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THE COURSE OF THE AIR WAR
OVER CENTRAL AND WESTERN EUROPE 1939/41

A study prepared by the German Air
Historical Branch (8th Abteilung).

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Although no doubt existed that the economic life of a country could be disrupted by the carrying out of ruthless air-attacks in great strength, no indications were available between the two wars as to what course such strategic air warfare would take.

In this respect, Germany was in a very unfavourable position. With the development of air power, the natural protection afforded to Germany by the North and Baltic Seas in the North, and the Alps in the South, lost much of its former significance.

German industry is the source of her war potential. Her industries are crowded together in a number of districts scattered over the entire Reich. Apart from the big industrial areas of the Ruhr, Saxony and Upper Silesia, there are other areas of lesser size but greater importance from the armament point of view. Such areas include the Saar, the Main area round Frankfurt, Schweinfurt, and Bavaria with the important centres of Munich, Augsburg, Regensburg, etc.

Because of its proximity to the Frontier, the Ruhr Rhine area was the most vulnerable to air attack. Its purely industrial nature and its position as the centre of German rail and water communications were very conspicuous.

The other German industrial areas were less concentrated and were therefore less vulnerable to attack. With the occupation of Czechoslovakia, the danger of air attacks from that quarter also disappeared. Nevertheless the possibility of a change for the worse had to be reckoned with, bearing in mind the elasticity of an air force. It was consequently likely that an air campaign would eventually be launched against the German economic centres.

The air defence of the Reich

From the experiences of the 1914-18 War, it was to be expected that in any future war the final decision would no longer be fought out on the ground, but that the enemy would try to break the economic strength of the Reich and the morale of the people, in order to force a decision. The Allies succeeded in doing this in the first World War by an economic blockade of Central Europe, and will in this war use the Air Force, with its wide range, as a means of expediting a similar result.

Numerous statements made by leading members of potential enemy nations hinted at the possible adoption of such a strategical policy. After the occupation of France, reports on the conferences held between the French and English General Staffs and their political advisers fell into our hands, and these documents made it quite clear that it was intended to carry out this policy.

The Fuhrer's repeated suggestions, and particularly that made on the 31st March 1936, recommending humane conduct of air warfare, were all disregarded, as was also the suggestion made in February 1932 that a policy of disarmament be followed.

The German Anti-Aircraft Defences

When the Western Powers declared War after the invasion of Poland, nobody could foretell the probable course of the war, and that of the air war was particularly unpredictable. Would the enemy really put their plans into action? Or would they, in view of their unpreparedness, shrink from the

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losses which German reprisals would most certainly inflict upon them? German policy had of course scotched the enemy's encirclement plans; it was however still possible that the Poles would carry out some desperate attacks, and systematic air attacks from the West had also to be reckoned with.

These possibilities were bound to have a decisive influence on plans for the air defence of the Reich. We were hampered by the fact that the German Flak artillery was by no means fully developed, and also by the shortage of anti-aircraft guns for the protection of all strategically important points.

Orders were issued by the Luftflotte Commands entrusting the Luftgau Commands with the building up of the Flak artillery. The code word "local Flak" was to bring the necessary Flak units to their action stations within three hours. The all clear was given by the code word "air defence clear".

To avoid unnecessary dispersal of forces, certain strongpoints were established. Flak protection was insufficient even for the most important strategic targets, and for these A.R.P. measures were of particular importance.

The organization of the A.R.P. System

The counter-measures taken could not however be exclusively military. By attacks on the enemy air bases, the Luftwaffe could of course seriously weaken the enemy forces, and our aircraft and Flak units were capable of putting up an effective barrage against incoming hostile formations. They did however not succeed in breaking these formations up, and consequently could not entirely prevent all bombing attacks on industrial centres and towns.

In concentrated attacks, or under cover of bad weather, the enemy bombers always succeeded in dropping their bombs on their secondary if not their primary targets. Bearing in mind the rapid developments in flying technique, the possibilities of temporary enemy air supremacy had to be borne in mind.

Coupled with a powerful air defence, preparations had to be made to prevent losses among the civilian population and to reduce industrial destruction to a minimum. As the A.R.P. system formed an integral part of our air defences the Air Minister and the C. in C. of the Luftwaffe were entrusted with its organization.

With five years of war experience behind us, it becomes evident that the German ARP system as organized at the beginning of the war, was totally inadequate to meet the demands placed upon it during the course of the war.

