The Rise and Fall of the German Air Force - (Air Pamphlet No 248) 1922-1940

Introduction by Sebastian Cox

The following pages contain the introduction and a chapter on the Battle of Britain and the Blitz taken from a work entitled The Rise and Fall of the German Air Force 1933-1945. This was an unusual publication, which was written and produced by the RAF's Air Intelligence [AI] organisation following the end of the Second World War. It first appeared in 1948 with an introduction by the then head of Air Intelligence, Air Vice-Marshal "Tommy" Elmhirst. It was originally classified, though at a fairly low level, and was widely distributed within the RAF, and was then published by Arms and Armour Press in 1983 in a new edition for sale to the general public, with an introduction by the then Head of the Air Historical Branch, the late Air Commodore Henry Probert.

The principal authors for Rise and Fall of the GAF were three individuals who had each spent a major part of the Second World War working in the AI organisation. The editor was Cyril March, who had served in AI1(K), later ADI(K), the Assistant Directorate of Intelligence responsible for all PoW interrogations, including postwar interrogations of senior Luftwaffe officers. He was assisted by Wing Commander Asher Lee, who served in AI3(b) from early 1940 until the end of 1944, during which time he had the prime responsibility for intelligence on the Luftwaffe's Order of Battle. Lee himself actually published a short history of the Luftwaffe in 1946 with a foreword by none other than Lieutenant General Carl Spaatz, Commanding General of the United States Army Air Forces. That the most senior serving USAAF officer should agree to write the foreword speaks volumes for the regard in which Asher Lee, a mere Wing Commander, was held. Spaatz wrote that Lee "knew more about the German Air Force than Goering." Squadron Leader Geoffrey Barraclough, the third member of the writing team, served in AI3(b) from August 1942 to the end of the War in Europe. All three men brought their unique knowledge and insight on the German air arm to bear.

Although by its very nature the text is an Anglo-centric perspective on the Battle (e.g. its lauding of the Spitfire and Hurricane in comparison to the Messerchmitt 109 is somewhat overdone [paras 29 & 30]) it nevertheless includes some reasonably accurate analysis of many of the Luftwaffe's failings. German overconfidence and poor intelligence, the two perhaps not being unconnected, were certainly major contributory factors in the Luftwaffe's defeat. The authors clearly had access to much German documentary material, including not only Luftwaffe directives and intelligence assessments [e.g. paras 8,24,25,20], but also records of the dissension and disagreements between the senior German airmen which famously emerged at the meeting in the Hague early in September [para 22]. Serviceability was also an increasingly serious problem for the Luftwaffe during the Battle of Britain and on into the Blitz [paras 27 & 40]. One of the Luftwaffe's major problems was its inability to follow one of the principles of War, the selection and maintenance of the aim. For much of the Battle of Britain and the Blitz the Germans not only spread their effort too widely, but constantly changed the focus of that effort to boot [see, for example, Goering's target priorities and orders set out in para 47].

The original work was not sufficiently highly classified to include reference to the Ultra decrypts of German Enigma signals, to which all three AI officers would have had wartime access, but there are occasional references to material which probably originated in Ultra, as for example with the reinforcement of Luftflotte 2 from Luftflotte 5 in August 1940 [para 24].

The Rise and Fall of the German Air Force remains a valuable source for historians of the air war in 1940 and a useful and succinct analysis looking to consider enduring lessons from the 1940 air campaigns.

Foreword

by the Assistant Chief of Air Staff (Intelligence)
Air Vice-Marshall Sir T W Elmhirst, K.B.E., C.B, A.F.C.

This volume is our first attempt to relate the operational history of the German Air Force during the war of 1939 to 1945. It recounts in some detail the progress of the principal campaigns, and traces the problems encountered, both in the field and in the direction of the air war at the higher staff level. It must be left to the historians to make a more extensive study, but this book, written at the command of the Air Council, is designed to provide in the interim for the needs of staff colleges. The short time that has elapsed since the events described took place make it impossible for the account be anything but imperfect but it has been written by the men and women who themselves conducted the intelligence attack against German Air Force during the war years, and, insofar as rapid demobilisation has permitted, it constitutes the best contribution air intelligence can make to cover the period until authoritative and comprehensive histories are available.

