

An Expert Speaks

Victory Through Air Power

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less in the attempt to invade the British Isles.

It is a fact nonetheless that unwarranted reliance on this and similar types of aircraft was one of the principal contributing causes of Germany's defeat in the Battle of Britain.

As the basic ingredients in Hitler's Luftwaffe, indeed the Stuka stands as a symbol of the essential foppishness of that service in Germany.

It refutes the puerile assumption in some American circles that Germany is somehow "a natural airpower nation" with a divine mandate to rule the world in this air-power age.

The Stuka is an all-metal, low-wing monoplane of construction with a top speed of 242 miles an hour—120 miles slower than its destined nemesis, the British Spitfire fighter.

Its entire armament consists of two fixed machine guns in the wings and one flexible machine gun in the rear cockpit, but it was entirely unprotected by machine-gun defensive fire power from underneath.

When attacked from the rear, the Stuka had only one light-caliber machine gun to ward off the eight machine guns of the standard Royal Air Force pursuit; attacked from below, it was wholly defenseless.

Its striking radius was no more than 200 miles and it usually carried one bomb of 1,100 pounds and four of 100 pounds each.

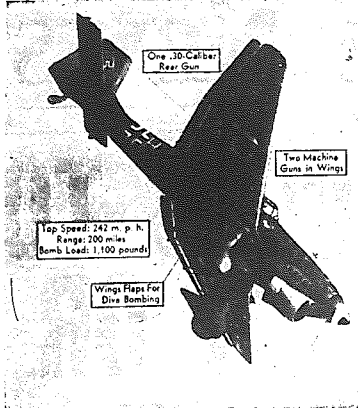
Not until the Battle of Britain put this airplane to a grueling test were its limitations uncovered.

TWO REASONS

The Stukas performed brilliantly in the European campaign, first, because they were able to exploit fully the element of surprise and hence did not meet a real modern pursuit force in reasonably effective strength; and second, because they did not operate as an air-power weapon but essentially as an auxiliary of the Army.

What is true of the Stuka is true, with exceptions, of German aviation as a whole.

The chief lack of Hitler's air arm in the low countries and in France, as in Poland before that, was its co-operation with the mechanized forces. The Nazi air arm was basically



The German plane that terrified Europe in the early stages of the war, the Junkers 87 (Stuka) dive bomber, was a lumbering plane with one 30-caliber gun in its rear defense.

connected to deliver short, swift, relatively light blows—the kind that stagger the adversary and leave him helpless against the immediate follow-up by plunging mechanized divisions and an avalanche of motorized infantry behind them.

The Luftwaffe is a "distinctly separate and autonomous military service, on a basis of full equality with the German Army and Navy."

PANZER DIVISIONS
The Panzer divisions and other ground units do not have any aviation units attached to them permanently. Air support is given at places and in quantities found necessary by the High Command, and any of the available air strength is flexibly at the disposal of any commander of a local land, sea, or air action.

Yet, because the main Nazi strategic conception rested on land operations, the German air power was primarily geared to answer the tactical demands of such operations.

NAZI STRATEGY
The strategy called for mechanized surface warfare, with the armies crossing only narrow water gaps, which could be readily done under protection of the co-operating air force. That pattern dominated the creative minds entrusted with the designing of air equipment.

This resulted in a certain bias. While the Luftwaffe was separate, the emphasis on land operations affected the equipment in a way that showed up unfavorably in all air action.

The kind of blows the Luft-

wafe was capable of delivering, its restricted effectiveness in speed and fire power and protective armor, made it almost useless when there were no land forces present to exploit the initial demoralization.

In short, German vision and audacity failed to go far enough. It is impossible to try to understand why Hitler met his first and most significant setback, because German aviation in particular and about air warfare in general.

THE WEAPONS
Let us, therefore, first look at the aerial weapons with which Britain and Germany confronted each other across the English Channel in the nerve-racked summer of 1940.

The Germans had a formidable numerical preponderance. Accurate figures cannot be ascertained, but an estimate of 3,000 Nazi pursuit fighters, against 1,200 British fighters, seems reasonable from available information.

Both sides, of course, possessed more, but these were roughly the units thrown into the battle over southeastern England.

In bombers the Nazis' quantitative advantage was even greater. As the attacker, moreover, Hitler had the advantages that accrue to the initiator of an action.

DIVE BOMBERS
We have considered the Junkers 87 or Stuka, the basic element in Germany's aerial equipment.

The Nazis also used a twin-engine dive bomber, the Junkers 88, with a speed of 160 miles, a crew of four, and a striking range somewhat more extended than the Stuka's 200 miles.

It was equipped with three machine guns: one flexible machine gun firing forward, operated by a runner in front of the pilot, and the other two in the rear, one above and another below the fuselage.

A SLOWER PLANE
Slower by some 25 miles, but otherwise very similar to the Junkers 88, with the same disposition of armament and crew, was the horizontal bomber, the Heinkel III Mark V, also a twin-engine low-wing monoplane.

There were in addition variants of the Dornier 17, or so-called "flying pencil," in the array of level bombers.

The general military characteristics of all these twin-engine bombers were similar. They were fast for their time, but the speed had been bought at a serious cost in fighting ability.

The Germans had chiseled on range, load-carrying capacity, armor, and armament for the sake of additional miles per hour.

In most instances they could meet an eight-gun assault from a British pursuit with only one gun, making a hopeless ratio of eight to one.

Had Hitler's bombardment aviation carried adequate protection, they might have succeeded in inflicting their way through appointed targets, destroying the British air force not only but by destruction of ground facilities, thus a reversal of the whole battle might have resulted.

NAZI FIGHTERS
In the fighter class, the Messerschmitt 109, equipped with Daimler-Benz engines, developing 850 horse-

power at the start of the war and gradually boosted to the present 2,000 horsepower, was the standard type.

