ten days, and to meet Marshall at the Gravelly Point Washington airport at noon on Sunday. (Washington had several airports in 1941, and though the name Washington National had already been given to the one at Gravelly Point, Virginia, Arnold continued to use the older name.) Marshall would say nothing about their destination or their mission.

Before leaving for the airport Sunday morning, Arnold met with his chief of staff, Brigadier General Carl "Tooney" Spaatz. Not knowing what would be expected of him on the trip, Arnold wanted to carry along the latest data on various organizations in the Air Force. Spaatz gave him that material. Arnold also reviewed recent business in the Headquarters black book with Spaatz, noting, among other things, the progress of the young men recently assigned to his Air War Plans Division (AWPD).

That Sunday morning Arnold's plans division was less than four weeks old. The division chief, Lieutenant Colonel Harold Lee George, had come from Langley Field, Virginia, to set up the shop on 10 July. In the intervening days, George had gathered a handful of colleagues including Lieutenant Colonel Kenneth N. Walker and Major Haywood S. Hansell, Jr. On Monday morning Major Laurence S. Kuter would complete the group.

Arnold knew all four, and the four had known each other well for years, ever since the early thirties when they were instructors together at the hotbed of airpower enthusiasm, the Air Corps Tactical School at

Maxwell Field, Alabama. Arnold knew them well enough, in fact, to know what to expect of them. Each was tough, bright, and thoroughly convinced of the supremacy of airpower. Their kind of ambition could lead to angry explosions, and had done so often enough in the early days in Alabama, but passing years had burned most of their differences away. They could stand heat now, together. They would have to stand a great deal of it, in the newly constructed penthouse atop the eighth wing of the Munitions Building, before Arnold would see them again.

Their job, he knew, would be to write the air annex for a war plan that would guide the United States, if it should be drawn into a fight with the Axis. The plan itself was being written in response to President Roosevelt's letter of 9 July to the Secretary of War and the Secretary of the Navy. The President's letter had indicated the kind of detailed planning he expected, but had said nothing about when he wanted the plan finished. To predict with any confidence the kinds and amounts of "munitions and mechanical equipment" we would need to win a war, the planners would first have to figure out the number of men needed, the best way of allocating them among the services, and the best ways to train and employ them once they were in the services. Before doing any of this, however, the planners would have to analyze the strengths and weaknesses of our potential enemies. The task would be monumental—and one doesn't keep the President waiting for an answer.

During the past week Hal George had held preliminary meetings with a few of the people who would have to supply information, but none of the

plan itself was written. On Saturday, Marshall had told Arnold to pack for a ten-day trip. That was the second of August. Well, Spaatz could tell Hal and his people to finish the plan by Tuesday, the twelfth.

At 11:55 Sunday morning Arnold arrived at Gravelly Point. He and Marshall and two staff officers took off in Arnold's C-41, headed for La Guardia Field. Where they would go after La Guardia, Arnold didn't know. Probably he didn't fully appreciate what he had left behind him either; at any rate, he didn't mention it in his diary that night. He had left four young men with a remarkable assignment: to write, in less than ten days, the plan that would guide American airpower through World War II. Strategy, timing, targeting, production, manpower, training, organization, support, and basing in this country and around the world—all would be written in the following nine days, in a flimsy, sweltering penthouse in downtown Washington.

*monday, 4 august 1941*

## HAP ARNOLD

After landing at La Guardia at 1:15 Sunday afternoon, Arnold, Marshall, and their party bought lunch at an airport restaurant. Then--taking care to avoid a newspaper reporter who had seen them in the restaurant—they drove across the city to the docks at 125th Street. Riding first on a barge, then on a destroyer, they sailed to Long Island Sound where the *Augusta*, flagship of Admiral Ernest J. King, Commander-in-Chief of the Atlantic Fleet, was anchored. With the *Augusta* were several other ships including a light cruiser, the *Tuscaloosa*. Marshall transferred to the *Augusta*, Arnold to the *Tuscaloosa*. As senior officer aboard the *Tuscaloosa* Sunday night, Arnold was given the admiral's cabin, complete with orderly and cabin boy.

As he sat down with his diary that night, Arnold was amused and pleased. Imagine—the admiral's

private cabin and two personal servants for Henry Harley Arnold of Gladwyne, Pennsylvania!

A true scarf-in-the-wind flyer, taught by the Wright brothers, Arnold had graduated from West Point in 1907 to embark upon a career that was, in more ways than one, a series of zooms and dives. After waiting nearly six years to be promoted to first lieutenant, he soared from captain to full colonel in less than three months. At the end of World War I, he was demoted to captain, then promoted again to major one month later. By 1925 he had risen to Chief of Information for the Chief of Air Corps. He held this prestigious job in Washington until he testified at the court-martial of his hero and fellow airpower advocate, General Billy Mitchell. Mitchell was convicted of insubordination; Arnold was banished to Fort Riley, Kansas. On 3 August 1941, however, Arnold was definitely back in town, as ranking officer aboard the *Tuscaloosa*—not to mention Chief of the Army Air Forces—with a personal cabin boy and an orderly. He confessed good naturedly in his diary that Sunday night that he had no idea how to keep the two young men busy.

On Tuesday night he would marvel again at his accommodations, writing, "Admirals are wonderful fellows. They travel (as I am now) deluxe, a bath (with Roman bathtub), portholes that sailors look through while one performs such acts as he must, a large bedroom with a double bed, and a sitting room. An orderly and a room steward. Pushbuttons and bells everywhere. I am enjoying the luxury while I can."

Who was this good-natured fellow who seems to smile from his diary and certainly does so in many news pictures of the day? Were the well-known smile and pleasantness real? Could a man suffer the reversals, bear the responsibilities, and contain the ambitions Arnold surely had felt and still be genuinely happy? Novelist James Gould Cozzens, an inveterate skeptic who served Arnold later in the war as a speech writer and trouble-shooter, wondered about such things. He concluded grudgingly in his own diary that Arnold's cherubic appearance truly was a reflection, at least in part, of the man's nature: "the beaming blue eye is I suppose half an act and half real." Although he never forgave Arnold for delivering speeches so poorly ("Mr. A. was among the world's worst speakers . . . any speech written for him simply went down the drain. . ."), Cozzens agreed with others that Arnold could win an audience or an individual with his first impression. Cozzens described that impression as "pink and clean with his thin white hair very clean too and a sort of narrow-eyed twinkling expression." If the twinkle was sometimes deliberate, it was just as often a spontaneous signal that Hap Arnold was having a good time.

He had a great time on the *Tuscaloosa*. On Monday morning he awoke at 7:00 to find the ship moving and the cabin boy putting out his clothes. The flotilla cruised up the coast all day. When they anchored near Martha's Vineyard at 4:00 that afternoon, he decided to pay a visit to Admiral King aboard the *Augusta*. But what about the protocol of going from one ship to another? Wasn't there a ceremony of some kind a fellow was supposed to perform? Folks

at Gladwyne and West Point hadn't talked much about how to get from one ship to another. "Asked for and received instructions as to who, which or what to salute first," Arnold wrote. "As I was senior, I had to do the trick first. Did not make too many mistakes."

When he got to the *Augusta*, Arnold learned from Marshall where the flotilla was headed, and why. These ships would be joined during the night by the presidential yacht *Potomac*. President Roosevelt would pass from the *Potomac* onto the *Augusta*; then the flotilla would set out for Placentia Bay at Argentia, Newfoundland. A crew remaining behind on the *Potomac* would sail back and forth near the coast, creating an appearance that the President was still aboard enjoying a fishing vacation. Roosevelt's purpose in taking his senior military staff to Newfoundland was to confer with Winston Churchill and his advisors, who were sailing at that time from England. Both sides would share information and consider ways to strengthen Britain *without* sending Americans into combat.

This last point was one Roosevelt would emphasize at two press conferences immediately following his return to Washington, saying on 16 August that the U.S. was no closer to entering the war, and on 19 August that Churchill was "extremely confident" of Britain's ability to win the war without U.S. entry. Thus in a handsome twist of irony, the Argentia Conference, whose announced intention was to help Britain win the war alone, occurred just when the contingency plan for all-out American involvement in the

war was being written by Hal George and the others in Washington. On 4 August, the very day that Arnold learned he was headed for Argentina, Hal George sent the letter tasking his staff to write AWPD-1.

*tuesday, 5 august 1941*

## HAL GEORGE

If anybody could get it done—an air war plan for World War II written in nine days while the boss was out of the country—Hal George was the man.

Want someone with combat experience? In 1918 he had flown with the 163rd Bomb Squadron in France. Someone who knows all about the latest equipment? He was commanding the 2nd Bomb Group, the first unit to fly the B-17 Flying Fortress, when Hap Arnold called him to Washington on 3 July 1941 to start an Air War Plans Division. Looking for someone experienced in strategy and tactics? He had developed and tested both for four years as an instructor at the Air Corps Tactical School.

How about verbal skills? Need someone who can capture tough ideas quickly and present them precise-

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ly? Maybe someone who can do a little of his own typing if things get really rushed? He had won a national competition in typing and shorthand, earned a law degree from George Washington University, and graduated high enough to be among the noninees for a position as law clerk to the Supreme Court. Hal could have done it, too—would have made a fine lawyer. But he had already become a flier by the time he finished his law degree. He couldn't do both; the choice was easy.

Would political skills be helpful? Someone who can get along, keep a team of workers together, win friends for them when they have to sell the plan outside their own office? Haywood Hansell recalls that George was a model of aplomb, a remarkably personable and persuasive speaker, especially in difficult situations. Others saw these qualities in George, too, others who later offered him such jobs as commander of Air Transport Command, senior Air Force officer on the United Nations Military Staff, general manager of Hughes Aircraft Company, and vice president of Thompson-Ramo-Wooldridge. One day Hal would be elected mayor of Beverly Hills, California.

Of course Hal could get the plan written. When he left Violette and their two daughters early Tuesday morning and climbed on the 16th Street bus in front of the Dorchester House apartments, he knew he could get it done. By that time he had already made most of the tough decisions; now he just had to get three other race horses to run around the track with him, as fast as they could. What the heck.

And even the tough decisions hadn't been so bad. First he had had to decide between going to the

War College or starting the Air War Plans Division. Hap Arnold had offered him that choice on 3 July. No choice at all, really, even though he understood the risk of declining an invitation to War College. Hal George had spent half his life around schools of one kind or another. Who wanted to enter another one just when we were about to go to war? Besides, if Hap Arnold himself had offered both jobs, both of them had to be all right. What the heck.

He had reported to Arnold's office and then opened his own on Thursday, 10 July 1941, the day after Roosevelt had directed his Secretary of War to start planning. Next week he began to hear rumors about the plan from Lieutenant Colonel Clayton Bissell, an air officer working in the Army War Plans Division. On Friday, 18 July, Bissell was formally tasked to provide a shopping list of information to the Army planning staff for their use in preparing a statement of Army—including Army Air Forces—requirements. Hal George could help Bissell find the information, or he could recommend that additional air officers be assigned temporarily to the Army staff to help with such things, or he could demand that his Air War Plans Division itself be allowed to write part of the plan.

The Air War Plans Division consisted of Hal and his good friend from Maxwell days, Ken Walker. But Possum Hansell would be back from England next week, and they could count on help from other friends like Larry Kuter, Art Vanaman, and Hoyt Vandenberg. And, after all, the Air War Plans Division was eight days old; if it wasn't going to write air war plans, what in the world was it supposed to do?

Hal George persuaded Tooley Spaatz that AWPD was the only outfit for the job. Tooley sold it to Hap, who sold it to Brigadier General L.T. Gerow, in charge of the Army War Plans Division. On Tuesday, 29 July, after a series of meetings in which Hal George learned from Army planners just what his group would be allowed to do, Lieutenant Colonel Bissell turned over the complete file on air war plans to Hal's AWPD.

In responding to Roosevelt's letter, George's group, like the Army and Navy planners, would have to observe earlier Army-Navy and U.S.-British agreements known as Rainbow-5 and ABC-1. These documents committed the U.S. to assist Britain in winning the European war first, while defending our own hemisphere and using our Pacific Fleet to counter Japan. We were to gain air superiority in Europe as soon as possible and to anticipate an invasion of Germany. O.K. We can work with that.

After accepting the file from Bissell, George had spent the next couple of days outlining the work in his mind and identifying people who could help. By Friday, 1 August, he knew what had to be done. He also knew who would do it.

On Monday he sent the tasking letter. Of course the obvious purpose of the effort would be to answer the President's request: provide requirements or goals for industrial production. So George's group would calculate how many planes of all types would be needed, how many squadrons and where they would be based, how many people and where they would be trained. But George meant to submit something more

than pages filled with numbers and names of obscure places. If you want people to think you really need the planes and people represented by all those numbers, you have to show them why. George intended to show in detail where the numbers had come from, for he fully expected them to be astronomical.

His approach would be to discuss the elements of the plan separately in eighteen tabs. One tab would deal with "Bombardment Operating Bases," for instance, and another with "Training Aircraft." All tabs would be prepared in the same format, to make it easier to combine figures.

George obtained help from several offices in the Munitions Building, and he assigned each tab to at least two officers, spreading the work enough that a single illness couldn't sabotage the schedule. But the most critical assignments went to his AWPD cadre. They took primary responsibility for "Bombardment Operations Against Germany," "Escort Fighters," "Bombardment Aviation Required for Hemispheric Defense," and "Bombardment Operating Bases."

The tasking letters, lengthy things containing full instructions for each tab, had gone to nine officers on Monday. Now it was Tuesday, the day on which he had promised to provide his planners a summary of "basic considerations and assumptions . . . with respect to strength in units, operating and attrition rates, bombing accuracy, etc." It was essential, of course, that everyone work from the same assumptions. The people calculating "Personnel Requirements" and those planning "Bombardment Operations Against Germany," for example, would have to agree on the

number of people and planes in a B-17 squadron. George had most of the important numbers in his head; the ones he was uncertain about should be easy to find. He'd get the numbers together and have his letter of "basic considerations and assumptions" typed, first thing. Shouldn't take long.

It took Tuesday, Tuesday night, and part of Wednesday. Hansell recalls that the AWPD cadre worked until about midnight every night that week, and twice they worked all night. George's letter on basic assumptions shows why.

It's easy enough to collect numbers—the tough job is deciding which numbers are worth collecting. How many light bombers in a squadron? Thirteen in a squadron, five squadrons in a group. So far so good. How many replacements will a squadron need each month? Well, that's a little different, depends on how you use them. And how you use them depends on the kind of targets you mean to hit: where they are, how far from your bases, how heavily defended, what kinds of weapons you have to use on them, how many times you have to hit them to destroy them, how quickly they'll be rebuilt or replaced. And of course frequency of operation depends as much on weather as it does on targets. And the number of planes you launch at one time depends upon how certain you want to be that the target is destroyed that time, and upon the probability that any given plane will hit the target; and that probability depends upon the plane's altitude and the bombardier's experience. And so on.

What George found was that he couldn't even provide a defensible figure for replacement rates

without asking fundamental questions about what the Army Air Forces were supposed to do in Europe. If their purpose was essentially to support an invasion, he could design a force for close air support. If they were meant to compel surrender without an invasion, he would design quite a different force.

His heart—like the hearts of Walker, Kuter, and Hansell—was strongly in favor of winning the war with airpower. Yet he knew the Army war planners would demand heavy emphasis on close air support. Which way should he go? How might he balance those concepts when Generals Marshall and Arnold were out of town, and he had only seven more days to finish the plan? He wasn't about to sell airpower short, but there was little sense in rushing to prepare an all-airpower plan only to have it disapproved. What balance would work best? Which could win the Army's approval of an airpower plan for winning the war? It was an almost impossible question, and one that took longer than any other to resolve.

Well, fine. With a war coming on, these sticky problems are going to pop up now and then. That's why Hap had wanted Hal George in charge of his AWPD. Hal would take care of it.

Hal took care of it in a long day and night of dialogue with his three closest colleagues. He also collected the data and published his letter of "basic considerations and assumptions"—but not by Tuesday.

His initial tasking letter on Monday had contained only one intermediate deadline, the one he had

imposed on himself for the following day. At midnight on Tuesday, only two days into the frantically busy week, Hal George had blown his own schedule.

wednesday, 6 august 1941

## THE MUNITIONS BUILDING

When Hap Arnold awoke on the *Tuscaloosa* Wednesday morning, he was steaming northeastward at fifteen knots through a light fog. "Nothing much new," he wrote. "Getting much colder. Off Nova Scotia at noon. Off Cape Sable about 4:00 P.M. Not a boat—not a ship—plenty of cold blue water. Quite a contrast to the heat of Savannah—Tampa—Tallahassee—New Orleans—Houston—San Antonio last week." Or, he might have pondered, to the Munitions Building this week.

The Munitions Building was an eyesore; everyone agreed about that. It and the Navy Building alongside it on Constitution Avenue epitomized those expedient, temporary choices all of us make, the kind that grow uglier and more conspicuous as time goes by. Both of them had been hastily assembled ("built"

would be far too kind) during the massive expansion of the armed forces in World War I.

Franklin Roosevelt took full credit for the unsightly buildings: "It was a crime—I don't hesitate to say so—it was a crime for which I should be kept out of Heaven, for having desecrated the whole plan of, I think, the loveliest city in the world—the capital of the United States." As Secretary of the Navy in 1917 when the Navy needed more office space, Roosevelt had advised President Wilson to approve construction of a temporary wooden building on the Ellipse immediately south of the White House. The fabrication would be so glaringly out of place, he argued, that everyone would agree to tear it down immediately after the war. But Wilson disapproved of having an office building on his front lawn, so Roosevelt recommended as an alternate location the open space south of Constitution Avenue between the Lincoln Memorial and the Washington Monument. Wilson agreed to the new location. Worried about the risk of fire, however, he decided the temporary structure should be built of concrete and steel.

A little too sturdy to collapse of its own weight and ugliness, barely out of sight of the White House, the monstrosity had survived until the summer of 1941. Its appearance suggested that the Turner Construction Company had set out to erect not an office building but a factory. The front was a monotonous white concrete facade three stories high, running all the way from 19th Street to 21st Street. Hundreds of large, identical, steel-framed windows lined the front. Looking through the windows, one expected to see not desks and typewriters but an enormous assembly

line with conveyor belts linking one end of the building to the other. Pig iron and gun powder come in the east end . . . finished bombs and rockets roll out the west. It looked much more like a place for making munitions than for planning what to do with them.