So far as it goes therefore, the present work may be regarded as a reasonably accurate historical record, presented in a form which, while avoiding technicalities as far as possible, should be acceptable to most readers. It is, throughout, based on reliable German documents and statistics, either captured during the war or subsequently recovered from scattered archives of the Luftwaffe. While the course of the first 18 months of German air operations may be generally known, the launching of the Norwegian and French campaigns and the Battle of Britain as seen from the German side will make fresh reading. The account of the part played by the German Air Force and events on the Russian front, and the details of its operations in the Mediterranean, are also largely new, and story of the struggle against Allied daylight bombing offensive in 1943 and 1944 is like to be of considerable interest. The final vissictudes of the Luftwaffe, losing battle of the German Air Staff against the obstinacy of Hitler and the incompetence of Goering, and the inability of German supreme command to appreciate the consequences of their declining air superiority, reveal only too clearly the errors of lack of foresight of those directing the Nazi war effort to enslave Europe, defeat Britain and dominate the world.

Every effort has been made to approach the subject, in an objective and unbiased viewpoint, and full credit has been given to the undeniable successes of the German Air Force. Many German shortcomings are revealed, the principal probably being the lack of objective policy directed by experts in air warfare, able to express their views and translates them into action untrammelled by the dictates of political intrigue and unhampered by the whims of incompetent and vacillating superiors. It must be remembered, however, that, in spite of these weaknesses, those directing the German Air Force were faced throughout the war with an undeniable restriction of resources of every kind. In short, Hitler bit off more than he could chew, and the Germans had insufficient resources to provide an adequate air force to support the operations to which it became committed. Although hopelessly

outnumbered and fighting a losing battle from 1943 onwards, the Luftwaffe remained a substantial force to be reckoned with in all military calculations up to the closing stages of the war. It is doubtful if a greater realisation of the importance of their power, as we come to understand it, would have been done more than to prolong war. The German Air Force would certainly have given a different account of itself if those controlling its destiny had not underestimated the threat of Allied air power. If they had realised the vital necessity for air supremacy, if final effort in the technical field had not been made too late, the story might well have been different.

Every aspect of the work and organisation of the German Air Force during this time is covered in existing reports and captured documents. So they may be written up and issued in a form which can be read in conjunction with this book. Studying this history the readership will find many situations where decisions which were taken by high-level command are puzzling. If the background of the decisions is not fully appreciated the character of Hitler and Goering and the cumbersome machinery of the supreme command were ever present factors in air force policy and through action. Short study of the workings of the supreme command has been prepared and appears in appendix to this book.

Chapter 4

The First Failure of German Air Power: the Battle of Britain and the Battle of the Atlantic

The Battle of Britain

The Battle of Britain August to September 1940

German Conception of Invasion

1. The conclusion of the campaign in the Netherlands and France on June 25th left the German General staff with the task of preparing and executing an invasion of Great Britain within the three months of good weather to be expected before autumn gales would make the undertaking impossible. The necessary regrouping of the armies and air forces, and the collection of suitable vessels precluded the possibility of any immediate exploitation of the rapid victory just achieved.

2. It is perhaps not surprising, in view of the successes of the German Armed Forces from the Polish campaign onwards that the General Staff retained a purely continental conception of an invasion across the Channel. The now well tried formula of the annihilation of the enemy air force, followed by rapid advance of the German armies with powerful direct air support, was held also to apply to Great Britain. There was, in the German conception only one difference, the RAF. As the most powerful single air force yet encountered, it would require a destruction time longer than the 12 to 40 hours previously allotted to other air forces.

3. Deliberations by the German Combined Staffs produced a directive from Field Marshal Keitel on July 12th to the effect of the German lack of command of the sea could be substituted by supremacy in the air. The directive recognised that in an invasion of Great Britain no strategic surprise was possible, but landings must take the form of a powerful river crossing with the air force acting as artillery. The first condition before such crossing could take place was the defeat of the RAF so that the essential prerequisite of German air supremacy would be assured. The German High Command, in regarding the whole undertaking in the same light as a large-scale crossing the river such as the Meuse, allotted to the air force its normal preliminary task and, as before, planning of this task was left in Air Force hands.

Disposition of Luftwaffe Forces

4. The regrouping of the German Air Force in preparation for the expected final stage of the Western campaign showed few changes as compared with the Battle of France. Luftflotten 2 and 3 merely extended the areas into France and took over existing airfields. The common boundary on the channel coast at the mouth of the Seine was extended northwards through the centre of England and each was allotted to its own sphere of operations. The subordinated Fliegerkorps remained as before, with the exception that II and IV were exchanged between the two Luftflotten, largely because Fliegerkorps IV disposed of the main units specialising anti-shipping operations and could be better employed in the Western Approaches, St George's Channel and the Irish Sea areas. These two Luftflotten were given the task of delivering the main attack on England, while the forces of Luftflotte 5 in Norway were to be brought in to create a diversion of British defensive forces to the north-east coast of England.