The great mass of Messerschmitts at the beginning of the war did not have more than 300 miles an hour of speed, though the later models could do better than 350 miles.

The Messerschmitt 109 had six machine guns in its wings, two in the fuselage, firing through the propeller, with a consequent lowering of the rate of fire; a cannon firing through the propeller shaft was installed later.

The plane was all-metal and of low-wing cantilever construction. The Messerschmitt 110 was a two-engine fighter, powered with two Daimler-Benz engines. It had two fixed cannons in the fuselage and four fixed machine guns, all firing forward through the nose.

Like all twin-engine planes, it could not maneuver as easily or as rapidly as the single-engine Messerschmitt 109.

Furthermore, in addition to the fuselage it had two propeller disks and two engine nacelles, making it a clumsy and slow element to put the plane out of action, so that it presented a greater area of vulnerability.

Occasionally the Nazi fighter force also employed the Heinkel He 51, a biplane, but apparently over the Messerschmitts in performance. The Messerschmitt claimed 380 miles per hour for this fighter.

Theoretically it was the one fighter which must have come up to the Spitfire, but apparently because of some defect it never appeared in quantity.

HANDICAPPED
It should be noticed that because these pursuits could shoot only or chiefly forward, they were handicapped for their important function in convoying bombers.

To the aviation specialist even such a brief summation of the German equipment discloses that the Nazi aerial armada was built principally for action against ground targets.

He deduces that the Germans, counting on their numerical advantage, planned to ignore and circumvent the enemy's air power.

Contentious of the decisive value of quality, they assumed they could proceed directly at their goal, which was the demolition of surface objectives.

The general trend of Marshal Goering's aviation, it thus appears, was to become a co-ordinated element for supporting surface operations. Adequate for such undertakings, his air force revealed its fundamental weakness when called upon to tackle pure aerial operations in the face of a powerful aerial foe.

WHAT WAS LACKING
Nazi aviation simply was not geared for battling its way through hostile aircraft, carrying out its job over a target, and holding its way back again. Yet this is precisely the fighting quality it needed for the conquest of the skies over Britain.

It had evidently counted on destroying the enemy's aviation on its ground bases in Poland and France—rather than on grappling with it in the skies.

British aviation, while numerically weak, has come close to achieving the military characteristics of true air power. In scale these qualities may have been primitive but the underlying conceptions were correct.

British bombers sacrificed speed for defensive armament, range, and bomb load, which is a justifiable exchange. Since bombers cannot get away from fighters anyhow, speed becomes a secondary consideration.

FIRE POWER
RAF bombers were equipped with rear turrets, housing two and four machine guns and were able to fire them backwards through an unobstructed arc of 180 degrees.

This wide coverage was attained by installing the turret in the extreme end of the fuselage. The front turret likewise had two or four machine guns, firing forward.

The Wellington bomber, for instance, had an effective radius of 1200 miles with a substantial cargo of bombs, and was protected by both rear and front power-operated turrets.

In general it is fair to say the British bombardment aircraft, possessing better range, armament, and bomb load than the German, were therefore superior.

This more than made up for an average inferiority of about 50 miles an hour in speed.

The backbone of the British fighter command was the Spitfire, which was and remains the most effective single-engine fighter in the world. It had a speed of 370 miles which has since then been raised to over 400 miles.

Its eight machine guns, installed in the wings, were free-firing, in speed, armor, fire power, and disposition of guns, it had the edge on the Messerschmitts.

The Hurricane, second in importance in the fighter command, was a somewhat larger plane, with a top speed of only 335 miles, but very maneuverable.

The Hurricane carried four 20-mm cannon or twelve machine guns.) In the beginning the British defenders also used the Boulton-Paul Defiant, a two-seater pursuit fighter with a speed of about 300 miles, but the Germans soon discovered its deficiency in protective armament from below and forced the RAF to restrict its use to night fighting.

Throughout, it can be seen, the British air force possessed greater fire power than its adversary.

A fair qualitative ratio of Nazi and British fighting aircraft in the Battle of Britain is provided by the Spitfire and the Messerschmitt, and the advantage in the confrontation indisputably favored the British.

The Spitfire had a margin of 25 miles an hour in speed. Though it did not at that time have a cannon, it had two more machine guns—none of them handicapped by synchronization through the propeller—and hence possessing a greater volume of fire.

Flying qualities were approximately the same, with a slight edge for the British, since the Spitfire was better than the Messerschmitt at stalling speeds and maneuvering.

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Kaiser Asks
5th FreedomFreedom To Produce
In His Holiday Wish

HOLLYWOOD—(AP)—Ship-builder Henry J. Kaiser believes that "if we are to win this war in reasonable time and then construct a better civilization, there must be a fifth freedom—the freedom to produce."

Speaking over a nation-wide network, Kaiser said he favored adding the suggested freedom to the Atlantic Charter as proposed by President Roosevelt and Winston Churchill.

"I conceive of labor as a matter of both muscle and brains, and I believe with all my heart and soul that if mankind is to grow and grow ever greater, it must have freedom to employ to the full the creativeness of hand and mind which God has conferred upon us."

In an earlier statement, Kaiser said his acceptance of a consent decree at Cleveland, restraining his Pacific Coast Shipbuilding Co. from paying higher than ceiling prices for steel was "merely an illustration of my desire to co-operate with the Government."

A complaint had been made by the Office of Price Administration that the shipbuilder's company had purchased 504,000 pounds of steel in a lot from a Cleveland concern and that price ceilings were evaded through shipment of steel in less-than-lot quantities. Such shipments take a higher price.

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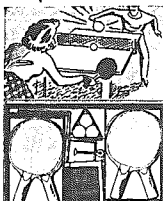
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