Actually, the entrance wasn't at the east end. It was at the center, directly opposite the intersection of 20th Street and Constitution Avenue. As you walked through any of the eighteen tall, closely spaced doors and looked around, appearances went from bad to worse. Hurriedly poured concrete pillars had been left exposed everywhere. Varieties of lamps were suspended in varieties of ways from very often unfinished ceilings. Overcrowding was evidenced by the jamming of desks of every description into every space, by the hastily erected partitions, by the countless electrical extension cords and interphone lines suspended from ceilings and stapled to walls, and, if you happened into the cafeteria at noon, by the incredibly long lines at the serving counters and the packed tables in the dining area.

Overcrowding also meant, incidentally, that finding a parking place near the building was out of the question. Haywood Hansell had purchased a new 1939 Oldsmobile just before leaving his assignment in Kansas for Washington. But he and the other AWPD planners soon learned that private autos were of little use to people who worked in the Munitions Building. They all found homes near streetcar and bus lines.

Aside from its inconvenience, its ugliness, and its lack of space, the building had one other disadvantage in August 1941. It was, as Hansell says, "In-

tolerably hot." The building was, in essence, a greenhouse. Though a considerable amount of the Constitution Avenue facade was concrete, the walls of the eight wings reaching southward from that facade were largely steel and glass. Almost no trees were close enough or tall enough to give protection from the sun, and the roofs of the wings had no venting fans. Though the building had hundreds of windows, the many interior walls and partitions made ventilation poor. Legions of Westinghouse oscillating fans whirred from the walls, but hot air mixed with intolerably hot air is still intolerable.

The Munitions Building was always hot, and its AWPB penthouse was always worse; and both were especially bad during the planning because the weather that week in Washington was especially muggy. Afternoon temperatures stayed near ninety all week, reaching ninety-seven on Saturday. Skies were usually clear, and no showers passed by to give relief. How hot was it? "Literally, when you put your hand down on your desk, your papers would stick to it," Hansell says. "It was terribly difficult and unpleasant."

Probably few people who didn't work there cared how hot it was inside the Munitions Building, but many influential people agreed that something had to be done about the overcrowding. In fact, a major topic of discussion in Washington that very week was what, exactly, should be done about the War Department's urgent need for office space. Several people had suggestions, but the idea getting most attention was the one outlined for the Buildings and Grounds Committee of the House of Representatives by Colo-

nel E.R. Householder on Tuesday. Acting as spokesman for the Army's adjutant general, he recommended construction of a single building, big enough for 42,000 employees, with parking space for 10,000 cars. An ideal location would be the southern edge of the National Cemetery in Arlington, he said, because the government already owned the land and because traffic congestion would be eased if 42,000 employees didn't have to cross the river into Washington to get to work every day. (Unfortunately, reports don't say whether he also suggested a pentagonal shape for the building.) The president of the Arlington Chamber of Commerce added his support for the War Department's plan on Tuesday, but on Wednesday the speakers and the tone of the discussion changed considerably.

At 10:00 Wednesday morning, just about the time Hal George and his people were beginning to suffer from the oppressive heat and the noisy, cramped conditions in the Munitions Building, the Senate Appropriations Committee convened to discuss this Army proposal for obtaining more office space. Few admired it. Senator Robert Reynolds of North Carolina feared the proposed location would encourage thousands of Washingtonians to move to Virginia, eventually reducing the city's population and ruining its economy. Senator Pat McCarran of Nevada thought Congress might lose control of the War Department if the department were to move its offices across the Potomac. Gilmore Clark, chairman of the Fine Arts Commission, said in a letter to the committee that the War Department's construction would detract from the appearance of the National

Cemetery. In general, the Appropriations Committee seemed unlikely to accept the proposal.

Hal George and his people knew about the controversy over the War Department office proposal when they gathered on Wednesday, elbow-to-elbow, for the first meeting of their full group. The Arlington-versus-Washington question didn't matter to them. But as they suffered in the Munitions Building, the idea of a place with adequate office space, adequate parking space, and adequate ventilation—perhaps even air conditioning—sounded too good to believe. Never see it.

What mattered to George at the moment was that he was a day late in distributing his letter of basic assumptions. That and the fact that he had a meeting to conduct, one that had to go right. He wanted to be careful about this one, to be sure that everyone appreciated the significance of what was happening this week. So he took the time to prepare typed, double-spaced notes in advance.

The purpose of the meeting, he said, was to orient everyone to the size of the job and to be sure everyone understood the others' responsibilities. Think of this as your fulltime job, he told them, whether you're permanently assigned to AWPD or not. Our absolute deadline is Tuesday, 12 August, one week from yesterday. We *must* have all the tabs ready for presentations outside the office then. I want us to get together again at 1:30 tomorrow for a progress check. Count on working through the weekend, all night, whatever it takes. Ken Walker and Larry Kuter will go through the tabs individually now and

tell you what we expect to see. It's a very ambitious program, but the point to remember is that we're calculating what we'll need to win a war. An invasion of Europe may be necessary down the line, and we'll provide plenty of airpower to support one—but we're giving first priority to an air offensive the likes of which no one has ever seen.

After Walker and Kuter had discussed the individual tabs, he closed the meeting with a reminder that all of their work, and especially the data they had been given at the start of the meeting, had to be kept secret.

Much of the data had been common knowledge: a squadron of heavy bombers has thirteen planes; a pursuit fighter group consists of six squadrons of twenty-five planes each. Some information was perhaps more sensitive, such as the assumption that a unit actively engaged in combat could be expected to lose 20 percent of its aircraft and 15 percent of its crews per month. And some of the estimates showed that a terrific amount of research and calculation had already been done. Some showed, for instance, the vulnerability of specific targets within Germany's electrical power grid, her system of oil refineries, and her inland waterways.

Haywood Hansell had seen this week coming. He hadn't known when it would come, hadn't expected it to happen this soon, but he had known there would be a week like this one. So he had been doing a little homework from time to time. Folks at Georgia Tech had showed him several years ago that you can't afford to wait until final exam week to start studying for the big ones.

thursday, 7 august 1941

## POSSUM HANSELL

He rode the Wisconsin Avenue streetcar to work every morning from Georgetown. He and Dorothy and their children lived at 4457 Greenwich Parkway, just west of the Georgetown University campus, in a neighborhood so cozy and picturesque it might have come from a Walt Disney movie or an *Ideals* magazine. Running from Foxhall Road to 44th Street, Greenwich is only two blocks long, a quiet, tree-lined street with a vine-covered chapel at one end and a deep, shady park at the other. The Hansells lived in a townhouse, one of seven adjoining two-story homes. Today a red brick facade fronts the group's first floor, white stucco the second. An alternating gable and mansard roofline combines with brown wooden latticework over the stucco to make the houses look as if they might have been plucked from Elizabethan England. If you had watched the congenial, unassuming young fellow who left the third unit from the east

on Thursday morning, 7 August 1941, you wouldn't have dreamed such a pleasant man coming from such a postcard setting could know what Haywood Hansell knew.

By the time Hansell arrived at the Munitions Building Thursday morning, it was midday in Germany. Rudolph Vogel had been at work for several hours. He directed the Reisholz electrical power station five miles southeast of Düsseldorf. Reisholz was a steam generating plant on the north bank of a loop in the Rhine River. Besides providing power to the city and to the adjacent oil refinery and flour mill, it also supplied 108,000 KW to Germany's major industrial power grid, the Rheinisch-Westfälisches-Elektrizitätswerk.

Like most of Germany's thermal power stations, the Reisholz plant was housed in steel and concrete buildings. Its two boiler rooms held seven low-pressure and four modern high-pressure boilers, all of which powered seven turbogenerators of various sizes. The plant received its coal from barges and trains, and its condensing water from the Rhine. It employed 150 workers in three eight-hour shifts.

In June 1940 a few Royal Air Force bombers attacking the nearby oil refinery had hit Reisholz with eight 250-pound bombs, four of which were duds. The bombs which exploded had damaged a few buckets in the plant's coal conveyor system but hadn't interrupted electrical output. Vogel had been considerably annoyed, but since the planes didn't come back, it was obvious the RAF hadn't seriously intended to destroy his power station. In August 1941 Vogel

wouldn't have believed that anyone in England or America knew what Haywood Hansell knew.

On 15 October 1944, however, sixty-one Eighth Air Force bombers would drop 1,274 250-pound bombs and four 500-pound bombs on Reisholz. The crews would carry Target Information Sheet OpGO1126, "Power at Reisholz," which explained the significance of the plant to German industry, showed the plant's location, and outlined the plant's construction to help them find the aiming point. They would destroy the largest turbogenerator and damage the others. They would destroy four boilers and all of the boiler feed-water piping. They would destroy switchboards and large conductor cables. They would blow out many roofs and walls, and set others afire. Eighty workers would be injured by flying glass. The Eighth Air Force strike would completely shut down Reisholz for weeks, and then, in February 1945, RAF bombers would come back and finish the job for the duration of the war. Because Haywood Hansell knew all about Reisholz.

He knew all about the R-W-E power grid. And the fifteen marshaling yards, eight of them within 350 miles of England, upon which Germany's rail system depended. And the fourteen locks and three elevators upon which her inland waterway system depended. And the twenty-seven oil refineries upon which, ultimately, everything depended. He also knew how to make targets of these places: what the best check-points were, where the anti-aircraft guns were, how the nearby cities looked from the air.

What he knew was what he had been able to piece together, often against the will of his seniors.

since coming to Washington from the Army Command and General Staff College at Fort Leavenworth, Kansas, in 1939. His efforts to collect pieces began in earnest in 1940 when Arnold created a Strategic Air Intelligence office and placed Hansell in charge of intelligence about the economic-industrial systems and air forces of major foreign powers.

Unable to get help, and often getting disapproval and active resistance from members of the War Department's intelligence office, Hansell accepted whatever information he could find. Some useful material flowed in from the system of Assistant Military Attachés for Air, of course, but an especially valuable source was a businessman-turned-airman who worked for Hansell and caught on quickly to the sort of material Hansell wanted. Malcolm Moss knew that American financial institutions had cooperated in the expansion of German industry in the 1920s. Our banks had provided money for power stations, for instance, and the securities of the R-W-E power company had been listed on the New York Stock Exchange before Hitler came to power. He also knew that the banks wouldn't make substantial loans without detailed explanations of how the money would be used, and he personally knew the bankers in New York who might have access to those explanations. When Hansell sent him to New York, he returned with the actual construction plans for many of Germany's most important plants.

The material was exactly right. It enabled Hansell to assemble systems of targets, working from his knowledge of the design and productive capacity of individual elements of the systems. Then he could work backward. He could tell whether a particular

factory would be a promising target, for instance, by considering how much it had contributed to its industry and how vulnerable its construction would be to air attack.

In wartime, to know that a factory is important and also vulnerable to attack because, say, its walls are made largely of combustible material, is to know something valuable. To know something is not to know everything, however, for analysis based upon construction plans leans heavily on theory. To determine whether the actual benefits of an attack will be worth the costs, one needs additional practical information. How is the target defended? How long must one fly through contested airspace while approaching and departing from the target? How does the target actually look from the air? Can it be readily identified? From which directions?

The answers to these practical questions Hansell found in England. He visited Royal Air Force intelligence officers in summer 1941 and collected almost a ton of target folders. British pilots had attacked almost every part of Germany by that time, and though they didn't know the architectural details of the Reisholz power plant, for instance, or precisely how much that plant contributed to Germany's industrial power grid, they had priceless, firsthand information about the best way of flying a bomber to Düsseldorf.

Hansell had been in England on 9 July when Roosevelt sent his letter to the Secretaries of War and the Navy asking for reports on what the U.S. would need to defeat its potential enemies. By the time Hansell arrived in Washington, the new Air War

Plans Division had been formed under Hansell's old friend Hal George, and George was beginning to insist that AWPD should write the air annex to the war plan. Transferred immediately to George's office, Hansell there began the fusion of what he had learned from American business and what he had been given by the RAF.

At 1:30 on Thursday, 7 August, the gentle, red-haired Southerner knew more than Rudolph Vogel would have believed, more than anyone in the Munitions Building had a right to expect. What he knew was enough to convince Hal George and the others that their plan, whatever it turned out to be, would be based upon a theoretically and practically sound approach to targets in the German economy and war machine.

Ironically, it seems today that they may have benefited even more from what he didn't know than from what he did. What he didn't know, what he couldn't foresee, was the extent to which Germany might improve her industrial capacity and her defenses before the plan could be put into effect. AWPD-1 would envision an all-out six-month bombing campaign running from April to September 1944. But would the target systems of August 1941 look essentially the same in April 1944? By destroying the Reisholz plant, he would deprive the R-W-E high-voltage power grid of 108,000 KW. Would such a loss be disastrous in 1944, or would it scarcely be noticed? Could directors of the network compensate readily by increasing the output of other plants or by apportioning the power reduction among dozens of

users, or would the system be so heavily committed that any reduction would be catastrophic?

Based largely on Hansell's analyses, Tab No. 1 of AWPD-1 would describe a German economy operating "under heavy strain," with Germany's war operations imposing "a very heavy drain on the social and economic structure of the state. Destruction of that structure will virtually break down the capacity of the German nation to wage war." One pictures a fragile web, stretched tight, with all flexibility gone.

Given the fact that U.S. industry would be hard pressed to produce anything like the number of bomber groups requested by AWPD-1, would Hansell and the others have benefited from knowing that the German economy was in fact devoting only 49 percent of its GNP to war costs in 1941? That Germany could and would increase these expenditures by almost twenty billion Reichmarks to 64 percent of the GNP by 1944? That German Armaments Minister Albert Speer would discover new manufacturing techniques to strengthen German industry terrifically, more than tripling armament production by July 1944 while reducing the number of workers per unit produced by nearly 60 percent? That synthetic fuel production would increase by 90 percent, or that new power stations with roughly eight times the contribution of Reisholz to the national grid would come on line every year?

Or suppose Hansell had known that a truly concentrated six-month bombing campaign before an invasion wouldn't happen, that the bombers three years later wouldn't be able to focus on a single system un-

til it was totally destroyed? That their forces would be divided, both to support an invasion already going on and to attack the troubling, though not strategically threatening, rocket launching sites and submarine pens? Would it have changed his sense of the vulnerability of industrial targets to know that diversions to other targets would often give German workers time for repairs between strikes, or that Speer would institute a system of standardized parts making repairs much quicker and easier?

Hansell's analysis was clean, thorough, and intelligent—exactly what was needed. What good would it have done to tell him on Thursday afternoon that the enemy in 1944 would be three times stronger than he had supposed? Congress, the President, and the American people weren't about to give Hap Arnold and the AWPD planners three times as many planes and crews.

As a matter of fact, Arnold, Marshall, and the President were conferring that very afternoon on the best way to avoid giving too many planes away to our potential allies, Britain and the Soviet Union.

The American commanders had arrived at Argentia that morning and had used most of the day to discuss negotiating positions for their talks with Churchill and his staff. The fear all around was that Churchill would demand virtually all of the planes and other armaments we could produce in the foreseeable future. After all, he was fighting a war to preserve democracy; we weren't. Roosevelt warned his commanders to listen closely to the appeals but to remember that the American people would demand an

accounting as to how their defense money had been spent. If the U.S. should enter the war, he said, it would be essential to put a force into the fighting right away. The people would expect action, not just excuses about arms that couldn't be used because we had given them to England.

At the last session that afternoon, Arnold was uneasy about more than the prospect of Britons with their hands out. At 4:30, while making one of the trips from his quarters on the *Tuscaloosa* to a conference on the *Augusta*, he had nearly fallen into Placentia Bay. The sea had become rough during the day, and the little boat that took him back and forth dipped suddenly just as he was stepping onto the *Augusta's* gangplank. He regained his balance, and later his appetite for Admiral King's "delightful dinner," featuring roast filet of beef, buttered asparagus tips, rosette potatoes, mushroom gravy, and sliced fresh peaches and cream. The President and his commanders dined comfortably.

Arnold would have been comforted, too, had he known that his AWPD planners, subsisting largely on coffee and adrenaline, were back on schedule. They were moving ahead, basing their work on an analysis of Germany that was, for them, exactly right.

Because Haywood Hansell knew far more than they had any right to expect, and less than any of them could imagine.

*friday, 8 august 1941*

## LARRY KUTER

In February 1942, everyone who read *Time*, *Newsweek*, or almost any of the big daily newspapers knew that Larry Kuter of Rockford, Illinois, had done pretty well for himself in Washington. People all over the country sent him congratulatory notes and newspaper clippings, because February was the month when he became the Army's youngest general.

Only thirty-six, and the President had nominated him for a star. It made good copy. Then there was the photo that came with the War Department press release: distinctive narrow face, thin black mustache, dispassionate eyes, and high forehead—not one of the crowd. The sort of thoroughly, almost coldly professional face that suggested efficiency and intelligence. He looked like the manager of a big outfit like the Air Corps. The picture looked right.

Editors everywhere picked up the story, and they ran it on the front page if Larry had ever passed through their town. Several of the articles mentioned that he was a graduate of West Point, that he had served as Operations Officer of the Eastern Zone when the Air Corps took over airmail deliveries, and that he had taught at the Air Corps Tactical School, all of which was true. But that wasn't why he was a general at thirty-six.

Larry and Ethel had a pleasant home in Washington. Eighty-five dollars a month for apartment 409 in Macomb Gardens, a new six-story brick building about two blocks northwest of the National Cathedral where their daughter, Roxanne, attended the National Cathedral Girls' School. Macomb Gardens is attractive today, and it was an exemplar of style in the early forties, with its roll-out windows, its tri-color facade, and its entrance framed with translucent glass bricks. From that front door to the Wisconsin Avenue streetcar was an easy three-minute walk for Larry. Through their window was a lovely wooded valley and some undeveloped acreage; their cocker spaniel chased squirrels and flushed quail on the ground where the Second District Metro Police Headquarters now stands. Ethel, like Larry, did well in Washington. She was a talented writer, speaker, and actress, known to much of the city for her performances in various local theatrical productions.