5. Another development was the grouping of the single and twin-engined fighters of the Fliegerkorps in Luftflotten 2 and 3 under tactical fighter commands known as – Jagdfuehrer or Jafues – which, within the framework of the main operations by the Luftflotten, retained a measure of independence in the planning of fighter escorts and sweeps. These Jafues could be compared with RAF fighter groups in their functions, but at this stage suffered from the disadvantage, which was to prove to be the undoing of the whole German fighter effort, that they had at that time no method of plotting of enemy air forces or controlling their own aircraft once airborne. Although they performed the functions of operational commands, operations themselves had to be flown blind, and without further direction from the ground. The two Jafues in question, Jafue 2 under Luftflotte 2 and Jafue 3 under Luftflotte 3 control respectively

460 single engined and 90 twin-engine fighters and 300 single-engined and 130 twin-engined fighters respectively.

6. At the end of the campaign in France many of the units of the German Air Force had been withdrawn to Germany to rest and refit, particularly fighters, dive bombers (Stukas) and short-range reconnaissance (Army Cooperation) the latter having suffered heavy losses. Meanwhile Luftflotten 2 and 3 disposed small forces bombers to continue the day and night attrition against the supply of Great Britain by sea. During July the air forces were gradually dispersed to airfields between Hamburg and Brest, and by the 17th of that month, when the order for full readiness was given, the striking force had been built up to its intended strength. The actual strength of the forces controlled by Luftflotten 2 and 3 for the assault on southern England and the Midlands comprised:

Long-range bombers 1200
Dive Bombers 280
Single-Engine Fighters 760
Twin-Engine Fighters 220
Long-Range Reconnaissance 50
Short-Range Reconnaissance (Army Cooperation) 90
Total 2600

7. The additional forces based in Norway in the control of Luftflotte 5 cannot be said to have taken part in the Battle of Britain, at least in its early stages, but they did play a diversionary part of value to the Germans in forcing the RAF to retain fighter defences in the North. The striking forces available in Norway, as distinguished from those held for purely defensive purposes were:

Long-range bombers 130
Twin-Engine Fighters 30
Long-Range Reconnaissance30
Total 190

The Luftwaffe Plan

8. Within the wider Combined Staff plans for the invasion, the task of the German Air Force was twofold. In the middle of July orders by the Air Force Operation Staff to the Luftflotten made clear the two main aims as follows

(a) To eliminate the RAF, but as a fighting force and in its ground organisations.

(b) To strangle the supply to Great Britain by attacking its ports and shipping.

The elimination of the RAF was to be accomplished in two stages. In the first place the fighter defences located to the south of the line between London and Gloucester were to be beaten

down, and secondly, the German offensive was to be extended by stages northwards until RAF bases throughout England were covered by daylight attacks. As part of the same plan, the daylight bombing offensive was to be directed against the British aircraft industry.

9. Elimination of the RAF and the British aircraft industry was to begin in early August, and the day for its launching was given the somewhat dramatic codename Adler Tag (Eagle Day). It was considered by the Germans that the first phase, the destruction of the RAF Fighter Command in the South would take four days and the whole process of eliminating the RAF four weeks. The invasion itself, with the Luftwaffe in full support of a Blitzkrieg type and with negligible opposition from the now beaten RAF was to be aimed in its greatest strength at the coast between the Isle of Wight and Dover. On August 6th Goering called a conference of the Luftflotte chiefs at Karinhall, as a result of which Adler Tag was provisionally fixed for August 10th, given favourable weather. The invasion itself could take place at sometime in the first two weeks of September.

The Opening Phases: Testing of Fighter Command

10. From June 25th, until the middle of July air attacks on England had been confined to scattered night raids and minelaying sorties – sometimes by as few as two aircraft on one target – directed mainly against the ports and centres of the aircraft industry. After July 17th, when the German Air Forces had been ordered to be at full readiness, activity immediately began to increase and in the ensuing four weeks worked up to a crescendo which marked the launching of the full-scale offensive on Adler Tag. Fliegerkorps VIII whose Stukas had distinguished themselves as the moving artillery barrage for the advancing armoured columns in France, was now given the task of closing the Western Channel to all British shipping by day. The heavy bombers would make shipping movements and port activity impossible by day and night, and aircraft would lay mines in shipping channels. In the last fortnight of July and in the early days of August shipping and ports in St George's Channel, the English Channel and on the East Coast were attacked on a mounting scale, while small numbers of aircraft continued with night attacks on the aircraft and associated industries.

