Quoting a Few Land Generals

What opinion do ground army commanders—American and German—have of the effectiveness of air power?

Calling the roll of famous ground leaders from both sides:

General Eisenhower: “City after city has been systematically shattered. Our artillery could scarcely add to the completeness of the material destruction.”

Field Marshal Gen. Karl von Rundstedt, following his capture, declared that the biggest single reason for Germany’s losing the war was the Allies’ tremendous air superiority which paralyzed the Wehrmacht.

Rundstedt, following his capture, shattered.

Referring to the ill-fated Ardennes offensive, he said it failed because Allied planes prevented troops from moving rapidly enough and because of the Nazi fuel shortage.

Specifically he said failure was due to lack of fuel for tanks “and the few planes we still had,” after the loss of Rumanian oil fields: the systematic destruction of railroad communications so that during the Ardennes offensive “we couldn’t cross the Rhine on a single rail line.”

German Field Marshal von Kluge six weeks after D-Day: “The troops have suffered high losses in men and equipment by strong air activity, and morale has greatly suffered . . . Yesterday’s heavy fighting was successful for the enemy only because he paralyzed all our movements by enemy fighter-bombers on an unprecedented scale . . . Every move of the enemy is prepared and protected by its Air Force. Our losses are extraordinary.”

German Lieutenant General von Rothkirch, Army Group commander:

“If about 500 miles I have seen the calling cards of the fighter-bombers, which are bullet marks in the pavement and burned tanks and trucks in the ditches.”

It Appeared “Utopian” to Some But The Tennessee Senator Won

Did you ever hear of Senator McKellar’s “fad?”

Let’s go back to 1918. It was May 8 and the Senate was in session. The clerk was still monotonously reading the annual Post Office Appropriation bill when one of the Senators arose and, with surprise and some concern in his voice, said:

“Mr. President, I notice that the section just read provides for carrying of mail by airplane.”

Senator Bankhead: “Yes.”

Senator from Utah: “I want to ask the Senator whether the investigations of this committee (Post Office) justify the embarkation by the Government now upon a scheme to employ airplanes in carrying the mails? It seems to me that at this time, and in view of the unstable condition of aeronautics, it is a visionary, utopian and absurd plan . . .”

QUICKLY ON HIS FEET

Senator McKellar, now President of the Senate, was then serving his first term from Tennessee.

“How can you be expected to win a war when you have no gasoline and no horses?”

Our own General George S. Patton, Jr.: “There’s not 20 miles I have seen the calling cards of the fighter-bombers, which are bullet marks in the pavement and burned tanks and trucks in the ditches.”

He knew the Senator’s remarks were meant for him and he was quickly on his feet.

“I just want to call the attention of the distinguished Senator to the fact that objections of this kind have been uniformly made, and frequently by our most distinguished men, to new discoveries and inventions of this kind. . . . I can say to the Senator that he is standing across the path of progress.

“I have no doubt that the time will come when we will use airplanes for a hundred different purposes and the world will feel that it could hardly get along without them.

“It may be that the money may not bring full results in the first year or the second or even the third, but the time will come when the results will be shown by reason of these experiments.”

Undeterred, the Senator from Utah replied:

Call For Action On Reconversion

Prompt action to settle the many aircraft industry reconversion problems has been urged in V-E Day statements by Donald W. Douglas, Chairman of the Board and Eugene E. Wilson, President of the Aeronautical Chamber of Commerce.

These, and other leaders in the aircraft manufacturing industry, say the following is required:

1. A courageous disposal of war surpluses.

2. An expanding program of Air Commerce development.

3. A long-range program of industrial research and development.

4. A program of uninterrupted procurement and replacement of military aircraft.

5. Specification as to the strength and composition of the post-war armed forces in World Security.

6. A long-range program of development and production and fullest encouragement to civil aviation, as called for in the Air Corps and Air Commerce Acts.

“It is possible that airplanes may be constructed for carrying a limited number of persons or for use commercially in a limited way, but I repeat that it is more or less a fad to talk of carrying the mails by means of airplanes at the present time.”

BUT MCKELLAR WON

But when it came to a vote Senator McKellar had won, and $300,000 was appropriated to “experiment” with use of airplanes to carry the mails.