A handsome family, they were flourishing in the whirl of Washington. But Larry's family wasn't the reason for the early promotion either.

The reason was that Larry Kuter reminded people of an acetylene torch. Intelligence, dedication,

ambition, and drive, mixed just right and burning hot enough to cut steel, yet never blazing out of control, never showing more than a cool, blue glow. Marshall had told several people he wanted to promote some young people early, wanted to mix more fresh ideas and intensity at the highest levels of the War Department. Those are the qualities that always make youth desirable in a headquarters, but of course there's the cost. If the benefits of youth are going to be worth what you pay in inexperience, the intensity will have to be metered, restrained, controlled--always. That was Larry Kuter.

Kuter's first day of work in the War Department was the day Marshall became Army Chief of Staff, 1 July 1939. Marshall greeted all the summer arrivals in his office that day, telling them the U.S. would probably be at war with the Axis before they completed their Washington assignments. The announcement caught Kuter by surprise; he hadn't realized the magnitude and immediacy of the Nazi threat. He left the meeting in a state of shock.

And that was about the last time he allowed himself to be shocked by anything in Washington.

As the only Air Corps officer assigned to G-3, Operations and Training, on the Army General Staff, he soon became involved in the first major expansion of the Air Corps into a force for hemispheric defense. Though not a big enough force to win a war, the 5,500-plane Air Corps envisioned by Arnold, Marshall, and the President in 1939 would at least be enough to make any dictator think twice before attacking North or South America. And it would be

roughly three times the size of the Air Corps then in being.

Kuter's job in 1939 was to find ways to make such an expansion come about. Thousands of planes had to be built and based; thousands of crewmen had to be trained to fly them, and that meant the construction of still more bases for training. To make the expansion happen as quickly and efficiently as possible, Kuter had to coordinate each step in the expansion plan with every office having any responsibility for that step. There would be no point in the Ordnance Corps' providing munitions for a new base in Kansas unless the Corps of Engineers guaranteed that the base would be built and the Quartermaster General said it would be equipped. Then each step needed approval.

So Larry and his associates in G-3 busily cranked out figures that made sense to them, then scurried up and down the hallways to find responsible officials and get them to admit reluctantly that, well, yes, they supposed it might be possible from their standpoint. Except that the officials usually began by saying they were pretty sure it *wouldn't* be possible. That's what they said, for instance, when they noticed that most of the new pilot training bases would be in the South. Not possible. Political dynamite to funnel all that money into the South.

Politics be damned, Larry had thought quietly, as he polished his arguments and kept walking from office to office. We have to build the bases where there's good flying weather all year, and besides, the

Corps of Engineers had already agreed they *could* get the land and build the bases there.

The South got the bases, and Larry Kuter learned a lesson: there's always reluctance, always hedging, and if you give the doubters long enough, always a dozen reasons why the thing can't be done at all. So you ignore the doubters and get on about your business. Do your homework; then burn through doubts with facts and logic. By the time he was assigned to the Air War Plans Division in August 1941, Larry was a master at protecting his intellectual machinations from the anxieties and doubts of those around him.

On Friday morning, 8 August 1941, time was running short for the AWPD planners, and anxiety was running strong. Hal George published his last tasking letter that day, telling everyone that the deadline for having the plan in final form would be 1:30 P.M. on Tuesday, 12 August. George would present the plan to Arnold then for his approval (supposing that Arnold, wherever he was, would return by Tuesday). To guarantee that the plan would be finished by Tuesday, George called for a final meeting of all planners at 1.30 P.M. Sunday. At that meeting they all would learn the final numbers and types of combat aircraft to be included in the plan. Then the planners working on training, personnel, and basing could refine their figures accordingly.

Two days left to project the terrific growth of an already much-expanded air force. Kuter had run into a minefield of opposition in 1939 when he tried to coordinate a plan for tripling the size of the air force

to a total of 5,500 planes. What sort of response could he expect to a request for a force more than ten times larger than the 1939 projection? And this time the expansion would occur simultaneously with unprecedented expansions of the Army ground forces, the Marines, and the Navy. Would anyone gently remind the young man of practical limits to U.S. manpower and industrial capacity?

On Friday, 8 August 1941, manpower in the Army Air Forces was growing toward its authorized limit of 152,000. The total strength of the Army at that time was 1,531,800. Kuter's projections showed an April 1944 manpower requirement—in the AAF alone—of 2,164,916. He proposed to recruit, train, and equip within 2½ years an air force that would outnumber by half a million the entire 1941 Army.

Was the young man aware that failure of a bill being debated that very day in the House of Representatives could mean the *loss* of 669,500 men within the next year? Those men were draftees, inducted in recent months for a term of one year. On Thursday the Senate had voted 40 to 35 to retain them for another eighteen months, but the bill had passed the Senate only after seven days of fiery debate. Opposition in the House looked even stronger, and some House leaders were predicting defeat. Did the young man feel any qualms about planning an enormous expansion just when it seemed the Army might lose over half a million men?

Beyond the impending loss of last year's draftees, did he really think the mood of the people was right for an expansion of the armed forces? Press re-

ports from around the country might have given him pause. *New York Times* correspondent Frank Kluckhohn had just completed a three-week drive through Ohio, Minnesota, Illinois, Missouri, and other Midwestern states, studying the attitudes of hundreds of laborers and businessmen toward U.S. involvement in the European war. Of the entire group, "only three or four favored our entry into the war," he wrote. More representative was the attitude of a young lawyer whom Kluckhohn quoted as saying, "Why should we pull Britain's chestnuts out of the fire? I would do everything short of going to Leavenworth to sabotage the war if we entered." While Kluckhohn traveled the Midwest, a *Life* reporter studied an Army division in the South. After finding *OHIO* scribbled on a number of walls, he learned it meant, "Over the hill in October." Fifty percent of the 400 privates he interviewed said they intended to leave after one year whether Congress chose to extend their enlistments or not. Further, he wrote, "Not more than 5 percent of the men in this division believe that the emergency is as serious as President Roosevelt insists." And a *Time* article contained similar evidence of disenchantment: "At a Mississippi camp last week uniformed men booed newsreel shots of Franklin Roosevelt and General George Marshall, cheered a thumbnail speech by Isolationist Senator Hiram Johnson."

Then there was the America First Committee with its supporters throughout the country and its celebrated champion, Charles Lindbergh. As Kuter polished and refined his numbers in Washington Friday afternoon, Lindbergh assembled other numbers for a speech he would deliver Saturday night. In the Cleveland Public Auditorium he would tell nearly five

thousand people that 80 percent of the American public opposed the war. In a feature article for *Life*, Roger Butterfield said of Lindbergh that week, "The magic of his legendary name, the appeal of his personality, the sincerity with which he comes before the microphone, have persuaded millions of Americans who were only half-persuaded before that there is no reason for the U.S. to fight or fear Hitler."

No reason, then, for an AAF of more than two million men—not to mention 63,467 planes.

And what about those planes? Again Kuter projected a greater-than-tenfold expansion of an already-expanded air corps. But surely the first expansion was proof that industry could accommodate the second. After all, the desired quantities of airplanes, tanks, and battleships were coming smoothly off the lines, without disrupting the economy, without creating turbulence in American industry, right?

On Wednesday night, 16,000 shipyard workers went on strike at the Federal Shipbuilding and Drydock Company in Kearny, New Jersey. Employees were satisfied with their pay and working conditions, but not with their open-shop contract. Defense contracts at Kearny totaled \$450,000,000. Scratch three tankers, two freighters, six destroyers, and a cruiser.

On Saturday 1,500 workers went on strike at the Curtiss-Wright propeller plant in Caldwell, New Jersey. They wanted a twenty-cent hourly raise for experienced workers and a new minimum wage of seventy-five cents an hour for learners. The Caldwell plant made propellers for eight types of combat air-

craft. Well, Larry, any ideas for getting a bomber off the ground without propellers?

The same day, 348 carpenters went on strike in Philadelphia. They had been working on two large new drydocks at the Philadelphia Navy Yard, but they wanted more overtime pay for Saturdays.

And so on. But strikes in established plants weren't the only problems. Defense projects had caused new plants to spring up throughout the country, drawing thousands of defense workers to locations that often weren't prepared to absorb them. On Wednesday, William Green, president of the American Federation of Labor described the shocking conditions in such overcrowded places as Corpus Christi, Texas; Wichita, Kansas; and Burlington, Iowa. Rent had gone up by as much as 400 percent for some cottages, he said. Some workers were renting cots in basements for six dollars a night, and others, unable to find or afford shelter, were sleeping in parks.

Other problems no less troubling had come from the priority assignment of critical raw materials to defense industries. On Thursday, officials of the Office of Production Management estimated as many as 5,000 factories might be forced to close within a year because of inadequate supplies of aluminum, copper, nickel, alloy steels, tungsten, zinc, and tin. The officials said these closings could mean unemployment for 1,000,000 workers. On Friday, Leon Henderson, Administrator of the Office of Price Administration, said the number might even reach 2,000,000.

Do these numbers give you any reservations about the credibility of your numbers, Larry? Does

this look like an economy that's about to multiply its aircraft production by ten? Do the Midwesterners who talked to Kluckhohn, or the soldiers who talked to the *Life* reporter, sound like a manpower base that's willing to provide ten times as many airmen? Don't you want to back off a little? To trim those figures?

No, he didn't. No more than he had wanted to back away from the idea of putting all the pilot training bases in the South.

That's why the readers of *Time* and *Newsweek* learned in February 1942 that Franklin Roosevelt had nominated a 36-year-old flyer to be the Army's youngest general.

*saturday, 9 august 1941*

## CONEY ISLAND

Coney Island wasn't named for its hot dogs. The Dutch called it *Konijn Eilandt* because in the 1600's it was covered with *konijn*, or rabbits.

If the Dutch had named it in August 1941, they would have chosen something else. For one thing, it was no longer an island. Coney Island Creek, that once had separated it from the rest of Long Island, had been filled in, and the "island" was just another part, a special part, of Brooklyn. If there had been any rabbits left in 1941, the Dutch probably wouldn't have noticed them amid the spectacle of three amusement parks—Luna, Steeplechase, and Dreamland—the boardwalk, and the beach.

In fact the New York City Park Department, the Triborough Bridge Authority, and Luna Park Fair of

1941, Incorporated, had spent a great deal of money to guarantee that people would notice Coney Island in 1941. The city spent \$500,000 early in the year, extending the boardwalk to a length of two and one half miles, adding twenty-three acres of beach, and covering the old brown sand with white sand; the bridge authority spent \$6,179,000 to complete a two-mile link in the Brooklyn Belt Parkway, making Coney Island more easily accessible from much of the city; and the operators of Luna Park added fifteen attractions from the New York World's Fair, as well as a swimming pool, a ballroom, and new lighting effects, all at a cost of around \$500,000. A number of private investors and city officials were going to be more than a little disappointed unless terrific crowds took notice of Coney Island in 1941.

No longer a wild, natural habitat for rabbits, *Konijn Eilandt* wouldn't have looked right to its original Dutch settlers in August 1941. But it was wild in a different way. And to many Americans, it was exactly right. Because Americans on 9 August 1941 were on a spree. What little they had tasted of the European war had frightened them just enough to exhilarate them. American talents and products were much in demand. They could sympathize with the poor British, raise money to send Red Cross supplies to them, work on defense contracts to help the government provide arms for them, and read daily expressions of gratitude from them. Few wanted to fight alongside them, of course, and most who found themselves in the Army were eager to get out, but so long as the Europeans made no unreasonable demands, the European war was at least tolerable, and often fashionable:

Good morning, and welcome to a wonderful WJN weekend. You're tuned for New York's finest news and pop music, and right now it's time to swing! (Bring up sound of "After You've Gone," Gene Krupa's band featuring Roy Eldridge on trumpet, then fade to announcer.)

Say, are you pepped up for a little excitement this weekend? Well, see if you can match this: In the air over Bethune, France, this morning, Wing Commander Douglas Bader, the British fighter pilot who returned to flying after losing both legs in a 1931 accident, hung from the fuselage of his smashed Spitfire for nearly two minutes while the plane spun wildly toward the earth. He had attempted to bail out of the plane after it collided with an ME-109, but one of his artificial legs became lodged in the cockpit and Bader couldn't free it. No funhouse will sell you a ticket for a ride like that.

Finally the wind whacked him against the fuselage so hard it broke a leather strap holding the leg to his body. He fell free of the plane, opened his parachute, and hit the ground almost immediately, breaking two ribs and knocking himself unconscious. When he awoke, three gentlemen from the *Luftwaffe* were taking him out of his parachute harness and stealing his wristwatch.

Now we can't promise everyone a ride like Douglas Bader's, but if you come on out to Coney you'll have a bangup good weekend. So roll the old jalopy out this way, and in the meantime, we'll be keepin' you up with the latest tunes and weekend news. (Bring up "All Too Soon," Duke Ellington's band, then fade as before.)

We're back again with the news you need. Looks like Bader wasn't the only celebrated aviator to have a rough time in the air this week. Captain Bruno Mussolini, the handsome 23-year-old son of Premier Benito Mussolini, test-flew a new four-engine bomber near Pisa, Italy, on Thursday. The plane crashed as he was attempting to land at the San Giusto airport, killing Bruno and two crewmen. Bruno, like his brother Vittorio, was a veteran of the civil wars in Spain and Ethiopia—you may recall Vittorio's book about the "exceptionally good fun," as he described it, of bombing villages in Ethiopia. Condolences came to Premier Mussolini from many sources including U.S. Consul George Wadsworth in Rome, the Holy Father in the Vatican, and German leader Adolf Hitler at his headquarters on the Eastern Front. Meanwhile the premier and Vittorio flew, ah, to Pisa as soon as they heard of the crash. Hey, no jokin'; that's what they did. They flew to Pisa.

But don't *you* fly to pieces. Just fly on out to Steeplechase on Coney Island this weekend. Only fifty cents will get you in for thirty-one rides. Better hurry to Steeplechase, the Funny Place on Coney Island.

Say, some great movies in town this weekend, too. You won't want to miss Bud Abbott and Lou Costello; this time they're *In the Navy*. It's a laugh riot, and it's showing at the Orpheum. Or turn the excitement up higher with Ray Milland and William Holden as hotshot stick-and-rudder men in *I Wanted Wings*. That one is zooming along over at Gramercy Park.

And here's a song that's zooming along; it's the *Time* magazine ballad of the month, Harry James and his orchestra on Columbia playing "It's So Peaceful in the Country." (Bring up and fade as before.)

Thanks, Harry. Here's some dancin' news for all you peppy people. Suppose you're in the Luna Park Ballroom out there at Coney tonight, and the band takes up a swing version of "Yankee Doodle." What do you do? You do the "Defense Swing," of course. It's a patriotic new foxtrot invented by Margaret Roughton Inslee right here in old Manhattan. You and your partner march, or swing, past each other, each of you holding your left arm cocked with one finger pointing up as if it were a gun. After four steps, you turn and face each other and fire. How about that!

Seems like everybody's marchin' these days. Even Robert Wallace, the son of Vice President Wallace. Bob reported for his Army induction physical in Richmond, Virginia, this week and told reporters, "I think I will enjoy it, and I am looking forward to it with a great deal of enthusiasm." Good for you, Robert; love that attitude.

Now from the world of fashion, we hear that B. Altman's new "production line" of ten outfits for college gals was dynamite Thursday morning at the Charleston Gardens. These fashions were all inspired by the clothes of defense workers. Young ladies sported fancied-up versions of the outfits worn by shop foremen, electricians, and aircraft mechanics, and we hear the combination of coveralls and charm was very well received.

One more news note, this one from the world of finance, before we get back to music. Seems that Vincent Astor, sometime fishing companion of the President, is doing a fine thing for defense. he's renting the *Nourmahal*, his \$2,500,000 yacht, to the Coast Guard and charging only a dollar a year. Wow! At that rate I could afford to rent it myself. How about it, Coast Guard—got any dates on the calendar when you could defend the country for a few hours without the *Nourmahal*?

Now back to music with Benny Goodman playing Don Redman's "Down, Down, Down." At fifty cents a copy, it's a Columbia best seller this week. (Bring up and fade as before.)

Very nice. Easy to see why that one's at the top of the charts. Would you believe Don wrote that nifty number in eight minutes while he was riding the subway from Times Square to Harlem? He swears it's true.

Here's another one for Mister Ripley. Ready? Believe it or not: across the river in Fort Monmouth, the Army is training a bird to defend the good old U.S. of A. That's right, they're teaching a falcon caught near the Hudson River to attack enemy carrier pigeons and parachutes. This one's called Thunderbolt, and he's only the first of fifty expected to be in training this fall. If General Hap Arnold says he wants to buy more B-1-RD's we'll know what he means, won't we? Actually the plan sounds great to me: if Hitler ever attacks England with paratroopers, we won't have to send men—we'll send birds!

But we won't send *anybody* our silk, will we? Silk has been *T-H-E* topic at my house this week—how about yours? Since the government cut off all non-defense processing of silk last weekend, my place has become a warehouse for silk stockings and ribbon. Did you hear about the run on Macy's Monday morning? Women standing in line waiting for the doors to open at 9:30, six extra guards and thirty-five salesgirls hired to take care of the stocking stampede. It's a crazy world, isn't it? O.K. I'll admit it; I picked up a couple of extra neckties on the way home from work Monday. Wonder why the government wants all that silk. Do they think Hitler's teaching birds to tear up parachutes too?

And speaking of government cut-offs, how about the new 7 P.M. to 7 A.M. curfew for gas stations? And the voluntary sticker campaign—have you seen the stickers? They're available at all the stations today. Red, white, and blue—natch. They go on your windshield, and they say, "I'm using one third less gasoline." Think I'll get three of them for my wife. Nah, she's a fine kiddo. What can I say? All of us New Yorkers wish the very best to Harold Ickes, our Federal Petroleum Coordinator, don't we? But stickers and curfews, Harold? I mean, New York ain't Washington! New Yorkers have places to go.

Enough of that. We're looking for a high of 92 today in the city. A good day to drive down to the beach, and a good time for us to get back to music.