The German policy of disarmament followed between 1918 - 1933, and general political trends at that time led to the neglect in spite of many warnings of all A.R.P. measures.

Between Hitler's accession to power and the outbreak of war, much was done to remedy the previous lack of activity. It was however impossible in so short a time to make Germany less vulnerable to air attacks owing to her geographical and political position and to her internal structure. In any event, nothing could have substantially altered the steadily increasing effects of air attacks, against which subterranean tunnelling is the only effective protection. No country in the world has so far been able to give her cities and industrial centres this protection, and no country is likely to be able to do so in the near future.

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The Air War up to the beginning
of the Western Campaign in 1940

The pessimists who foretold continuous enemy activity over Germany from the East and from the West which would rapidly reduce her cities to rubble and ashes, were quickly disproved. The superiority of German leadership eliminated the Polish Air Force and thereby removed all danger from the East on the first day of war.

On September 1st 1939, a number of bombs were dropped near Peiskretsch, North of Gleiwitz, but these however failed to explode and the raid was thus of little importance. On the same day, 7 Polish bombers were reported to be approaching Berlin, but this report proved to be false. For all practical purposes the Polish Air Force had ceased to exist after the 2nd September. There were one or two minor attacks such as the raid on the railway station of Riesenburg on September 5th which caused very little damage and an attack on advancing German armoured columns near Rozan.

In the West the Allies abandoned their plans of waging a strategic air war on a large scale and limited their activities principally to reconnaissance over the West Wall and the North Sea coast.

On the night following the British Declaration of War on September 3rd, British planes flew over Dortmund, Cologne and other towns in Western Germany to drop propaganda leaflets.

On the evening of September 4th between 18.00 and 19.00 hours a force of 25 or 30 English aircraft bombed the naval base of Wilhelmshaven - an attack directed purely against military objectives. No direct hits were scored, and 9 of the attacking planes were shot down. Both these attacks proved that England had no intention of respecting Dutch neutrality in the air, and the Dutch defences consequently opened fire on them.

A bigger leaflet raid on the night of 8th/9th September brought a number of British bombers over Central and Western Germany. Between 02.00 and 06.00 hours large quantities of leaflets were dropped in the Cuxhaven, Rathenow, Nordhausen, Kassel, Paderborn and Rheine areas. These aircraft carried no bombs; this was proved after investigation of one aircraft which had come down near Langensalza owing to engine trouble.

Such raids were repeated without causing any appreciable change in the general situation. As these aircraft flew by night at great altitude or under cover of clouds, our batteries could not open up at all or only with predicted fire. With the means then at our disposal, a barrage of this nature could not be expected to achieve any direct hits. The clouds and darkness, elements which General Wever had described as "The Pilot's friends", had become the Allies of the enemy.

In view of these nightly raids which apparently involved few risks for the enemy, the question arises of what caused the Western Allies to abandon the idea of a strategic air war during this phase of the war.

To bring their economic campaign to an early and successful conclusion, France and even more so England who had the initiative would have had to destroy all the German key industries and thereby paralyse the entire armament industry of the Reich. Since however industrial centres were dispersed over the whole of Germany and British bombers had at that time a very limited range, such tactics were impossible.

The enemy could therefore only endeavour to slow down the German military successes by interfering with her economic structure and let time do the

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rest, time which he himself needed to complete his own armament.

Until such time as circumstances permitted the enemy to wage an air war on the planned scale, he meanwhile tried to acquire as much experience as possible in small scale attacks. This pointed to a long-term policy of the part of the enemy and we consequently assumed that he was reckoning on a long war.

During September there was little enemy air activity over the Reich. On September 27th between 09.00 and 10.00 hours four reconnaissance aircraft were sighted over the Oldenburg-Hanover area. No hits were reported by the Flak batteries and our fighters lost the enemy in the clouds. One bomb, probably an emergency release, was dropped near Dinklage, Northwest of Diepholz. This reconnaissance activity was probably aimed at obtaining information on our rail transport movements.

On the night of October 2nd, enemy activity spread to the Heiligenhafen, Wismar and Greifswald areas. At dusk on 27th November the first machine-gun attack took place on Borkum airfield. 8 Blenheims dive bombed some office buildings, causing some damage and wounding 2 employees. These same aircraft also attacked a steamer at the mouth of the Ems on their return flight.