11. From this time onwards the German bomber forces began to show themselves in greater strength over the English Channel, Straits of Dover and the south-east coast areas of England during daylight. Their activities were still, however, mainly confined to the ports and shipping and occasionally to coastal airfields. It was at this stage that the Luftwaffe began to test the qualities of the RAF fighter force and to embark on the process of wearing it down. Large German fighter formations were sent inland over England with the sole object of seeking combat. At first the response from RAF was satisfactory; formations of Spitfires and Hurricanes came up to fight, but they were at a serious disadvantage in that they were obliged to climb to combat height and were vulnerable from above. The close formation fighting tactics which they had adopted at this stage also put them at a disadvantage, but the RAF soon saw it as an error and its modified loose formations met with some success.

12. The small formations of 8 to 12 bombers with escorts of 9 to 30 fighters which attacked shipping imports in the area of south-east England during this period were also largely designed to draw the RAF fighters into combat. The larger formations were still being aimed mainly at shipping imports – for instance on August 8th two waves, respectively of 57 and 82 Junkers 87s with fighter escorts, attacked convoys off the Isle of Wight and on August 11th 38 Junkers 88s attacked the port installations at Portland and another heavy attack was directed against Dover. With the smaller formations, the duties of the escorts were to protect bombers, while the other fighters were detailed to inflict losses on the RAF fighters which attacked, weakening Fighter Command for the final test of strength.

13. The German losses at this stage were bearable, but the Luftwaffe was meeting with increasing difficulties. It was clear that the RAF was still an effective fighting force that was not suffering sufficiently heavy casualties in the actions on the coastal fringe. It became necessary for the German bomber formations to penetrate further inland so that the escorting fighters would be able to engage Fighter Command decisively. This deeper German penetration allowed more time to the defending fighters to climb to combat altitude, and so to fight on more equal terms. It was only at this stage the Germans realised that the RAF fighters were controlled from the ground by new procedure, for the intercepted R/T orders directing the fighters to the German formations with great accuracy.

14. The German intelligence appreciation of Fighter Command's control system circulated on August 7th to the operational commands, is worth quoting in full as an indication of the conceptions which led the Germans to mount large-scale penetrations in the belief that what they regarded as a rigid territorial control system could be swamped by mass attack:

> *As the British fighters are controlled underground by R/T the forces are tied to their respective ground stations and thereby restricted ability, even taking into consideration the probability that the Crown stations are partly mobile. Consequently, the assembly of strong fighter forces at determined points and at short notice is not to be expected. A mass German attack target area can therefore count on the same conditions of light fighter opposition as in attacks on widely scattered targets. It can, indeed, be assumed that considerable confusion in the defensive networks will be unavoidable during a mass attack, and that the effectiveness of the defences thereby be reduced."*

In point of fact, RAF Fighter Command's control system was sufficiently flexible for the maximum number of fighter formations to be simultaneously and separately controlled within the zone of operations.

15. German intelligence was fairly well-informed on the order of battle and ground organisation of Fighter Command, and it is evident from the above quotation that they now knew the early warning radar system was connected with fighter control. The Luftwaffe had, however, neglected this aspect of the defence of Great Britain in their pursuit of the Blitzkrieg,

and Goering was in no mood to listen to any possibility of serious opposition to the Luftwaffe. The German fighter commanders who met daily at their Jafue headquarters to discuss and plan operations began to see the difficulties, and to realise that the 980 single engined and twin-engine fighters (Messerschmitt 109 and Messerschmitt 110) were insufficient to gain a decisive superiority over the 675 fighters which German intelligence estimated at the disposal of the RAF [Editor's note: RAF Fighter Command had 603 single-engined fighters operational on 15 July], and which could be used so economically with the aid of their efficient control.

16. As the preliminary stage drew to its close the German fighter forces found themselves seriously split. The Messerschmitt 110 twin-engine fighter was proving a failure as an escort fighter, being too vulnerable to the more manoeuvrable Spitfire and Hurricane. The fighter forces found themselves obliged to provide escort roughly 3 times as great as the bombers which they were protecting, and in addition more fighters had to be held back to meet returning bomber formations, so persistent were the RAF fighters in chasing the bombers to the French coast.