And in Placentia Bay, Newfoundland, at nine o'clock Saturday morning, Hap Arnold looked up

from the deck of the *Tuscaloosa* to see a battleship emerging from the fog. It was the *Prince of Wales*, bringing Prime Minister Churchill, Viscount Cherwell, Admiral Pound, General Dill, Air Chief Marshal Freeman, and World War II to America. It was new and enormous and already battle-scarred, and the sparkle left Arnold's eyes as he watched it move slowly into the cold, foggy bay.

Arnold's first mention of the ship in his diary reveals little: "*Prince of Wales*, battle-scarred from *Bismarck* action steamed into port." Later he described three times the *Bismarck's* mauling of the *Prince* on 24 May 1941. He discussed the event with British officers both at lunch and at dinner on the following day. One can almost sense his fascination as he talked with J.C. Leach, Captain of the *Prince*, a man Churchill described as "a charming and lovable man and all that a British sailor should be." This is it, here, the very thing. Get the details right:

"Leach, Captain of *Prince of Wales*. It was in Scapa Flow with men from yards still in turrets when it received word to take off in pursuit of *Bismarck*.

"Captain was away fishing. He returned post-haste and arrived before steam was fully up to pressure.

"They had a hard time intercepting the *Bismarck*—their courses approached at 90 degrees—but due to snow and sleet missed. Then he changed course and paralleled *Bismarck* until they made contact.

“A shot from *Bismarck* hit her bridge and killed everyone there but Captain and one other. Another put her after turret out of action.

“Ship must have been hit badly as Captain said that carnage, wounded and dead, on bridge was so bad that he withdrew from action. He was the only man not wounded or killed.”

Only two months after its encounter with the *Bismarck*, this was the ship that brought Churchill to America. The ship on which Arnold would sip sherry and talk with Churchill and Lord Cherwell on Saturday afternoon. The ship on which the Prime Minister and the President and their staffs would hold Divine Services on Sunday morning. This ship, in Placentia Bay, was very far from Coney Island.

And in Washington on Saturday afternoon, the free air temperature in the shade was 97 degrees. The air in the Munitions Building penthouse was a good deal hotter. Far too hot for computers. Today's solid-state wonders wouldn't have lasted until noon. But the AWPD planners banged and cranked at their Monroe calculators all day long and into the night. Their deadline was the meeting scheduled for 1:30 Sunday afternoon, the meeting at which everyone would agree upon final computations of combat aircraft and crews.

Determining the required number of aircraft was the tedious, though not especially difficult, part. They assumed a bomber would destroy a target in one strike if its bombs actually hit the target, but they knew a single bomber's probability of hitting the tar-

get on any given mission would be much less than 100 percent. In fact there would always be some finite probability of missing the target, even if they launched thousands of bombers thousands of times. The problem, then, was to determine how many bombers would be needed to achieve reasonable confidence of destroying a target. And what was reasonable confidence?

In working similar problems at the Air Corps Tactical School years before, they had chosen 90 percent as an acceptable probability of success for mission planning. To achieve significantly higher probabilities would require astronomical numbers of sorties. The AWPD planners decided that 90 percent was still a reasonable figure.

They began their computations with two sets of data: the records of American bombardment units in training exercises from January to June 1940, and a combat report on British accuracy in fifteen attacks upon the German battleship *Scharnhorst* in July 1941. From the American data they learned that a single American bomber flying a training mission at 20,000 feet had a 1.2 percent probability of hitting a 100-foot-by-100-foot target. Many cranks of the Monroe calculators showed that 220 bomber sorties, the equivalent of six bombardment group missions, would be needed to raise the probability of success to 90 percent. From British attacks on the *Scharnhorst*, they learned that accuracy deteriorated sharply when aircrews had to worry about unfavorable weather, camouflaged targets, antiaircraft artillery, and fighters. It deteriorated so much, in fact, that the number

of bombardment group missions required for 90 percent probability of success increased from six to thirty.

Having determined the number of group missions required to destroy one target in combat, they were only two steps away from knowing how many bombers would be needed for the strategic offensive. The first step was to multiply the number of missions per target by the number of targets. Thanks to Hansell's research, they knew the numbers of lucrative targets in Germany's electrical system, transportation system, oil plants, aircraft factories, and aluminum and magnesium plants. The number of refinery targets, for instance, was 27. Thus 27 targets times 30 group missions per target equals 810 group missions allocated to oil refineries.

These missions could be achieved by one group flying 810 times, by 810 groups flying once, or by any other combination adding up to 810. Selecting a workable combination was the next step, a matter of accommodating limitations of weather, maintenance, and crew rest.

Taking these limitations into account, a bomb group could be expected to fly eight missions a month for a total of 48 missions in the six months of favorable weather anticipated by the planners. Dividing the number of missions allocated to refineries (810) by the number of missions that could be flown by one group (48) gave the number of bomber groups needed for this target system (17). Similar computations were performed for the other target systems, yielding a total of 98 bomb groups required for the six-month all-out offensive.

This figure had fundamental importance. Though it would change many times in the ensuing days and months in response to changes in target systems and availability and capability of bombers, it would drive most other calculations for AWPB-1. Most obviously, for instance, it indicated production requirements for bombers. If 98 groups were needed, and each group contained 70 planes (36 of which would participate in any particular combat mission), then industry would have to have  $98 \times 70$  or 6,860 bombers ready to fly from attack bases at the beginning of the offensive. Further, the number of bombers would dictate the number of forward airbases, and the number of fighters to defend the bases, and the number of support aircraft for the bases, and so on.

Much more pounding of the Monroe calculators lay ahead, but the most critical calculations were finished by Saturday night. And so were the planners. Saturday's intolerable heat and the tedious, endless work of computing requirements, then checking and rechecking them again and again—all of this coming at the end of an exhausting week—had finally stretched the tempers of even these old friends too far. Hansell recalls being taken angrily by Ken Walker to the desk of Hal George, then hearing Walker explode that the younger officer had butted in once too often, that Walker couldn't stand it and wouldn't work with him anymore. Hansell himself was red faced and angry enough to tear down the penthouse. At first George said nothing, giving the two a moment to cool off. Then he grinned at Walker and said, "Well, Ken, you're right. But you know, the trouble we've always had with ol' Possum is that he's right, too, once in a while." It worked. Walker and Hansell

had known each other too long to let a little pressure on a Saturday afternoon in Washington blow them apart. But damn, it was hot in that penthouse.

And on Coney Island when the seven o'clock curfew closed the gas stations Saturday evening, station owners knew for a fact what many had suspected about voluntary measures to conserve gasoline: stickers and curfews wouldn't do it, not on Coney Island. A headline in the Sunday paper would tell all: "Gas Use Goes Up, Not Down." And on Monday, front-page news in the *Times* would be, "Gasoline Curfew Fails to Reduce Sunday Driving."

Coney Island's new amusements and advertisements did their work, attracting over 1,000,000 people on Sunday alone. On Saturday, all bath houses were sold by 3:00 P.M., and thousands spent the night on the beach. Rockaway also attracted over 1,000,000 on Sunday, a new record, and Atlantic City reported the biggest crowd in ten years. According to a *Times* reporter, the impossibility of finding a parking place in Atlantic City "was proof enough that motorists were not being kept from using their cars by the threat of a gasoline shortage." In August 1941, America was on Coney Island, a place where threats are prohibited by park police, and self-restraint wins few prizes.

Fifteen hundred miles to the northeast, though, the threat of much more than a gasoline shortage had become very real to Hap Arnold. Thanks to Captain J.C. Leach and the *Prince of Wales*, Arnold had looked closely at a war that had little to do with windshield stickers or gas station curfews. Something

more than a funhouse demon had mauled Britain's proudest battleship, and something more than "production line" fashion shows and the "Defense Swing" would soon be demanded of America.

Four months later, almost to the day, something more was demanded of J.C. Leach. Off Singapore at 11:45 A.M. on 10 December, Japanese torpedo bombers caught the *Prince of Wales* in open seas with no air protection. Within an hour, the ship's condition was hopeless. At 1:15, Leach gave the order to abandon ship. Several of his men escaped, but Leach remained on the bridge until escape was impossible. He spoke his last words to another British ship in the area—"Goodbye. Thank you. Good luck. God bless you."—from a spot 9,600 miles west of New York, a world away from Coney Island.

*sunday, 10 august 1941*

## PLACENTIA BAY

Plaisance is a town of less than 2,000 in southern France. The word means pleasure, and if you lived there, you'd probably find your life pleasant enough, making wine, grinding flour, or breeding horses, as most of the villagers do.

If you had been a French explorer in the seventeenth century, weary of the monotonous routine of shipboard life, you might have looked forward to any landfall as a *plaisance*. And if you had left a settlement in such a place, you might have named it Plaisance. Several Frenchmen named several settlements Plaisance, in fact, and we still find coastal towns with that name in such widespread places as Haiti, Mauritius, and Quebec.

At one time there was also a Plaisance on the southeastern coast of Newfoundland. After founding

the settlement in 1662, the French fortified it, stationed a governor there, made it the capital of French holdings in Newfoundland, and used it as a basecamp for attacks on St. John's, the British settlement about sixty miles to the northeast.

After a successful attack by land and sea in 1692, the French captured St. John's and burned it to the ground. But the British came back. In 1708, French attackers from Plaisance leveled St. John's again. Actually, the men of Plaisance never lost to the British, but other Frenchmen in Europe lost the War of Spanish Succession to Britain, and in the Treaty of Utrecht in 1713 all of Newfoundland became British territory.

Soon Plaisance was Anglicized to Placentia, the large bay to the west of town became Placentia Bay, and the town's combative Frenchmen had to find their pleasure in fishing for halibut, salmon, cod, herring, and lobster. The French did capture St. John's again in 1762, perhaps to show they still could, but they were soon expelled, and for the most part the town of pleasure remained a town of placidity and peace after 1713.

Four miles north of Placentia was an even tinier fishing port known for years as Little Placentia. When someone discovered silver deposits nearby, the town changed its name to Argentia, anticipating a future of prosperity and fame based upon the precious metal whose Latin name was *argent*. But the deposits proved too poor for mining, and the people of Argentia, like those in all the other villages around Placentia Bay, continued fishing.

They might have gone on fishing in solitude forever except for World War II and the Lend-Lease agreements between Britain and the U.S. Because Newfoundland was the easternmost land mass in North America, and because it lay directly on the shortest air route between London and New York, it made sense that the very first 99-year lease of basing rights granted by Britain to the U.S. would be for some location in Newfoundland. The British and Newfoundland governments had already built an airport at Gander on the north side of the island. What was needed was a sparsely populated place on the south side with a protected bay: Argentia. The U.S. could build a sizable base there without disturbing much of the island's population. The bay was easily navigable and large enough—eighty miles across at the entrance, extending one hundred miles north into the island—to shelter a number of large ships from Atlantic storms.

The same features that made Argentia attractive as a Lend-Lease base—obscurity, ample protection, and proximity to both Britain and the U.S.—also commended it as a meeting place for high British and American officials. So on Sunday morning, 10 August 1941, the bay of pleasure and peace harbored destroyers, cruisers, destroyer leaders, corvettes, tankers, and a battleship.

And on one of those ships Franklin Roosevelt and Winston Churchill were participating in what both would speak of later as the most memorable event of the Argentia Conference. Roosevelt said, "I think the first thing in the minds of all of us was a very remarkable religious service on the quarterdeck

of the *Prince of Wales* last Sunday morning. . . . I think everybody there, officers and enlisted men, felt that it was one of the great historic services. I know I did."

Churchill chose the hymns for the service, beginning with "For Those in Peril on the Sea" and ending with "O God, Our Help in Ages Past." J.C. Leach read the scripture lesson, and British and American chaplains shared the reading of prayers. Churchill wrote later, "Every word seemed to stir the heart. It was a great hour to live. Nearly half of those who sang were soon to die."

Immediately after the church service, which Hap Arnold described in his diary as "most inspiring," Arnold got down to business with his counterpart, Air Chief Marshal Sir Wilfred Freeman. The business talk continued through lunch on the *Prince of Wales*—caviar, mock turtle soup, and grouse—and through the afternoon until Arnold returned to the *Tuscaloosa* at 4:50. At 5:50 Arnold went to the *Augusta*, met Freeman there, and continued the talk until 7:00. Then they went to the *Prince of Wales* for dinner and talked until 11:00. The subject was aircraft production, and, though Roosevelt had warned him to expect extravagant demands, Arnold was increasingly uneasy about what he heard. His mood on Sunday evening, normally cheerful but already darkened on Saturday by the awful experiences of Leach, seems to have been reflected in his comments about the weather: "Fog and high rain as we took off in barge and went aboard the *Prince of Wales*. That is the weather I had heard was normal in Newfoundland. . . . Home to *Tuscaloosa* in rain at 11:00 P.M."

Arnold's concern was that the British were expecting too much, far too much, of both themselves and the Americans. What they expected was mentioned for the first time on Saturday evening in after-dinner speeches by Prime Minister Churchill, Admiral Pound, General Dill, and Air Chief Marshal Freeman. First Churchill spoke, saying, according to Arnold's notes, "This is a mechanized war, it is not a war of 1917-18 where doughboys in the mud and the trenches fought it out to a conclusion. This is a mobile war, in the air, on the land, and at sea. It is a mechanized war where mechanized equipment is used to an extent never dreamed of before. Bombers are the things that we need to bring home to the Germans the horrors of war, bombers to an extent not heretofore dreamed of." Then Freeman outlined how many bombers the Royal Air Force was dreaming of, and Arnold was flabbergasted.

Before going to the religious service Sunday morning, Arnold collected his thoughts about Freeman's request, knowing they'd probably be together much of the day. He went through his notes from the speeches, searching for a way to make sense of the numbers: "Tried to copy Freeman's British Program for a fighting Air Strength of 10,000. 4,000 H.B. [Heavy Bombers is] the thing [that] scares me—it is so big and I know that they cannot meet it. British Production H.B. 500 a month. U.S. Production H.B. 500 a month. We can't do it as easily as that. 2,000 pilots a month. Where will they come from? Wishful thinking."

At the first meeting with Freeman after church, Arnold began to understand the British plan, but un-

derstanding it didn't make it seem any more reasonable: "After church, conference with Freeman. His program now is clear. Britain has built it around our entire production. 100% of all planes produced in U.S. go to Britain. U.S. Army—Navy—Dutch—Chinese—get none; Britain gets all."

Arnold also began to identify a culprit at this meeting, the U.S. Office of Production Management. Intending to build confidence in U.S. industry, both at home and abroad, the O.P.M. had released highly optimistic estimates of our production capacity. The British appeared to have taken those estimates as accurate projections of the numbers of planes they should expect to receive from America. "O.P.M. figures have at last confused almost everyone," Arnold wrote in dismay Sunday afternoon. "Believe it wrong to send them out so indiscriminately. Freeman [was] told of misapplication of figures and deliveries and very much disappointed."

Through the remainder of Sunday and Monday, Arnold continued his attempts to ease Freeman toward more realistic expectations, with little success. When the happy flier from Gladwyne, Pennsylvania, sat down with his diary that night, he could find no cause for gladness. Uncharacteristically brief entries show his usually brimming reservoirs of energy were drained: "What the British want—My God what a list and what things. No promises—just see what can be done. . . . Bed at 11:00 P.M. What a day."

Hap Arnold wasn't the only person to be surprised by numbers that weekend. All but one or two of the planners who attended the 1:30 meeting in the

Munitions Building Sunday afternoon were astounded by the number of combat airplanes needed to defeat the Axis.

The number of bombers needed to destroy principal German targets alone—6,860—was significantly more than the total number of planes of all types projected in 1939 for a much-expanded air force. It was also 2,860 more than the number of heavy bombers Arnold would call "wishful thinking" in his diary Sunday night. But these bombers were only a beginning. Add to them bombers for targets in other Axis countries, bombers for protection of our Pacific bases, bombers for protection of Atlantic and Pacific shipping, bombers for protection of the Western Hemisphere. Add 3,740 very long range bombers still on the drawing boards in case England should surrender, making it necessary for us to attack European targets from bases in the U.S. Add 2,201 dive bombers for close air support. Count on needing 1,334 replacement bombers per month. (Arnold would doubt on Sunday night that the U.S. could produce 500 heavy bombers per month.) And throw in 8,775 pursuit fighters to protect our bases and occasionally escort our bombers at least part way to their targets.

The ultimate requirement for combat aircraft, not counting monthly replacements, would be 21,813, including 13,038 bombers and 8,775 fighters. Those were the planes for which other planners would provide aircrews, bases, and training and support aircraft. In fact, the planners were already at work on those other figures by Sunday afternoon. Events moved quickly once the numbers of combat aircraft were settled.

Quickly, but not always smoothly. A slight problem arose, for instance, concerning the basing of all those bombers within range of Germany. Hal George had talked with people in the Air Corps Intelligence Division earlier about bases; guessing that the British Isles wouldn't be able to accommodate all his bombers, he had asked Intelligence to look into the possibility of using bases controlled by the British in the Suez. Surely the British would welcome American bombers to their airdromes in the Near East. Any airport capable of handling heavy bombers, and located within 2,000 miles of Berlin, would do.

Intelligence responded quickly, giving him complete information on all airfields in Britain and the Near East suitable for heavy bomber operations. There were 39 in all.

On Sunday afternoon George knew how many combat aircraft he expected to use against German targets. Knowing that, he shortly knew that 39 bases wouldn't begin to hold them all. According to his figures, someone would have to build *117 more* bases in Suez!

A little problem there. Have to do something about that. On Monday morning he would fire a memo to Arnold's Intelligence Division: "It is requested that you go into this subject further and determine whether or not 117 additional bases can be constructed in the Suez Area. Available area is sufficient. However, the matter of construction material, water and supply difficulties will have a bearing on this matter."

On Sunday afternoon, though, there was no time to stop and build bases. For the AWPD team not only had a plan to finish, they also had a briefing to prepare. They had always known they'd eventually have to sell the thing in a series of briefings if it were to have any chance of being adopted. Well, Larry Kuter had just come up with a great opportunity to start the sales campaign with his old boss, Brigadier General H.L. Twaddle, Assistant Chief of Staff in Army War Plans. The general liked Larry, would probably listen sympathetically to any briefing Larry delivered, and could become an important ally in the effort to get the plan approved.