On May 15, 1918, the first regular air mail service was inaugurated between New York and Washington.

Today, twenty-six years later, we find government revenue from air mail almost four times the amount paid by the government to mail-carrying domestic airlines.

In 1944 the government received $75,359,000 in airmail revenue. It paid the airlines $28,538,000.

A profitable thing, this “fad” of Senator McKellar’s.
They Feel That in Aviation
They are Heading Somewhere

Fifteen-year-old boys engrossed in the study of arithmetic and physics at a summer vacation camp.

"Never in my educational experience," says Prof. Eaton, "have I witnessed such a display of consuming interest in any subject as I have by these boys in aviation."

The studies are fascinating to them because they feel that in aviation they are heading somewhere—they need no arguments on the future of aviation.

"They are Heading Somewhere," says Prof. Eaton, "because they feel that in aviation they are heading somewhere—they need no arguments on the future of aviation."

The boys, 14 to 17, do not spend all their time pouring over books, but mix work with typical summer camp recreation activities. But even aviation is recreation.

Many learn to fly. Others only ride to get "flight experience."

However, the general purpose of the camp is not to train pilots, but to introduce the boys to many aspects of aviation; to broaden their understanding of aviation so it will affect their everyday lives and to help them prepare to

Where Boys Step Into the Age of Flight

Vigorous Rivalry Among
Towns on Airpark Plans

Hundreds of Servicemen Show Interest
In Small Landing Facilities

The greatest landing facility development program in aviation history apparently is now underway throughout the United States as indicated by marked increase in requests for planning guidance received by government and private aviation agencies.

Reports of seven regional field offices of the Civil Aeronautics Administration reveal that an average of 1600 individual consultations are being held monthly by CAA field engineers with municipal officials and private individuals on landing facility plans.

This is twice the activity experienced a year ago and does not include consultations between local officials and private engineering firms.

Interest which has steadily mounted since the first of the year is expected to increase further as the result of several new Civil Aviation developments which have given added urgency to the need for early planning of adequate landing facilities for both personal aircraft and air transport operations.

THREE NEW DEVELOPMENTS

These developments include:

1. Announcement by War Production Board of relinquishment of controls to permit tooling for early manufacture of personal planes.

2. Flood of applications by military pilots for civilian pilot licenses. Military pilots still in service are being given civilian pilot certificates at the rate of 3000 a month. Already 25,000 have been licensed, more than total certified civilian aircraft in the United States in 1941.

3. Increase in airline schedules due to return of military transports to airlines and allocation of other surplus transports bringing airline equipment totals to an all-time high.

SERVICEMEN SHOW INTEREST

In addition to personal conferences in the field, hundreds of written requests are received weekly by the CAA Airports Division in Washington, The National Aeronautics Association and the Personal Aircraft Council of the Aeronautical Chamber of Commerce.

Spearheading this interest are servicemen who account for more than 25 per cent of the communications. Many of those, from men overseas, direct that airport data be forwarded directly to municipal authorities of their hometowns.

Foot Power

W. F. Gerhardt built and succeeded in flying a 58-pound airplane with foot-pedal-operated propeller in 1933 at Dayton, O.
Plane Makers Adjust Production Schedules for a One-Front War

The aircraft manufacturers, who built 26,296 planes during the first four months of this year, are materially reducing production schedules and shifting emphasis to production of combat types for the Pacific war.

With the European war over, manufacturers are adjusting schedules to meet rapidly changing cutbacks and cancellations expected to reduce production by at least 50 per cent by the end of the year. A total of 6,412 planes were produced in April 1945.

Virtually all Army planes, with the exception of super bombers and certain transports, are involved in cutbacks, while the Navy is expected to continue present or even higher level of production as air power heads for the Pacific in greater force than ever before.

Gradual easing of the production burden was revealed in the production schedule for planes and engines, which was more than 25 per cent less than the 65,000 plane output for the first four months of 1944.