During the latter half of December, bombing attacks were carried out on several North Sea islands; the bombers dropped their bombs, partly in sticks, after circling for some time over the target at a great height. Most of the bombs fell 4 to 5 kms out at sea.

During the first months of 1940, enemy air attacks still seemed to be haphazard. Apart from reconnaissance missions over Germany, more and more practice or nuisance raids were made by single or small numbers of aircraft and these raids were confined almost exclusively to night time.

On December 12th two nights after violating Danish territory by a bombing raid on the island of Roem a few kms North of Sylt, the first bombs were dropped on a German town, on the Eastern outskirts of Westerland on the island of Sylt. Propaganda raids took place on the night of February 23rd when a few British aircraft flew over Southern Germany as far as Vienna, and on March 4th when they penetrated as far as the Neusiedlersee area.

An attack on the island of Sylt on the night of March 20th showed a definite tactical plan. At 19.50 hours, British aircraft began a series of continuous attacks on the airfield of Hornum, South of the Hindenburg Dam. The raiders approached in small waves of 2 to 4 aircraft at intervals of 15 to 30 minutes, each dropping 4 - 6 H.E. bombs (probably 50 kg.), and a number of incendiaries, from heights varying between 300 and 2,000 metres. During these attacks, amounting to about 23 runs over the target, there was some machine gunning and the enemy also made use of parachute flares. The damage caused was negligible.

During these missions the enemy usually violated the neutrality of the neighbouring states of Denmark, Holland, Belgium, Luxemburg and Switzerland. Our own patrols and night fighters never came in contact with the enemy and successes by our Flak batteries were very rare. In some cases the hostile planes flew with their navigation lights on or dropped flares or light signals while they circled for long hours over their targets.

After the occupation of Denmark and Norway, British air activity increased over these newly conquered territories. Carrier borne aircraft joined in attacks on harbour installations and aerodromes, using German recognition signals. During this period an attack was made on the railway station of Heiligenhafen and 3 medium weight bombs were dropped on it; the station

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however remained in full use.

An extract from a report issued by the Supreme Command of the Army, dated 25th April reads:- "On the night of the 24th April, hostile aircraft dropped a number of bombs on the outskirts of the small town of Heide in Schleswig-Holstein, in spite of the fact that there are no military objectives of any kind in Heide or in its surroundings. By this act the enemy has begun an air war against undefended places of no military importance".

The air war during the Western Campaign

Enemy minelaying aircraft were meanwhile operating in German coastal waters. The general picture however remained unchanged until the beginning of the campaign in the West.

On May 10th at 16.00 hours, Freiburg was attacked by 3 aircraft. Bombs fell on the aerodrome itself and also in four places in the town area, causing little material damage, killing 28 people among the civilian population and seriously wounding many others.

For further raids on German towns the enemy reverted to night operations. On the night of May 18th an attack on Hamburg was carried out by continuous waves of aircraft which dropped 50 H.E. and several hundred incendiaries and the OKW was consequently forced to issue the following warning in their report on that day's activities:- "As in all previous attacks, all bombs were, with the exception of one Army barracks, dropped indiscriminately on non-military targets. The OKW makes this statement after careful study of all data concerning the attacks".

Damage was not therefore caused to military objectives and that to industry was negligible. This was partly due to the obvious lack of planning behind these attacks.

Attacks now followed almost every night; at the beginning of June the first 100 bomber raid was carried out, and at about the same time, French aircraft were for the first time detected among the raiders.

On July 2nd, the enemy changed his tactics; towards midday several British aircraft flying at great altitude suddenly emerged from the clouds, throttling hard and dropped bombs on the town of Hamburg-Barmbeck. 11 children, 3 women and 2 men were killed. Owing to the fact that the bombers had silenced their engines, the Flak batteries guided by the sound prediction system could not operate.

Two further day light attacks on airfields in occupied territory took a somewhat different turn. At 10.30 hours on July 9th 13 Bristol Blenheims attacked the airfield of Stavanger-Sola, and on July 10th at 14.30 hours 7 Bristol-Blenheims attacked the airfield of Amiens-Glisy. All the raiders were shot down.

In night attacks our Flak units had to confine themselves to putting up a barrage which forced the enemy to drop his bombs at random. It was usually found that a beam of light was sufficient to make the bombers drop their bombs, and this was why so many dummy installations were comparatively heavily bombed. The enemy losses remained small.