Nice work, Larry. He'll be a perfect audience to get us started. We're a little tied up with the problem of bases right now, but there's no doubt we'll have to begin work on a briefing before long. Any idea when the general might be free?

He had an opening tomorrow. I took it. We're briefing him and his exec and an air officer on his staff tomorrow morning.

So Sunday, too, became a very long day in the Munitions Building.

Darkness came early with the rain Sunday evening in Argentia, Newfoundland. And when it did, the fifty or so inhabitants went to bed with no suspicion that a single sheet of paper on one of the ships in Placentia Bay would bring them more worldwide attention than tons of silver could ever have brought their ancestors. Winston Churchill had handed that paper to Franklin Roosevelt without ceremony early

on Sunday. It was a rough, single-spaced draft with inked-in corrections from top to bottom. Its title was simply "Proposed Declaration." With minor revisions by both the President and the Prime Minister, it became a document known as the Atlantic Charter in which both parties pledged on behalf of their peoples that "their countries seek no aggrandisement, territorial or other," that "they respect the right of all peoples to choose the form of government under which they will live," and that "they hope to see established a peace which will afford to all nations the means of dwelling in safety within their own boundaries, and which will afford assurance that all the men in all the lands may live out their lives in freedom from fear and want."

Soon these words would be known around the world, even in a hundred little villages like Plaisance in occupied France. Words from cold, rainy Placentia Bay would secure a place in history for the Argentia Conference and for the village in Newfoundland that once had changed its name for a short-lived promise of silver.

*monday, 11 august 1941*

## **KEN WALKER**

Ken Walker died with his boots on. Anything else would have been too tame for a chain-smoking gunfighter out of Cerrillos, New Mexico.

They were the same leather riding boots he'd worn when he arrived at Port Moresby six months before. It was his forty-fourth birthday, 17 July 1942. Everyone could tell he was a brand new Washington general: pale, big glasses, long trousers, a shiny little star on his collar. Nobody who'd been in New Guinea very long looked like that. Fifth Bomber Command folks leaned about as far as they could toward casual dress, with the most popular uniform of the day being a pair of shorts and a deep suntan. So the new general from Washington didn't look too promising. To tell the truth, he looked a little like a dude.

Big Mistake Number One for Fifth Bomber Command. Ken Walker was no dude. He got rid of the long trousers, kept the boots and glasses, and before the first day was over, he flew three combat missions in three different kinds of aircraft. And not one of them pleased him. One of his milder comments came after the third mission: "Hell, we didn't hit anything!"

Ken Walker, who knew more about bombing tactics than all three of those crews put together, was not reluctant to share his convictions with fellow airmen. So the evening air of 17 July 1942 grew very warm at Port Moresby as he set about explaining the difference between casual, which he occasionally was, and amateurish, which nobody in Fifth was going to be if he could prevent it, which he intended to do immediately.

He had just missed combat in World War I, earning his wings and his commission only nine days before the Armistice; now he was in the middle of something even bigger, and he wasn't going to waste any time with amateurishness. Almost as if he knew his calendar had only six months, he jumped passionately into the business of improving tactics. He rode with the crews as often as he could, spending time with pilots, gunners, and bombardiers to see exactly what they were doing and how it could be done better.

But then he'd always taken the flying business seriously, ever since that day in December 1917 when he'd gone all the way to Denver to enlist in the Air Service. Gunfighters, as a rule, take their trade very

seriously, and Ken was definitely a gunfighter. You miss the whole point about him if you miss that. He might have been too late for the O.K. Corral, just as he was too late for the Lafayette Escadrille, but if you think he wasn't a gunfighter, ask Claire Chennault, or C.E. Kilbourne, or D.M. Butt.

Claire and Ken stalked each other at the Air Corps Tactical School when both were on the faculty there from 1931 until 1933. Chennault *knew* fighters were the supreme expression of airpower. With his pursuit team, "The Men on the Flying Trapeze," he demonstrated the speed and maneuverability of his fighters. Bombers, by comparison, were lumbering, defenseless beasts. They could never survive in a sky properly defended by fighters.

Fighters are fun, Walker replied, but bombers will win wars. Though bombers of the early thirties were indeed slow, those of the future wouldn't be. They could be designed to fly as high and fast as any fighter. And they could be armed to outshoot any fighter. Further, as Operations Officer of the Second Bomb Group at Langley before coming to Maxwell, Walker had experimented with a number of bomber formations. He knew what could be done to make these planes mutually protective in formation.

There was no way to settle the issue, for Walker based his arguments at least in part upon planes not yet invented. If the bombers of the late thirties and forties had been available, though, nothing short of a dogfight at high noon over Maxwell Field would have satisfied either of them. As it was, they carried on the war with surrogate combatants. Chennault thrashed

the air over Maxwell with the fighters of his demonstration team, and Walker ruined his typewriter pounding out lesson plans on the virtual invincibility of a properly executed bomber offensive.

In 1934, more convinced than ever, Walker left Maxwell for the Command and General Staff School at Fort Leavenworth, Kansas. That's when C.E. Kilbourne found out about gunfighters. Kilbourne was a brigadier general in the War Department at the time; Walker was a lieutenant.

Kilbourne wouldn't have had any interest in Walker if Franklin Roosevelt hadn't authorized a Federal Aviation Commission in June to look into all kinds of aviation activity in the United States, including military aviation. The commission was chaired by Clark Howell, editor of the *Atlanta Constitution*. In November, when the Howell Commission got around to interviewing experts in military aviation, they obtained a list of experts not from the War Department but from Congressman J. Mark Wilcox of Florida. Wilcox was personally interested in all kinds of aviation, and he'd learned the names of some of the more influential thinkers at the Air Corps Tactical School. Three of them were Hal George, Claire Chennault, and Ken Walker. To Kilbourne and others in the War Department, who remembered well the Billy Mitchell trouble, this Howell Commission interview smelled like another opportunity for irresponsible young men in the Air Corps to embarrass everyone by making another public appeal for an independent air force. So General C.E. Kilbourne of Washington wrote a personal letter to Lieutenant K.N. Walker of Kansas, telling him that he could of

course accept the commission's invitation, come to Washington, and give public testimony if he wished. But, times being what they were, the Army just wouldn't be able to pay for the lieutenant's travel to Washington. Nor would he be paid for his stay in Washington. And if he should come to Washington on his own, he must report to General Kilbourne for a discussion of policy before attending any meetings with the commission.

Kilbourne didn't know his man. High noon? Main Street? Well, sure, Walker said.

On the off chance that somebody might be trying to intimidate somebody, all six of the Wilcox nominees got on the phone to each other. Though they disagreed on the relative merits of fighters and bombers, all were friends; and all agreed, just as Kilbourne feared, on the need for an independent air force. They also agreed that Hal George should phone Clark Howell, convey to him their gratitude for the kind invitations, and perhaps not altogether conceal from him the unfortunate circumstance that Army funds were apparently inadequate to support this activity of the Presidential commission. Less than two days after the phone call, Lieutenant Walker received a personal telegram from General Kilbourne indicating that circumstances had changed: it now appeared that the lieutenant would indeed be able to travel by military air.

He did, and with Kilbourne in the room, he testified that independence was absolutely necessary. Kilbourne heard the testimony of all six young men with rapt attention, and surprising equanimity.

After graduating from Leavenworth, Walker flew bombers in California, and bombers and fighters in Hawaii, before winding up in Washington in January 1941. When Hal George opened AWPD in July, Ken Walker became a charter member, and when the group realized they had too many airplanes for the bases available in Britain and the Near East, Walker knew what to do: build as many new bases as you can, and cut the number of fighters if something has to go.

Keep enough fighters to protect the bases, but don't call off the war if there aren't enough to escort the bombers all the way to their targets and back. Because the bombers *will* get through. A properly planned and executed bomber attack has never failed to get through.

If Ken had been on the *Prince of Wales* with Hap Arnold Monday morning, Hap would have introduced him to Lord Cherwell. Cherwell, or Frederick Alexander Lindemann, was a scientist, personal friend, and very influential advisor of Churchill. He headed an office at the Admiralty that performed statistical studies—today we'd call them operations analyses—for the Prime Minister. On Monday morning one of Cherwell's assistants in London, D.M. Butt, was completing an especially important study of the RAF Bomber Command. Lord Cherwell would undoubtedly have urged Colonel Walker to talk with Mister Butt, as the two of them seemed to maintain an uncommon interest in bombers.

Colonel Walker, meet Mister Butt, statistician.  
Mister Butt, meet Colonel Walker, gunfighter. Colo-

nel Walker is of the opinion that bombers always get through.

Quite. Some of them do. However, one must question whether the getting through is always worthwhile. Permit me to demonstrate with figures I shall present to the War Cabinet one week from today. Between 2 June and 25 July this year, Bomber Command launched 6,103 sorties against 28 targets in France and Germany. (As you know, German fighters, radar, and antiaircraft guns have forced us since early in 1940 virtually to abandon daytime strikes by our heavy bombers.) The targets included French ports such as Brest and La Pallice, German ports such as Bremen and Hamburg, and industrial cities in the Ruhr such as Düsseldorf and Essen. Our aircrews claimed to have hit the target on 4,065, or two thirds, of those sorties. Using cameras installed on the bombers, we photographed the positions actually bombed in more than 500 of those ostensibly successful sorties.

Careful analysis of the photographs shows that fewer than one third of the supposedly successful flights actually dropped bombs within five miles of the target. Of the total sorties, including those in which the crews admitted missing the target, about one in five was successful. I should add, sir, that our criterion for a bomb on target is none too precise. The area within a circle of five miles' radius is over seventy-five square miles. No town in Germany but Berlin fills such a circle, the implication being that very many of even the "on-target" bombs surely fell on open territory.

I must say, further, that our few successes are not without cost. We have recently experienced serious losses; if they continue at the present rate until I render my report on the eighteenth, we shall have lost 107 bombers in less than three weeks of August. And of course there are occasional accidents, one today having been especially tragic. Beauforts of our Number 39 Squadron mistakenly sank the hospital ship *California* near Syracuse while attacking Italian shipping.

So the issue, Colonel Walker, is not whether heavy bombers always get through, but whether their achievements are often worth what we pay to get them through.

Of course Ken Walker never met D.M. Butt. He wouldn't have been impressed by Butt's statistics if he had.

*Your* achievements may not be worth what you pay for them, he'd have said, but that doesn't mean the bombers in AWPD-1 won't work.

Ken didn't waste much time on diplomacy. He'd have warmed pretty quickly to the attack. This was his territory, and he didn't know anything if he didn't know when to attack.

You don't need six hundred pictures, he'd say, to prove a guy can't hit targets he can't see. I could have told you that when I was a kid in New Mexico. You blokes are never gonna hit anything until you stop messin' around at night. I swear, you talk like somebody's givin' a prize to the side that loses the

fewest bombers. The object ain't to not lose bombers; best way to do that is not to build any. The object is to make the other guy lose everything, and you've got to get over there in the daylight when you can *see* everything to do that. I know your bombers got beat up when they went out in the daylight, but that doesn't show the idea's wrong. If their fighters are too much for you, the answer is to make better bombers, higher, faster. Put more guns on 'em, better guns. Tighten up your formations. Teach your gunners better. Good grief, man, those fifty-caliber machine guns on the planes we're giving you ought to clean the skies of fighters. That's the same size the Germans used as an antitank rifle in World War I. We made an airplane machine gun of it. If that thing would kill armored tanks, you tell me what it'll do to a thin-skinned fighter plane. Now look here, this new model B-17 we'll be giving you soon, the E model, will solve your fighter problems. Did you know the thing's going to have a turret gun in the tail and power driven turrets on the top and bottom of the fuselage? The first one's going to fly next month; you'll be getting 'em for sure by the first of the year.

If D.M. Butt had been there, he'd probably have responded as others did when Ken got started that way—he'd have been long gone by the time Ken got around to talking guns. Everyone who knew Ken at Maxwell knew to keep a number of pressing appointments in mind just in case Ken got started. Everyone but Claire Chennault—he'd stand toe-to-toe with Ken all day.

Claire knew there was always another card to play. So your new generation of bombers will be fast-

er than the FW-190? Have you heard about the ME-262? They're testing jet engines right now, Ken, at the Heinkel plant in Rostock. Or how about the Waterfall surface-to-air missile, Ken? It's lethal on targets flying as high as fifty thousand feet, all weather, day or night. Got anything that will fly above fifty thousand, Ken? The point is, buddy, there's always going to be a contest, and bombers aren't always going to be ahead. I say the fighters are going to win most of the time if only because a new bomber is always going to be more complex and expensive and time-consuming to develop. Look at the Brits and the Germans right now. German fighters have pushed British bombers out of the daytime skies; the next generation of fighters *and* bombers will be better airplanes, but the fighters already have a head start. What makes you think your bomber offensive won't be one step behind in 1943? You don't really know, do you? You can't be sure.

Sure I'm sure, Ken would have said.

And he was, and that's why he wasn't especially worried about the briefing for General Twaddle on Monday, even though the final numbers and maps for the plan were still being assembled. He didn't intend to quibble about statistics with General Twaddle or anyone else. The strategic offensive was the heart of the plan, and he *knew* it would work.

The briefing went well—not beautifully, but well. Hal George spoke first, explaining that the planners had followed guidance in the President's 9 July letter to Secretary Stimson and the ABC-1 and

Rainbow-5 agreements with Britain. To calculate munitions requirements of the Army Air Forces, they had assumed a holding action in the Pacific, an active defense of North and South America, and a European offensive to take Germany out of the war as soon as possible.

Certainly Twaddle and everyone else who would hear the briefing already knew about the Roosevelt letter and the two agreements, but George knew the wisdom of treating preliminaries carefully. It only takes a minute or so to assure the audience that we paid close attention to our instructions. From there, a passing reference to our procedures flows logically enough, and before they know it they've approved the most controversial part of our plan. Because the essential heresy, the notion that an air offensive alone might win a war, is snuggled right in among the dull, workaday planning procedures: So you sharpened your pencils, and cleaned your typewriters, and analyzed the German war economy to select target systems, and swept out your offices, and—yes, yes, all makes sense, but let's get on with the substance. But of course that *was* the substance. If they agree to our independent responsibility for destroying Germany's war-making ability, we won't worry about the rest. In a sense, Walker had been right: folks who would quibble about numbers were folks who had already bought the plan. So George devoted a few minutes to preliminaries, then introduced Hansell, Walker, and Kuter in turn. Finally George presented the total figures himself.

Twaddle accepted the briefing graciously enough. His comments afterward were few, and the

whole session ended slightly less than two hours after it began. A so-so briefing. Nothing outrageous, from the general's viewpoint; no cause for alarm, but none for enthusiasm either.

Hal George learned more from the briefing than General Twaddle did. Hal learned his product worked. What he had to do now was package the thing, market it. And he knew how to do that. Each speaker's part would be written, refined, timed, and memorized verbatim. Over and over the scripts they would go until the words flowed naturally and the timing was perfect. And the graphics—disastrous. George fired off a request for new maps and told Larry Kuter to make sure the maps were finished on Tuesday. Maps came from the Photo Section in the Munitions Building, a section that had slowed AWP work before, and Kuter would keep their feet hot without dynamiting the place as Walker might have done. When the AWP team took their product to town again—the next briefing would be on Wednesday—it would be dressed for success.

Ken Walker memorized his part, just as Hal and Larry and Possum did, but he really didn't care any more about packaging than he did about numbers. Hal was an old friend and a good one, and he was doing the right thing. But when the sun's directly overhead, and you know there's only one great thing to be done, appearances don't matter at all. The sun was getting pretty high for Ken. And he *knew*, he really knew.

Sometimes we need people who really know. Most of the time they're a pain. They're always trailing broken things behind, leaving someone else to

clean up. Ken left a broken marriage, broken friendships, several broken typewriters, and even a broken airplane or two. According to Hap Arnold, he was one of the best pilots around, but even in an airplane Ken would sometimes get preoccupied with what he knew. With all the wreckage, though, we need such people sometimes.

Because sometimes the sun really does move directly overhead. And we're left with only one tough thing to do.

The skies over Rabaul Harbor, New Britain Island, were clear and sunny on the morning of 5 January 1943. Just before noon, Ken Walker arrived in a B-17 bristling with guns. Five more B-17s and six B-24s followed him. He was wearing his riding boots. The men in Fifth Bomber Command no longer laughed about those boots or anything else about Ken Walker. They had learned what he knew, and they followed him willingly and professionally.

It was his seventeenth mission. He had been told not to go. Higher headquarters had told him that he, as Commanding General of Fifth Bomber Command, was taking too many personal risks. Don't go to Rabaul. But he knew what he had to do, where he had to be.

He had been told the strike should occur at daybreak, before the Japanese fighters would be in the air. For his bombers, though, that would have meant night-time takeoffs, a night-time rendezvous, and night-time navigation over water, all reducing the odds that a full formation would arrive at the target.

All to avoid an encounter with Japanese fighters. Sure. Ken knew when he had to be over Rabaul.

As he flew into the harbor, the distant skies above him began to fill with Japanese Zeros. Ken had no fighter escort. But that didn't matter—the bombers always get through. What mattered were the Japanese ships below, ten of them, carrying supplies to Japanese troops who were trying to blow the U.S. Army and Marines off the Solomons.

By the time the sun passed directly overhead, one Japanese ship and three fighters were already at the bottom of Rabaul Harbor. Six more ships were in flames, as was a B-17 that was carrying Ken Walker into the sea. Two enemy fighters pursued him all the way down.

And at the White House on 25 March 1943, Franklin Roosevelt talked softly with Kenneth N. Walker, Junior, before handing him the forty-third Medal of Honor to be presented during World War II. The sixteen-year-old boy had flown from Glendale, California, to accept his father's medal. His flight may well have taken him over Cerrillos, New Mexico. The plane almost certainly refueled in Denver, Colorado, and it probably climbed to the east over Dodge City, Kansas. At least it should have, because if you were a gunfighter in Dodge City, you were really a gunfighter. Ken Walker's son had a right to be there.