At the same time, the average airplane weight continued to grow indicative of continuing emphasis on bigger and heavier airplane types. Here is a comparison:

<table>
<thead>
<tr>
<th>Planes</th>
<th>1944</th>
<th>1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>8789</td>
<td>6535</td>
</tr>
<tr>
<td>Feb.</td>
<td>8760</td>
<td>6296</td>
</tr>
<tr>
<td>March</td>
<td>9117</td>
<td>7053</td>
</tr>
<tr>
<td>April</td>
<td>8313</td>
<td>6412</td>
</tr>
<tr>
<td>Average Plane Weight</td>
<td>1944</td>
<td>1945</td>
</tr>
<tr>
<td>Jan.</td>
<td>8860</td>
<td>11,065</td>
</tr>
<tr>
<td>Feb.</td>
<td>9292</td>
<td>11,292</td>
</tr>
<tr>
<td>March</td>
<td>9772</td>
<td>11,229</td>
</tr>
<tr>
<td>April</td>
<td>8976</td>
<td>11,478</td>
</tr>
</tbody>
</table>

The average weight of warplanes has more than doubled in four years. The average weight in 1940 was 4,486 pounds.

Tunnels Aid Research

The chief tool of the scientists for aerodynamic research is the wind tunnel which measures airplane characteristics under simulated flight conditions. The three general classes of wind tunnels are those which can test: 1. Full-sized aircraft in a moving airstream. 2. Free flying models in an inclined airstream. 3. Models under compressed air conditions (to more closely resemble actual flight performance).

Just a Lad

Although the super bombers of the 20th Air Force are striking body blows at Jap homeland, the 20th Air Force is "just a lad" according to its commanding officer, General H. H. Arnold. "Operationally, the 20th Air Force is just a lad" General Arnold said recently, "but it will grow up before the end of the summer."

Surplus Aircraft Available to Schools at Nominal Cost

Thousands of samples of precision aircraft equipment built for war soon will enhance American classroom study of aviation in its expanding peacetime role.

Costly bombers, sleek fighter planes, electronic instruments and parts obsolesced by the fast pace of technological development are being made available to schools at nominal cost from the increasing stockpiles of surplus equipment.

All material is restricted to non-flight use in classroom, research and general education activities in elementary and secondary schools and colleges which need only qualify as non-profit educational institutions.

Under the program a half-million-dollar four-engine bomber will be obtainable by schools for $350 and a 1500 horsepower engine will sell for $10. All schools must pay the shipping charges from Army or Navy bases where the surplus equipment has been stored.

Only that equipment unfit for military use and considered unsalable for commercial purposes will be made available to schools.

Educators indicate that a substantial proportion of the same 2,477,000 elementary and 98,000 high schools and colleges will avail themselves of the opportunity to obtain surplus aircraft equipment for both vocational and avocational purposes. In primary schools equipment will serve as exhibits to illustrate general phases of new developments in aviation as they affect geography, world trade, and social culture of the world.

In high schools, the aircraft, engines and parts will be used not only as exhibits to supplement study of general aviation aspects but for vocational training as well. The equipment will augment engineering laboratory equipment in the colleges.

A survey of schools to determine total equipment desired and types in demand is now being conducted by the Reconstruction Finance Corporation's division of education agency, which is forwarding to each school superintendent a list of equipment that is to be made available. All inquiries should be addressed to Education Disposal Section 63 of the RFC, Commonwealth Building, Washington.

A 70 per cent score on this quiz is excellent. Sixty per cent is good. Answers on Page 4.

1. Air moves faster over the upper surface of a wing than it does under surface. True or False?

2. At extremely high altitudes, homing pigeons have two distinct advantages over human beings. What are they?

3. A nation's Air Power is considered to be composed of three parts. One part is Air Force or use of aircraft as a weapon. Another is Aircraft Industry, or manufacturing resources. Can you name the third part?

4. What are the three busiest U.S. air terminals in volume of daily passengers picked up and discharged?

5. Approximately how many battle ships have been sunk by aircraft in this war? (a) none (b) five (c) 10

6. How many hours a day does the average air transport plane fly in scheduled domestic operation? (a) 6 hrs. (b) 10 hrs. (c) 13 hrs.

7. How far did Orville Wright fly on the first airplane flight at Kittyhawk in 1903?

8. In what year was the first regular air mail service inaugurated?

9. If you were flying from Denver to Casablanca over the great circle route, you would pass over (a) Washington (b) Quebec (c) Jacksonville, Fla.