On the night of August 26th British bombers were over Berlin for the first time since the beginning of the war, dropping incendiaries on the outskirts of the capital; this was followed by a series of attacks with H.E.'s and incendiaries on the city itself. Consequently on the 7th September, by the Fuhrer's orders, the G.A.F. began their heavy raids on London.

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The air war after the fall of France and during the Battle of Britain.

The occupation of Holland, Belgium and Northern France had no appreciable or direct effect on the British raids on Germany, as the raiders always took off from England for their flights over the Continent. Indirectly, it led to a dispersal of the enemy's forces which now had to cover the newly occupied Western territories as well as Norway. In spite of this the enemy launched at the beginning of September a series of raids on the Reich territory itself with increasing numbers of aircraft, and after one maximum of 200 aircraft an average of about 100 aircraft flew daily over our territory; this was of course only possible when weather conditions, especially fog over the English bases, permitted large scale operations at all. A mass attack was extremely rare. Apart from single aircraft and flights, squadrons of 15 to 20 aircraft were used.

The enemy tended to approach over a wide area and throughout the whole night often without any main objective, causing the longest and most widespread disturbance to the civilian population and to industrial production. In some cases the same targets were raided twice in one night.

In some cases the selection of targets was dictated by political events. This applies to the raid on Munich on the night of November 9th, and the attempted raid on Berlin on November 14th, during the visit of the Russian Foreign Minister.

The number of H.E.'s dropped was in most cases approximately equal to the number of aircraft participating in the raid, while the number of incendiaries was relatively small. Up to the end of 1940 an average of 1 H.E. was dropped for every 5 incendiaries, in rare cases the proportion was 1 : 8.

The air war up to the end of 1941.

The beginning of 1941 saw a rapid increase in the number of incendiaries dropped. On the night of January 4th 60 H.E.'s and 3,000 incendiaries were dropped on Bremen; the number of incendiaries dropped in one raid soon rose to 5 and 6,000.

The raids also increased in intensity. On the night of March 2nd 70 aircraft attacked Cologne for 2½ hours; the raiders attacked in 12 to 15 waves of 5 to 6 aircraft each at intervals of 10 to 15 minutes from a height of 3,500 to 7,000 metres. On the night of March 14th 100 aircraft dropped 300 H.E.'s and 6,000 incendiaries on Hamburg.

A particularly heavy attack was carried out on Emden on the night of April 1st, when 30 H.E.'s and 1000 incendiaries destroyed 50 private houses and severely damaged 40 others, rendering 1000 people homeless.

The towns of Hamburg, Bremen, Kiel, Emden, Hanover, Dusseldorf, Cologne and Berlin, seemed to be priority targets; other attacks were mostly nuisance raids, and as many as 90 different places were bombed in one night. In some cases the enemy tested his range of action by penetrating as far as the Graz and Posen areas.

Damage inflicted, especially in the economic sphere never became unbearable and the maximum production output was always quickly restored. Even the attack on Hamburg on the night of May 9th, the heaviest yet delivered, and during which 100 aircraft dropped 400 H.E.'s and 3,500 incendiaries, caused no appreciable damage to industry.

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Attacks on occupied territory were mainly confined to the coastal areas, and were directed against naval and air bases. By day the bombers usually flew with a strong fighter escort. Armed reconnaissance and fighter penetrations frequently led to air battles in which heights up to 12,000 metres were reached.

Aerial mines, phosphorus incendiaries and fire leaves, began to be used to an increasing extent but were still only dropped in small quantities. In some cases reproductions of German clothing coupons were dropped.

With the beginning of the Russian campaign, the Eastern territory of the Reich which had so far been undisturbed, began to be attacked. On June 22nd. the Russians launched bombing attacks which were at first confined to East Prussia, but later spread over the Bay of Danzig to Berlin and Silesia.

Only a few aircraft, however, were involved in these raids, and either no bombs were released at all, or if they were - damage was negligible. Even this activity soon decreased and stopped altogether towards the end of August.

The Russians confined their attacks to South-East Europe, especially Rumania, with Constanza, Sulina and the oil fields as their main targets. At the end of October and beginning of November, Russian aircraft carried out flights over the Baltic and made several attacks, penetrating in one case as far West as the Cuxhaven-Wesermunde area.

Thus the Russian campaign caused no fundamental changes in the general air situation. The losses in life, health and property sustained by the civilian population were regrettable, but the enemy was totally incapable of causing any military or economic destruction.

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