*tuesday, 12 august 1941*

## **THE SALES CAMPAIGN**

Hap Arnold got up early Tuesday morning and went for a walk on the deck of the *Tuscaloosa*. No longer amused by the luxury of an admiral's ship-board life, he walked alone in the rain from 6:45 until 7:30. Tuesday was the last day of the Argentia Conference, surely "an epoch-making series of events," as he wrote in his diary. But what had it all meant? What sort of epoch?

Why, exactly, had Roosevelt brought him and the other commanders to Newfoundland? Had the real purpose been to negotiate? If so, what? Congress held the Lend-Lease purse strings, and Congress alone could declare war. Were they to compare military strategies? If so, hadn't this been a rather unlikely way to do it: taking no time in advance for preparation and bringing no staff of experts along? Photos

were taken at almost every meal and every group meeting, so Arnold considered even the possibility that Roosevelt had brought his commanders simply to give a corporate, institutional appearance to the event: "I can't make up my mind as yet whether most of us are window dressing for the main actors or whether we are playing minor roles in the show." Was it possible that the commanders were there because Roosevelt had wished to confer privately with Churchill, but not so privately that isolationist critics would accuse him of secretly committing the U.S. to a European war?

As Arnold walked along the deck Tuesday morning, he wondered about these possibilities and about the implications of Argentinia. On Thursday, 14 August, he would write in his diary that "there were many talks and conferences at which I was not present; hence, there may have been many things happening of which I have no knowledge." He would conclude that "in my mind the estimate prepared by the Chiefs of Staff was hastily prepared and was not followed through—that was the only document I saw outlining the purpose of our meeting, but what the President and the Prime Minister had to say when together—I know not."

Finally, the significance of Argentinia for Hap Arnold was the sum of many impressions. Argentinia was an encounter with the quaint strangeness of life aboard ship: "The water on the *Tuscaloosa* picks up something that affects it queerly. One starts to wash one's face or hands in clear crystal water, but when one uses soap—bingo, the water turns blue." Argentinia meant a quiet village of 500 being trans-

formed by war: "Placentia used to be a fishing town. Had been for 200 years. Now everyone wants to work and is working at U.S. bases for more money than they ever had. Women wearing silk stockings for first time in life. Everyone accuses marines of paying for them." Most vividly, perhaps, Argentinia was the battered, enormous *Prince of Wales* emerging from the fog on Saturday morning, bringing Winston Churchill, J. C. Leach, and an inevitable epoch of war to North America.

That impression had darkened Arnold's spirits noticeably, and the melancholy was still there as he walked and thought in the rain Tuesday morning. It lingered at 5:00 P.M. Tuesday afternoon when the conference ended: "Low hanging clouds cutting off view of shore. Fog forming—the *Prince of Wales* with decks lined with sailors pulls up anchor. Band playing 'Star Spangled Banner.' Winston Churchill—[Admiral] Pound—[General] Dill and [Air Chief Marshal] Freeman standing on after deck. The *Prince of Wales* steams out of the harbor." Because Arnold was planning to return to Washington in a flying boat rather than aboard the *Tuscaloosa*, he remained behind on the *Arkansas* when the American flotilla departed, immediately after the British: "The *Augusta* picks up anchor and is followed by the *Tuscaloosa*. We can see [General] Marshall—[Admiral] Stark—[Presidential Assistant, Major General Edwin M. 'Pa' Watson. Yes, and the President on the bridge. The destroyers follow the two heavy cruisers. All merge into and disappear in the fog. The harbor is deserted except for a couple of destroyers, a tanker, and the *Arkansas*. The meeting in the Harbor of Placentia is at an end."

As the *Augusta* and *Tuscaloosa* were steaming away from Newfoundland Tuesday evening, Sam Rayburn was steaming toward the Speaker's dais in the House of Representatives. The vote had been extremely close, and the outcome would be at least as far-reaching in its consequences as *Argentia* had been. Now someone was demanding a recount.

The measure was a version of a bill passed five days earlier in the Senate to extend 669,500 enlistments for eighteen months. It had been hotly contested, and no one, not Sam Rayburn, not even the tally clerk, knew for sure whether it had passed until the recapitulation, or name-by-name review, of the vote was finished.

Sixty-five Democrats, one hundred thirty-three Republicans, and four members of other parties, all led by Republican Dewey Short of Missouri, had fought the bill vigorously with speeches in the morning and proposed amendments in the afternoon. The first test vote had come just after noon when Short moved to delete from the bill both the eighteen-month extension and the reference to "national peril." The failure of his amendment, 185 to 146, seemed to indicate easy victory for Democratic leadership, but other antagonists kept up the fight all afternoon with more amendments. Elston of Ohio moved that the number of draftees in the service be limited to 900,000 at any one time: defeated 134 to 96. Fish of New York moved to limit the extension of noncommissioned officers to twelve months: defeated by voice vote. Hinshaw of California moved that no extensions exceed six months: defeated 97 to 61. Finally Harness of Indiana moved to send the entire bill back to committee, but his motion was defeated 215 to 190.

In a wearing day, Rayburn's troops had soundly defeated all attempts to weaken the Administration's bill. He sensed victory Tuesday evening as the roll-call vote on the bill itself began, but his confidence soon began to fade. Apparently some members were less willing than he had realized to extend the enlistments of their constituents. By the end of the roll call, he knew only that the vote had been close enough to go either way.

Just as Rayburn received the tally, before he could even announce it to the floor, Representative Short called for a recapitulation. Rayburn announced that the original count had been 203 to 202 in favor of the bill; then he directed the clerk to recapitulate the vote. First the clerk droned through the names of those who had voted for the bill: no change; the number remained 203. Then he named those who had voted against. When he finished that list, a Republican member stood up. He had voted against the bill, he said, but had not heard his name. The chamber was hushed as the clerk rechecked his lists. If the negative tally was wrong by one vote, the bill had failed, and 669,500 men would soon be leaving the Army.

Rayburn looked intently at the clerk, then heard him say that the member's name *was* listed among those voting against the bill. The original count had been correct. The bill had passed.

Probably Hap Arnold and Sam Rayburn shared the same ambivalence, the same mixture of relief and foreboding, on Tuesday night, for they had stepped across thresholds to the same ominous future at the same moment. If *Argentia* and *Washington* were vi-

brating to the same distant signals on Tuesday night, though, *Argentia* also had a more immediate meaning for Hap Arnold and the AWPDP planners. It meant that Arnold wasn't in his office in the Munitions Building at 1:30 Tuesday afternoon to approve AWPDP-1. Because of bad weather in Placentia Bay, in fact, his takeoff was delayed until 1:15 Wednesday afternoon. Three hours and five minutes later, he passed the *Augusta* and *Tuscaloosa*, and at 7:15 he landed near Newport, Rhode Island. He spent the night there, took off again at 6:45 Thursday morning, and arrived at Washington's Anacostia Naval Station at 9:00 A.M., eleven historic days after departing Gravelly Point.

Had Arnold been in the Munitions Building at 1:30 Tuesday, he would have seen that his AWPDP had changed from a planning office into a briefing office. The AWPDP team had shifted almost entirely from production to sales.

On Tuesday morning, Hal George had realized that Arnold wouldn't return in time to approve the plan, so Hal simply delivered a copy of the plan to the Army's War Plans Office where it was gratefully accepted by other planners who were far too busy with their own work to question, or even read, the airmen's annex. As 1:30 came and passed in AWPDP, there was no celebration, no cry of relief, not even a pause. The noise of electric fans, typewriters, calculators, telephones, and interphone speakers went on just as before; the heat continued; and of course the hallways and offices were as cramped and ugly as ever. In the midst of it all, the planners were busy as ever, practicing their briefing over and over, getting it ready for the first of three crucial presentations.

By the fifteenth of October, they would have defended their plan for at least eight different audiences, but the briefings that mattered would be the one given the next day for Robert Lovett, Assistant Secretary of War for Air; the one given on 30 August for George Marshall; and the one given on 12 September for Henry L. Stimson, Secretary of War. They expected to find a friend in Lovett. Tall, slim, three years younger than Hal George, Bob Lovett had been a Navy flier in World War I, and he was widely known as an airpower advocate when Stimson called him to Washington in April 1941. Usually dressed in double-breasted blue linen suits and monogrammed shirts, Lovett continued to look like the crisp Wall Street banker he had been before coming to Washington. He would be an articulate, influential ally—if he approved the plan.

Lovett heard the briefing along with General Gerow from the Army War Plans office, General Spaatz from Hap Arnold's office, and Lieutenant Colonel St. Clair Streett, Lovett's executive officer. After hearing the by now polished presentation, Lovett supported the plan enthusiastically. He spurred the team along and boosted their confidence for the presentation for George Marshall.

Though the team had encountered little resistance until that time, both Kuter and Hansell wrote that they were approaching the Saturday, 30 August, briefing for George Marshall with apprehension. Hap Arnold would be hearing the full briefing for the first time with Marshall. Also present would be Averill Harriman, then Roosevelt's personal emissary to

Russia, and other senior Army officials. Marshall could kill the whole plan if he disapproved in that company. And his skepticism about winning the war without an American invasion was no secret.

He sat quietly through the briefing, asking no questions and declining to enter arguments started by others. Kuter and Hansell, growing increasingly aware of the audacity of their requests, began to imagine actual phrases Marshall might use to tell them to start over. How will he say it? Will he at least be tactful? "Gentlemen, I appreciate your hard work, but you'll have to try again. And please be a little more realistic. Hap, you'll be around this time to give these young men some guidance." Instead Marshall waited for all discussion to end, then said he was convinced the plan *did* have merit. They should present it to the Secretary of War.

On Friday morning 12 September, the AWPD planners shined their shoes, straightened their ties, and carried their maps and charts downstairs to room 2033 in the main east-west hallway, the waiting room outside the office of Henry Lewis Stimson. The planners had scarcely arrived when they were ushered into room 2036, Stimson's office. The Secretary had been expecting them, and he was meticulous about appointments.

Hal George led them through a side door into a quiet, carpeted room with curtained windows and uncluttered walls. Everything about it contrasted with their noisy cubicles. And it was larger than all of their cubicles put together. The quiet and the lack of clutter reflected the mind of the urbane, white-haired man sitting behind the heavy wooden desk.

Only nine days away from his seventy-fourth birthday, Henry Stimson was not one of the boys. He had been Secretary of War under Taft (1911–1913) and Secretary of State under Hoover (1929–1933). Franklin Roosevelt had asked him to serve again as Secretary of War in 1940, and Stimson, an active Republican, accepted with apologies to no one. When senators questioned him in confirmation hearings about his approval of Roosevelt's politics, Stimson answered rather abruptly that his principal concern was for the defense of the country. Period.

In September 1941, Stimson was an elder statesman who knew himself and the Army very well, and he knew what he wanted. He had almost always known what he wanted. He had wanted a Selective Service Act in 1940, and on 16 September 1940 he had gotten it. He had often wanted better equipment for the Army, and he had never failed to get the money for that, either. In smaller things, too, about details, he knew his own mind. In June 1941 the War Department had opened a smaller building on Virginia Avenue. Stimson could have moved into more elegant surroundings there, as many civilian employees did, but he preferred his old office next door to George Marshall amid the crowds and business of the Munitions Building. As Thoreau once wrote, a man who truly has something to do "will not need to get a new suit to do it in; for him the old will do."

Because Stimson stayed in the Munitions Building, it was easy for him to call Hal George, Larry Kuter, and Ken Walker down to his office Thursday afternoon for an informal chat before the briefing on Friday. No doubt he had heard about the slick presen-

tation these fellows were selling all over the building—well, the briefing was on his calendar for Friday morning, and he'd have to listen to the thing. But a seventy-four-year-old trial lawyer from New York can be forgiven if he's a little skeptical of slick presentations. Colonel George, I find that I have a little time free this afternoon. Why don't you fellows just come on down here and talk to me for a few minutes. Might help me understand some of your points a little better in the morning.

Stimson grilled them for an hour and a half Thursday afternoon. Then he went home, satisfied that AWPD-1 was a sensible plan. The briefing Friday morning would be little more than a formality, which was about the only purpose Stimson could think of for slick presentations anyway.

Stimson's home in Washington (he also kept one on Long Island) was Woodley, an estate he had bought for \$800,000 in 1929 when he was Secretary of State. After grilling the AWPD planners on Thursday afternoon, he arrived at Woodley between 5:00 and 5:30 and, as always, spent at least an hour before dinner playing deck tennis, riding, or swimming. Henry was devoted to strenuous exercise. He was also devoted to Mabel, his wife of forty-eight years, and to his Presbyterian religion. When he and Mabel sat down to dinner, Henry said grace, as always, before eating. After dinner they talked and read, as always, until 11:30. He was a disciplined man who succeeded by keeping his life and the War Department in order.

Almost always. But not on 4 December 1941.

*thursday, 4 december 1941*

## **THE LEAK**

For Henry Stimson, Thursday, 4 December 1941  
was unspeakably dismal and disorderly.

The day began when he arose at 6:00, as always, and walked around the grounds of Woodley before breakfast. At 7:30 he dictated letters to his secretary, as always. Then the daily routine began to crumble. Instead of going to his office in the Munitions Building, he went to the airport and flew to New York to see his dentist. Urgent appointment. Teeth are proof of man's fallibility, Henry. Despite the best of diets, exercise, and oral hygiene, they'll decay.

Henry spent all morning in the dentist's chair. Shortly after noon, he boarded a flight back to Washington. When the plane arrived over Gravelly Point, the god of teeth and clouds chastened him again. The ceiling's too low, Henry; expect some delay in land-

ing. With Henry's impatience growing by the minute, and his lacerated gums feeling none too pleasant, the plane circled Washington for an hour waiting for the weather to improve.

Finally the plane headed south to Richmond. It landed there in the rain just before dark, and the Secretary of War, very tired and most uncomfortable, decided to hire a taxi for the drive back to Washington. Come on, Henry. Haven't you figured out what's happening? No taxis here, sir. No cars for hire at the Richmond airport tonight.

At last he found an employee of the Civil Aeronautics Board, Theodore Indquist, who offered a ride into town. Surely he could hire a car at the Hotel Richmond to take him to Washington. When he arrived at the hotel, his time of testing seemed to be drawing to a close. Rain was still falling heavily, but precisely because of the bad weather the hotel manager, George Williams, insisted on driving the Secretary to Washington himself.

At 9:30 they arrived at Woodley. Stimson invited Williams in for refreshments, but Williams, glad to have been of service, declined the invitation and headed back to Richmond. Stimson, glad the day was over, went inside to tell Mabel the story of his Job-like tribulations. She had a better story for him; it was waiting in the Washington newspaper.

That's when he learned that AWPD-1 and the corresponding Army and Navy plans had been leaked to the press and published, while he was in the dentist's chair, by the *Chicago Tribune* and the *Washington Times-Herald*.

Teeth, weather, taxis, and the isolationist press—not even Job had withstood as much in a single day. After exploding with anger at what he would later call the evil—not folly, but evil—perpetrated by the newspapers, he went wearily to bed. Henry Stimson's dismay Thursday night could not have been more profound.

Elsewhere in Washington, the AWPD planners were also troubled about the leak. Most angered and upset among them was Larry Kuter, because he had been responsible for securing the plan. Every copy, twenty-three in all, had been numbered for individual control, and Kuter had personally locked all but the first five copies in his safe. Those five had been distributed to very high officials such as Arnold, Spaatz, and Marshall.

Since Kuter was a young officer with ready access to eighteen copies of the plan, he was quite naturally the first suspect investigated by the FBI. By the time George Williams deposited Henry Stimson at Woodley Thursday evening, FBI agents had closely examined all of Kuter's papers and had interrogated him at length. The young man who had believed for months that he was contributing importantly to his country's defense was suddenly suspected of treachery. It was a traumatic experience, one neither Kuter nor his wife ever forgot.

Kuter was exonerated, of course. The agents soon determined that none of the copies in his care had been disclosed. Wrong man, but as it turned out, right branch of the service.

Scholars still disagree about some circumstances of the leak, but Montana Senator Burton K. Wheeler

told the story this way: On Wednesday an Army Air Forces captain whose name remains unknown had delivered a copy of the entire plan to Wheeler's Washington home. Wheeler had known the officer for several months; they had spoken of problems associated with Army aircraft and of what they both believed to be the deceitful way Roosevelt was leading the U.S. into war. When the captain spoke of a major plan, known in the War Department as the Victory Program, which included AWPD-1, Wheeler became convinced that public exposure of the plan would prove Roosevelt's warlike intentions.

Wheeler's first move when he received the plan was to phone Chesly Manly, a Washington correspondent of the *Chicago Tribune*. Both the *Tribune* and the *Washington Times-Herald* were controlled by Robert McCormick of Chicago; both had firmly supported the isolationist cause. Manly came at once, and the two of them read the plan aloud to one of Wheeler's secretaries who copied the words in shorthand. By Thursday morning, the Army Air Forces captain had his copy of the plan back in its brown paper wrapper, and the two McCormick newspapers had front-page stories.

"War Plan Revealed," screamed the *Times-Herald* headline. "Army, Navy Ask Ten Million Men To Beat the Axis." The lengthy article by Manly included everything, from a verbatim transcript of the President's 9 July request, to a statement of shipping requirements, to analyses of Germany's synthetic fuel refineries. It even quoted assessments of our allies, such as the one saying that "Germany will occupy Russian territory west of the general line White Sea-Moscow-Volga River, all inclusive, by July

1942, and that militarily Russia will be impotent subsequent to that date."

As soon as the story broke, reporters flocked to White House Press Secretary Stephen Early. He first refused to confirm or deny the existence of such a plan; then he confirmed the plan by implication, saying that both Roosevelt and Stimson would certainly demand an investigation into the source of the *Tribune*'s information. Asked if he would criticize the *Tribune* and *Times-Herald* for printing such information, Early said no, he thought the press should be able to print whatever it chose. The culpable party wasn't the press, he said, but the government for failing to safeguard its plan, if in fact such a plan existed.

Roosevelt himself held a press conference on Friday, but he refused to discuss the matter, referring reporters instead to a conference to be held immediately afterward by Secretary Stimson. About two hundred correspondents attended Stimson's conference and heard him read a brief statement in which he asked, first, whether it was not the duty of a general staff to study ways of dealing with potential emergencies and, second, whether a patriotic man would take such studies and present them to his country's enemies.