10. More engineering time is spent in developing a new aircraft design before its first test flight than afterwards. True or False?
A History of Technical Progress

Aircraft Speeds Continue to Increase

There is no natural law today that limits either the size or speed of aircraft and present speeds already are approaching that of the speed of sound, around 750 miles per hour. The new forms of propulsion, jet and rockets, permitting these speeds, are still in their infancy.

New Book Voices Strong Plea for Maintaining Air Power for Peace

Possession by the United States of the greatest Air Power imposes upon it a major responsibility for World peace, Eugene E. Wilson, President of the Aeronautical Chamber of Commerce writes in his new book, "Air Power for Peace."

Mr. Wilson introduces a new and forceful concept of Air Power and its relation to future history, declaring that "in reality air power is the sum of the properly balanced air force, air commerce, and aircraft industry, just as sea power is the combination of the Navy, Merchant Marine, and the shipbuilding industries."

Mr. Wilson, who has an intimate knowledge of aviation's 41-year-old history writes: "This new medium of transport and communication is capable of keeping the peace and helping to bring abundance to the people of the World. The airplane is at once a symbol and the embodiment of human freedom and can hold high freedom's torch."

He contends persuasively that Air Power, acting through air force to keep the peace, can earn its keep through air transport and aircraft production in the promoting of domestic and foreign commerce. While it may prove impractical, he says, to balance the wealth created by this new industry against the costs of new and improved equipment for the Air Forces, it is obvious that substantial sums will be recovered. In fact, the recovery could, in time, exceed the original cost. Beyond this, the savings resulting from maintaining an adequate air force as insurance against war are incalculable.

"Air Power, as we have seen it function in war, has been devastating." Mr. Wilson writes. "Air Power dedicated to peace can be correspondingly beneficent."

Answers to Plane Quiz
1. True. Wings are designed with greater curvature on top, forcing airstream to travel farther, thus faster. This results in a lower relative pressure on the top surface than underneath. The pressure differential acts as aerodynamic lift.
2. According to tests, pigeons are unaffected by altitudes up to 40,000 feet, requiring neither pressurization nor extra oxygen.
3. Air Commerce, or civil air transportation and personal flying.
4. As of 1944: New York, 1870 passengers; Washington, 1381; and Chicago, 1265.
5. A, at least ten. Oklahoma, Arizona, Utah (U.S.); Prince of Wales and Repulse (British); Tirpitz, Lutzow and Admiral Scheer (German); and Musashi and Yamato (Jap).
6. It flies on average of 13 hours and slightly over 2000 miles a day.
7. 170 feet; less than the wing span of a super-bomber.
9. b, Quebec.
10. False. War experiences show many more times the engineering effort is devoted to developing a new model after it has reached the prototype stage.

Facts and Figures

War-improved aerial reconnaissance techniques will be a boon to postwar exploration of deposits. Color cameras flying planes will register colors and shades of vegetation and rock formations which are clues to the identity of underlying geological strata.

Air passengers and crews are now able to secure life insurance protection on the most liberal basis of any time in history. Of 36 life insurance companies surveyed, more than two-thirds now include airline passenger travel, regardless of the amount, at standard rates.

Army planes now can lay telephone wire. In a recent test a twin-engine transport plane laid 16 miles of army telephone wire in a little more than six minutes over rough wooded slopes with elevations between 1500 and 5000 feet.

The war utility of the little "grasshopper" plane reached a new high during closing phases of European war when a little artillery spotter, armed with five bazookas, knocked out five German tanks and two armored cars.

One of the newest appendages to simplification of aircraft navigation is a "controllable wire" which moves around two pivots to give control without need for conventional ailerons. The wing is undergoing preliminary flight tests by one of the major aircraft manufacturers.

American air carriers flew approximately 600 million passenger miles in 1948—twice as many as all European carriers combined.

Ten aircraft and engine manufacturers have thus far announced they are engaged in development of gas turbines for jet propulsion and propeller applications, or both.

The Aero Club of Washington has recommended to Congressional leaders that the proposed National Memorial Stadium include a memorial Airpark, to accommodate not only personal plane owners flying to Stadium events but to serve as a convenient landing area for those flying to the nation's capital on business or pleasure events.

The post-war pattern of traffic handling may be gleaned from tests at Army training bases where fighter planes take off and land every 30 seconds and superbombers take off at the rate of one every minute.