Stimson worded his statement with great care, not wishing to reveal to the Axis how important the plan really was, but knowing he could never persuade the reporters that the published plan was a hoax. He said that the "publications made yesterday are of unfinished studies of our production requirements for national defense which have been carried on by the

general staff as a part of their duties in this emergency. They have never constituted an authorized program of the government." After reading his statement, Stimson declined to take questions, though he promised to make another announcement as soon as he had found the source of the leak.

*Unfinished* was the key to his statement. The plan had in fact been finished for three months, except in the sense that no war plan is ever finished until the war is over. But if Stimson could cloak the plan in tentativeness, make it seem just one possibility among many, perhaps the Germans would underestimate its importance and fail to oppose it with plans of their own.

Just like looking for a taxi on a rainy night at the Richmond airport. Henry. Wishful thinking.

A German Naval Staff diary shows that Axis agents in America recognized the plan's significance immediately and cabled the plan directly to Rome, Tokyo, and Berlin. When Stimson and Frank Knox, Secretary of the Navy, both denounced the plan's publishers on Friday, Axis commanders felt sure the plan was authentic.

By Saturday, 6 December, Field Marshal Keitel, General Jodl, and Admiral Raeder on the German staff in Berlin had prepared an analysis of the plan. That same day, they transmitted the analysis along with a number of recommendations to Hitler at his quarters on the Russian front. The recommendations included renewed activity against Britain and immediate attacks on all American shipping.

On Monday, 8 December, Hitler phoned his approval of the recommendations to Berlin. By then the Japanese had attacked Pearl Harbor, but the U.S. and Germany had not yet declared war on each other. On Tuesday, Hitler returned to Berlin for two days of intensive conferences with Keitel, Raeder, and Reich Marshal Goering. On Thursday, 11 December, he gave a long speech in the Reichstag, declaring war on the U.S. and citing the "plan prepared by President Roosevelt" as a major provocation. On Friday, he agreed to a new "Führer Directive Number 39" for dealing with the Americans; then he left Berlin to return to the Russian front.

Directive 39 included such steps as ending the Russian campaign with or without complete victory, and establishing a strong defensive line in Russia; moving enough forces into the Mediterranean region to completely secure it, thus denying the Americans bases in that area from which to strike German targets; developing massive air defenses around German industrial targets; increasing air and naval attacks in the Atlantic to isolate England and prevent the U.S. from moving forces to Europe.

Obviously Hitler's staff had paid close attention to the *Tribune* and *Times-Herald* articles. They correctly perceived that a costly Russian offensive could no longer be afforded in light of the massive American intervention expected to begin in 1943. Better to hold the line in Russia—the Russian Army was seriously weakened, and good defensive positions were available—and use Germany's resources to prevent an effective U.S. entry into the war. Seal off the

Mediterranean, blockade Britain, strengthen air defenses everywhere. Given enough time, German planners could counter almost everything in the American plan. And they might have had enough time.

But they couldn't counter the emotional swings of the Führer.

Upon returning to the Russian front, Hitler was immediately outraged by the success of Russian counterattacks all along the line. He had intended to advance beyond Moscow and Leningrad before establishing defensive lines for the winter, and he held General Field Marshal Walter von Brauchitsch personally responsible for the lack of progress. Von Brauchitsch, commander of the entire German Army, was a quiet professional who had planned the successful campaigns in France and the Low Countries, but his men weren't equipped to cope with the severities of winter in Russia. He infuriated Hitler by advising an end to the offensive and withdrawal to safer defensive positions.

On Tuesday, 16 December, the previously approved Directive 39 reached Hitler. To counter the American war plan, it called for precisely the same measures in Russia that von Brauchitsch had been advocating on his own. At midnight Hitler called von Brauchitsch to his quarters, berated him furiously for failing to maintain the offensive, and told him that withdrawal was absolutely unthinkable.

On Friday, the Führer fired von Brauchitsch and took command of the German Army himself. Determined to maintain positions in Russia and to renew

his Russian offensive in the spring, he issued a statement to the army, pointing out that his "intuitions" had served him well when he had commanded the armed forces in 1938 and urging his soldiers to carry on "as fanatically as before." This proclamation of 19 December, coupled with the firing of his senior commander, spelled the end of Directive 39. Over one hundred divisions that might have been shifted to the Mediterranean remained committed to the Eastern front.

Improbability was reigning supreme, in Europe as in America.

Improbability had reigned in the Munitions Building, where a plan that should have been assembled by dozens of experts in a period of months was written by four young men in nine days while their boss was out of the country. Their information was incomplete, their assumptions only fair, and their working conditions awful. Yet they produced a plan and sold it to the Army's highest officials, many of whom repudiated its fundamental premise both before and after the sales campaign. Less than four months after the planners-turned-briefers had sold their work, it was compromised so thoroughly that even Henry Stimson couldn't conceal the damage. Only one man was powerful enough to keep the Nazis from exploiting the security leak, an itinerant fanatic then living in western Russia who thought very highly of his intuition and couldn't control his temper. By rescinding his own Directive 39, Hitler closed the circle of improbability and became the savior of AWPD-1.

## EPILOGUE

*Despite the work that goes into it, a war plan is often an ephemeral thing. It can metamorphose overnight and go through several generations in a summer. Like other ephemera, though, a third generation war plan often looks a great deal like its ancestors.*

*In August 1942, President Roosevelt asked for another estimate of future requirements. The Air Staff responded with AWPD-42, the successor to AWPD-1. Haywood Hansell returned from Eisenhower's staff in England to work on the new plan, and Larry Kuter was still on hand as Deputy Chief of the Air Staff. Both were brigadier generals by then. Hal George, a major general, had left the staff in April to take over Air Transport Command, and Brigadier General Ken Walker had gone to Port Moresby in July.*

*The new plan retained much of AWPD-1. Proposed target systems and priorities remained much*

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*the same, though a few new systems were added and submarine pens were given much higher priority. The numbers and types of planes changed somewhat; confidence had grown that Britain would survive, greatly reducing the need for a very long-range bomber (the B-36) capable of striking Germany from America. Unfortunately, AWPD-42, like its predecessor, made no urgent appeal for long-range fighters.*

*Besides revising some aspects of AWPD-1, the new plan also addressed issues not previously mentioned. It recognized that the strategic bombing campaign would be a combined British-American operation; it acknowledged the requirement for an invasion of Europe after the strategic bombing campaign; and it included provisions for an air offensive against Japan after the defeat of Germany. With all its revisions and additions, though, AWPD-42 made no fundamental changes to the air strategy of AWPD-1.*

*Both of the AWPD plans answered Roosevelt's question about requirements: how many planes of which kinds will we need to win the war? However, the third and final step in the evolution of air strategy for Europe concerned itself not with requirements but with capabilities: assuming British and American air forces grow to their expected sizes by late 1943, what should they be capable of doing, and how? The plan that answered these questions, called the Plan for the Combined Bomber Offensive, was written by a British-American team in England in March and April 1943. Only Hansell of the original AWPD group worked on this team.*

*To determine "what" they should be capable of doing, the planners simply looked to the Casablanca*

*Directive approved by Roosevelt and Churchill in January 1943. It said the air offensive should fatally weaken the capacity of Germany for armed resistance. Deciding "how" was largely a matter of juggling target priorities again in light of recent combat experience.*

*This juggling reaffirmed most of the decisions of AWPD-1 and AWPD-42 with two notable exceptions: Germany's system of electrical power plants, which had fallen from second priority in AWPD-1 to fourth in AWPD-42, fell all the way to thirteenth in the latest plan. Perhaps this change reflected a feeling that other targets posed a greater threat to the Allied invasion expected in 1944. Perhaps, as many experts still think, the change was unwise. The second eye-catching difference was the appearance of a previously unmentioned target system, ball bearing factories, very high on the priority list. German bombers had earlier disrupted British engine production with a single strike on a bearing factory, causing British and American planners to suspect that German production might be similarly vulnerable. This change in priorities, too, has been seriously questioned.*

*Despite two revisions, then, and a costly failure to recognize the need for long-range fighter escorts, AWPD-1 survived in its major direction and implications. Though some of its priorities were changed as new opportunities and new dangers appeared, it correctly foresaw that the German air force, aircraft factories, petroleum refineries, synthetic fuel plants, and transportation networks would be top-priority targets. At a time when work stoppages were slowing American industrial production, it envisioned an industrial*

*expansion to provide a force of 7,097 heavy bombers (not counting the very long-range B-36); in March 1945, 7,177 American bombers were flying combat missions in Europe, a difference of less than 2 percent. So the plan did survive, in details as well as in concept. The unlikely plan, born too quickly in the heat of a Washington summer, set the course for the production and employment of U.S. airpower in World War II and the independence of the Air Force a few years later.*

*The planners also did well in the war, though they didn't all survive it. You know about Ken Walker. He lived and died as he chose, and he earned a Medal of Honor along the way.*

*You know about Larry Kuter's promotion, too. He pinned on that first star on 2 February 1942. In October of that year, he took command of the First Bombardment Wing in England, and in 1943 he became Deputy Commander of Northwest African Tactical Air Forces. Later that year he returned to Headquarters Army Air Forces to help Arnold's staff with more war plans. In February 1944, three months before his fortieth birthday, he was promoted to major general. When Hap Arnold suffered a heart attack in 1945, Kuter went as his representative to the Yalta Conference. After the war he stayed in the Air Force and was promoted to lieutenant general in 1951 and general in 1955. He commanded the Military Air Transport Service, Air University, Pacific Air Forces, and North American Air Defense Command. In 1962 he retired from the Air Force and became an executive for Pan American World Airways.*

*Possum Hansell and Hal George found fast promotion tracks, too, but unlike Kuter they left the Air Force soon after the war. Both won their first stars in 1942. Then Hansell went to England to command the Third Bombardment Wing. In 1943 he ran the First Bombardment Division and also helped write the plan for the Combined Bomber Offensive of 1944. From August 1944 to January 1945, he commanded Twenty-first Bomber Command, the B-29 unit that initiated strategic bombardment of Japan from the Pacific. He left the Air Force in 1946, but was recalled in 1951. During his second career he was promoted to major general before retiring in 1955.*

*Hal George took over the Air Corps Ferrying Command in March 1942 and pinned on his first star in April. The Ferrying Command became the Air Transport Command soon thereafter. George pinned on another star in August 1942, and a third one in March 1943. He ran the Air Transport Command for the remainder of the war and retired on the last day of 1946. Like Hansell, he was recalled by the Air Force, but George's second Air Force career lasted only a few months in 1955 while he acted as a consultant to the Chief of Staff.*

*The plan survived, the planners did well, and even the Munitions Building turned out all right. You can't see it now, but it's there. It's holding up Constitution Gardens, just north of the reflecting pool at the foot of the Lincoln Memorial, exactly where the Munitions Building and Navy Building used to be.*

*Secretary of the Interior Thomas S. Kleppe officially opened the park on 27 May 1976. Forty-five*

*acres of low hills and valleys, with a six-acre, free-form lake in the center. A sidewalk runs all around the lake, and a plank bridge on the north side leads out to a small island. Near the walk, old-fashioned streetlights and park benches with black cast-iron frames and wooden slat seats evoke a serenity far different from the overheated frenzy of the Munitions Building. But the building is still there.*

*If you come to the park at the right time, you'll see wild mallards and killdeer near the lake, perhaps also domestic ducks and swans. The many trees and the thousands of flowering azalea and rhododendron shrubs attract smaller birds, too, and children. Don't worry about the children. The water is only three feet deep, and the National Park Service won't allow any demonstrations or rowdy behavior in Constitution Gardens. No bands, either. No concerts. Nothing to disturb the peace. You can't see or hear any trace of the Munitions Building, but it's there.*

*Without it, the building, there wouldn't be any Constitution Gardens. The price would have been too high without it. President Nixon had approved plans for a more elaborate park, but the architects of Skidmore, Owings, and Merrill soon realized that the park he wanted would cost far more than the Administration would accept. To trim costs, they simplified the design to the one we now have and discovered a way to save big money on excavation. Rather than carry in expensive fill dirt to create hills, why not use the bulldozed Munitions Building for filler? Let the War Department's rubble support Constitution Gardens, with plenty of greenery on top to cover the con-*

*crete and steel. The result was a \$6.7 million bargain that the Administration was happy to accept.*

*So you can't see the Munitions Building today, but you can stand on it. You can take your children for a picnic on it. It wasn't beaten into plowshares, exactly, but we do have a nice place for birds and flowers and people now, one that we might not have had if the sturdy, ominous Munitions Building hadn't been there when we needed it.*

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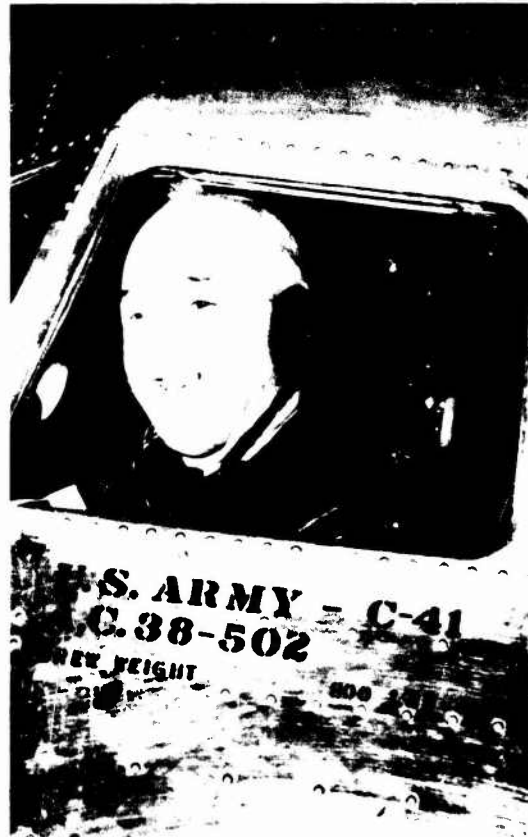
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Hap Arnold with Assistant Secretary of War for Air, Robert Lovett, at Ellington Field near Houston, Texas. This picture was taken on 31 July 1941 shortly after Arnold received Marshall's message to return to Washington.



Hap Arnold in the C-41 that took him and George Marshall to New York.



Hap Arnold with members of his staff. *Left to right* - Lt. Col. Edgar Sorenson, Lt. Col. Harold George, Brig. Gen. Carl Spatz, Maj. Gen. Arnold, Maj. Haywood Hansell, Brig. Gen. Martin Scamlon, and Lt. Col. Arthur Vanaman

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The *Augusta*, Admiral King's flagship, on which Roosevelt sailed to Argentina.



Senior commanders on the *Augusta*. Left to right: General Marshall, Admiral Stark, Admiral King, and General Arnold.



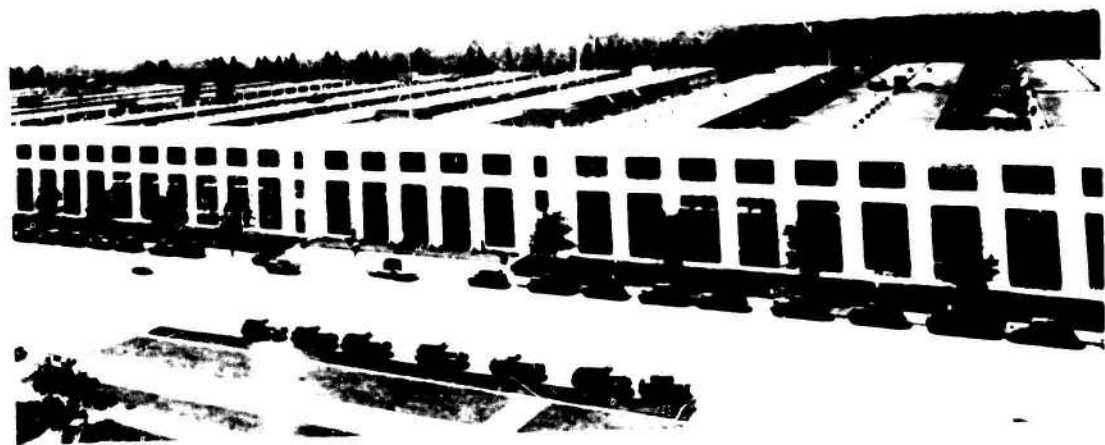
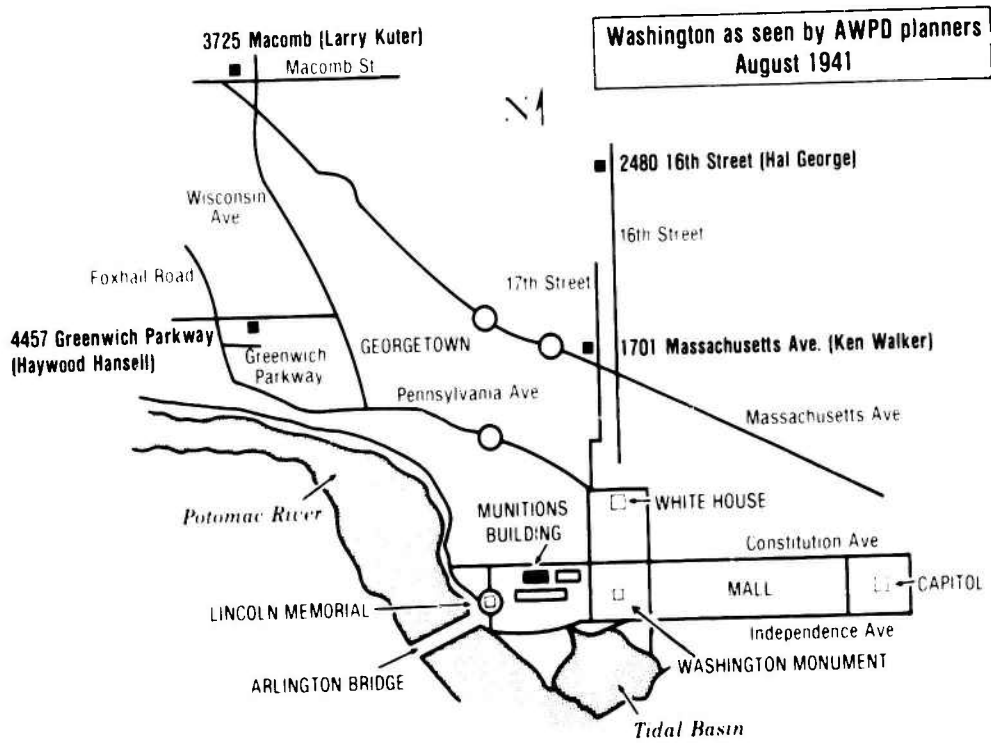
The *Tuscaloosa*, on which Hap Arnold rated a private cabin and two personal servants.



Capt. Harold Lee George.



Clayton Bissell (*left*) who turned over the planning job to Hal George. Claire Chennault (*right*) who tried to persuade Ken Walker that fighters were superior to bombers.



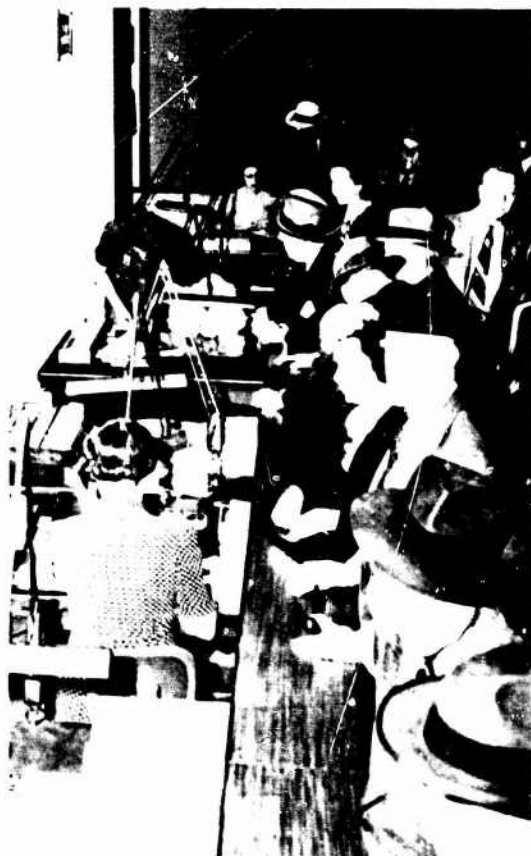
Constitution Avenue and the Munitions Building.



Cafeteria in the Munitions Building: long lines, packed tables, and a forest of oscillating fans.



Typically jammed office in the Munitions Building with rough concrete pillars, hanging electrical cords, and the omnipresent Westinghouse fan.



The information desk in the center lobby of the Munitions Building.



Maj. Haywood S. Hansell, Jr.



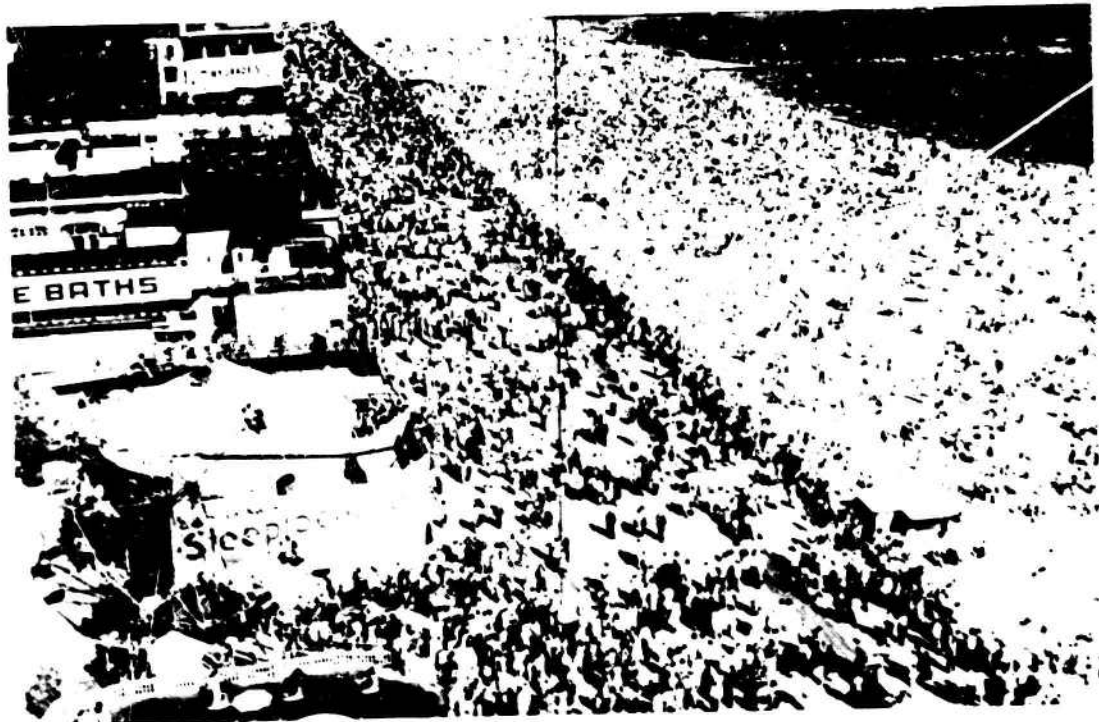
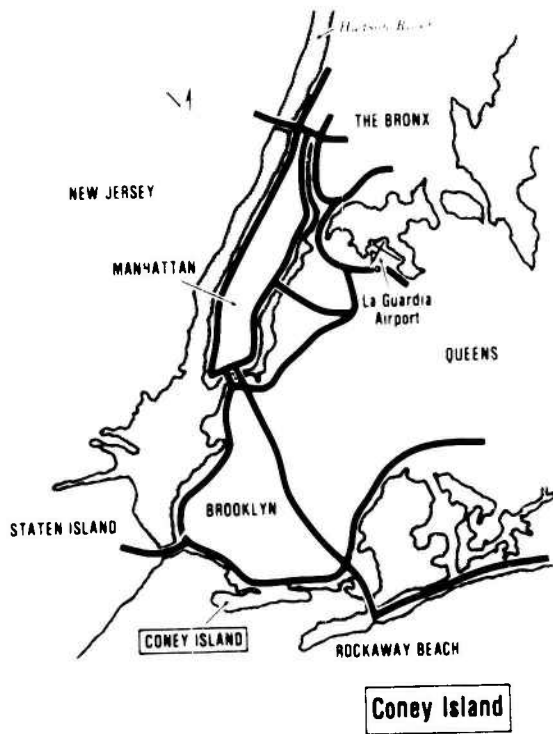
4457 Greenwich Parkway NW, Washington, DC, home of Haywood Hansell (center unit with white door).



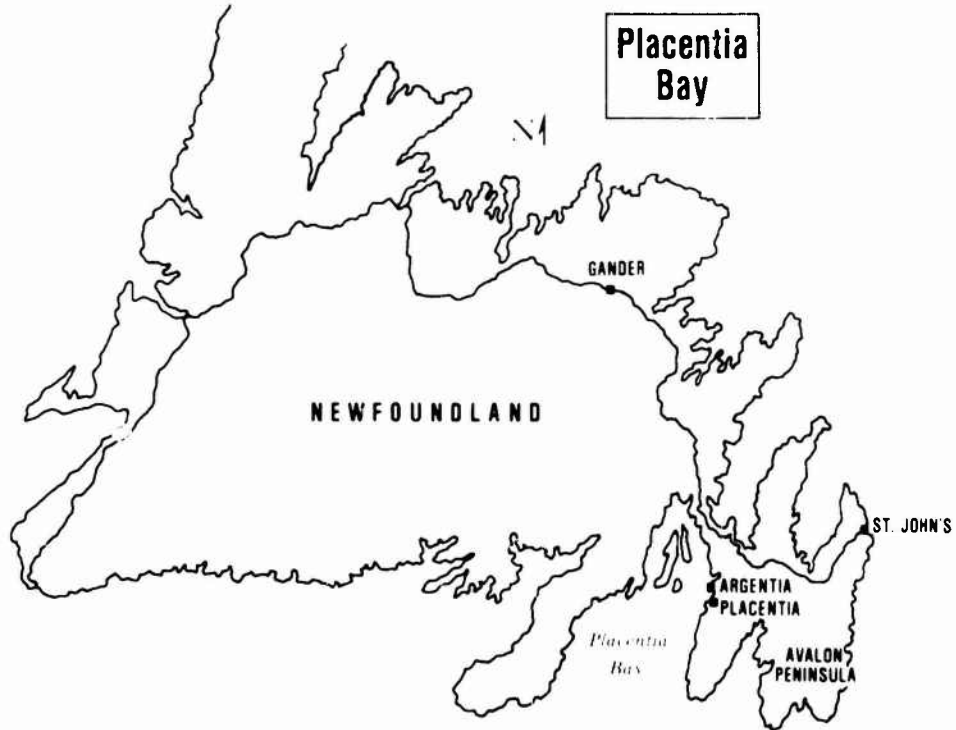
Maj. Laurence S. Kuter. This is the picture that accompanied news of Kuter's promotion to brigadier general in February 1942.



Pilot trainees for an expanded Air Force arrive at Randolph Field, Texas, after ten weeks of primary training.



The new boardwalk and white sand beach at Coney Island.



The war-scarred *Prince of Wales* in Placentia Bay.



Winston Churchill comes aboard the *Augusta* in Placentia Bay.



Dignitaries at the Placentia Conference.

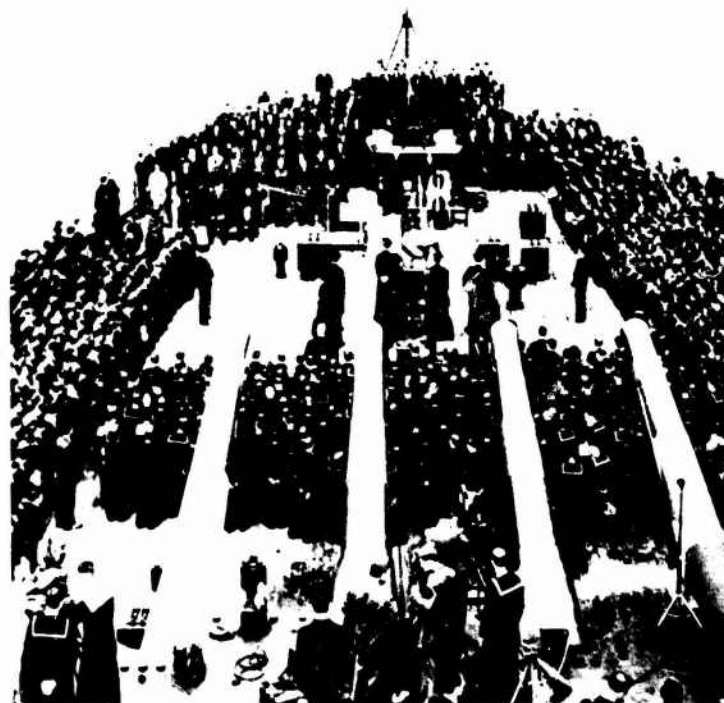
Seated: *Left to right*, Sir Alexander Cadogan, Air Chief Marshal Freeman, Prime Minister Churchill, President Roosevelt, Admiral Sir Dudley Pound, Field Marshal Sir John Dill, Lord Cherwell.

Standing: Averill Harriman, Harry Hopkins, Admiral King, Admiral McIntire, Sumner Wells, Major General Watson, John Roosevelt, Admiral Stark, Rear Admiral Beardoll, General Marshall, Franklin Roosevelt, Jr.

At the Saturday, 9 August, dinner on the *Augusta*, Hap Arnold arrived late and missed the official photograph because his invitation reached him after the 6 P.M. event began. He described the scene in his diary: "What a position for a guy to be in. Ten minutes late for dinner, at which the President, Prime Minister, active star admiral, four star generals, and admirals and air chief marshals. I took off from the *Tuscaloosa* and walked into dinner just five minutes later. Everybody seated with a vacant chair. Made my apologies and took my seat between Harry Hopkins and Air Chief Marshal Freeman. Embarrassed. I'll tell the world. That captain's gig never traveled so fast in its life."



Roosevelt and Churchill at the religious service.



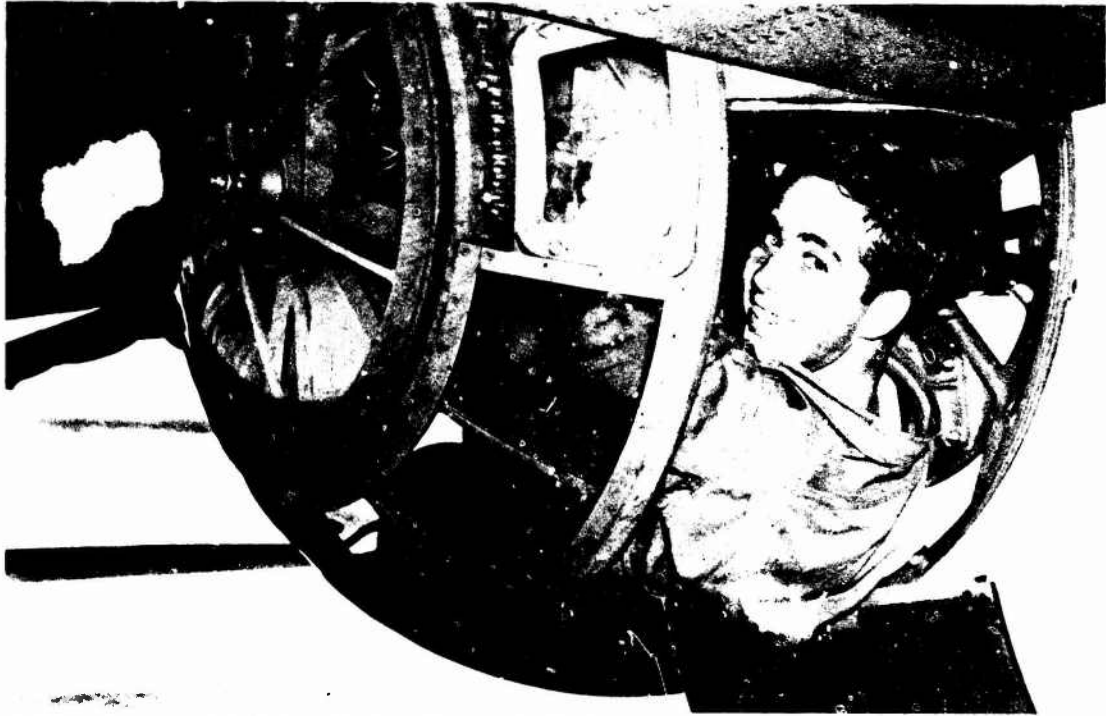
Americans and British on the quarterdeck of the *Prince of Wales* for the religious service.



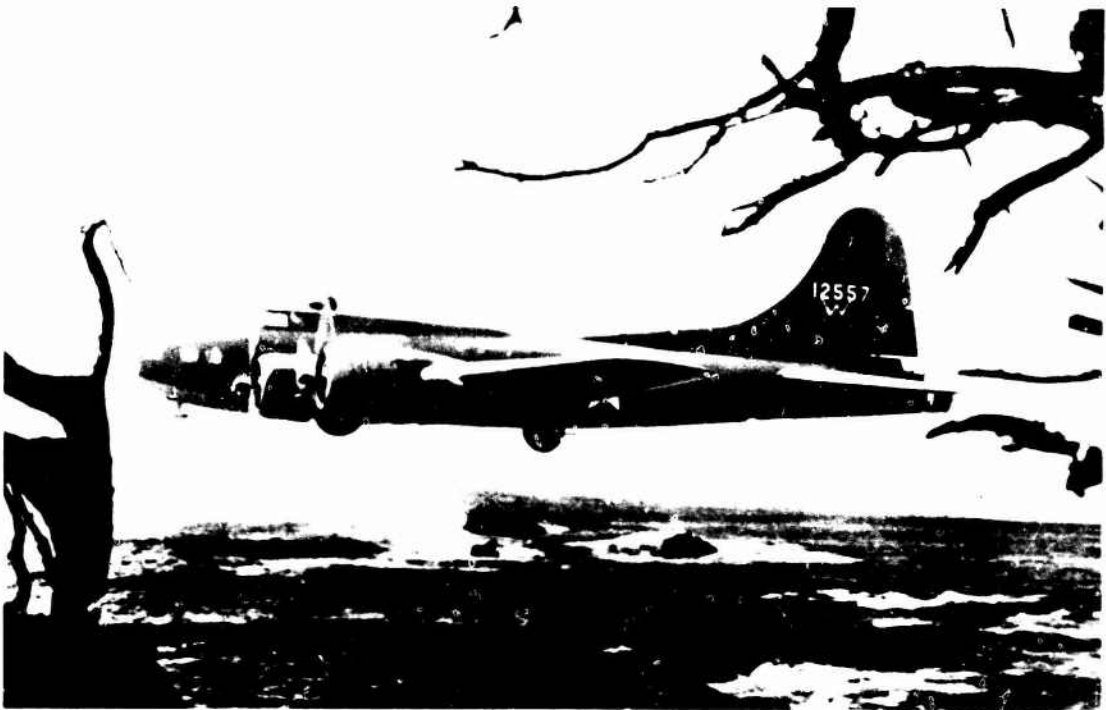
1st Lt. Kenneth N. Walker.



Brig. Gen. Ken Walker wearing his riding boots at Port Moresby.



Ball turret gunner W.E. Casby with .50 caliber gun in B-17.



B-17E on patrol over the Pacific.



Henry Stimson at his desk in the Munitions Building.



Secretary Stimson's office.



General Jodl, who studied the leaked plan on 5 December 1941.



Field Marshal Keitel, who helped analyze the plan.



Reich Marshal Goering, who helped prepare a response to the plan.



Admiral Raeder (*left*) helped write the analysis sent to Hitler on 6 December 1941. On 19 December Hitler fired Field Marshal von Brauchitsch (*right*) and withdrew approval of measures designed to cope with the American plan.



Brig. Gen.  
Harold L. George.



Brig. Gen.  
Kenneth N. Walker.



Brig. Gen.  
Laurence S. Kuter.



Brig. Gen.  
Haywood S. Hansell, Jr.



Constitution Gardens with the Lincoln Memorial in the background.

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