Adler Tag - The Battle Begins

17. Up to August 9th, it had been foreseen by the German Air Force Operations Staff that the launching of the full air assault on the RAF would begin on the 10th, but meteorological reports caused the day to be deferred until the 13th. Even on the day itself Goering had to postpone the start until the afternoon. It was then that large-scale bombing attacks began to be directed against RAF airfields in the South of England which were likely to be used as part of the defensive organisation of Fighter Command. The German scale of effort on August 13th by the aircraft of Luftflotten 2 and 3 was 485 bomber sorties and 1000 fighters. The bomber forces of Luftflotte 5 were brought into operation on August 15th, the third day, with diversionary attacks in the Newcastle area. On that day, and in the succeeding week, the scale of attack on airfields of all types in southern England was on the heaviest scale and great air battles were continuously fought over southern England. Meanwhile, the day and night attacks on ports and shipping continued, while the special targets of the aircraft industry were singled out for bombing.

18. The short range reconnaissance aircraft, which had been used with such effect in France, could not be employed over England owing to the fighter opposition, and the long-range reconnaissance units were unable for the same reason to produce a picture comparable to that which had kept the German High Command so well-informed in previous campaigns. Nevertheless, reconnaissance showed the landing areas and installations of many of the airfields vital to Fighter Command to be heavily damaged. In spite of this physical damage the RAF was still able to offer considerable effective opposition, and by the 19th of the month, when bad weather forced a five-day break in operations, the Luftwaffe seemed to be no nearer to forcing a decision.

19. In this phase of the battle German losses of both fighters and bombers had increased, but rapid replacement of both aircraft and crews allowed the rate of serviceability to be held

at a level which still permitted large-scale operations. On August 17th serviceability of the single-engined fighter units engaged, both in aircraft and pilots stood at 85% of strength as against 95% on July 15th; comparable figures for the long-range bombers, however, remained at approximately 70% throughout the period.

20. On August 20th, the German Air Force Operations Staff issued a further order to the forces engaged to continue the fight against the RAF. They were to engage in ceaseless attacks which would force the British fighter formations into combat and reduce their strength. Special attention would continue to be paid to the ground organisation, as well as to the aircraft and aluminium industries and rolling mills. When, on August 23rd the weather improved, the attack was once more opened on the RAF ground installations. Reconnaissance had shown that the main forces of Fighter Command had been withdrawn to the area surrounding London, and the main strength of the German attacks were shifted accordingly.

21. It was now that the bombers began to suffer more heavily, both in losses and in damaged aircraft. Their armament was not sufficient to discourage fighter attack. Their escorts, primarily the Messerschmitt 109 found themselves troubled firstly by limited endurance, which could not permit more than a short period of combat en route or over target areas, and secondly by the rapidly improving fighter tactics of the RAF. The Messerschmitt 110 twin-engine fighter which had seemed to the Germans to be ideal for long-range escort purposes, was forced into defensive circles by the RAF long before the bombers had reached the target. It soon became necessary for the Messerschmitt 109 to protect the Messerschmitt 110s as well as the bombers. The twin-engine fighter units continued to make fantastic claims of victories – which in the prevailing Blitzkrieg spirit were believed – and the Messerschmitt 110, which should have been withdrawn at this stage, was allowed to continue operating. The Junkers 87 dive bomber too proved costly failure in attacks on Dover, on shipping in the English Channel, and on airfields near the south coast. On August 19th Fliegerkorps VIII, which possessed 220 of the total of 280 Junkers 87s engaged was withdrawn from the Cherbourg area and put under the control of Luftflotte 2 in the Pas de Calais area. This move, besides pointing to the realisation by the Germans that the dive bombers had been a failure in attacks on shipping, was in effect a new disposal of forces in preparation for the invasion itself. The dive bombers were now in place to provide tactical position for army support in the coming invasion operations in a similar manner to the continental campaigns.

22. At the end of August the RAF was still inflicting damaging losses on German attacking forces while little progress was being made in the Luftwaffe programme – already far behind schedule – in its first aim of destroying Fighter Command within four days, and little nearer to its secondary aim of achieving mastery of the air by mid-September. The German Air Force Staff conference, at which Kesslering and Sperrle, as Air Officers commanding of Luftflotten 2 and 3 were present, was held early in September at The Hague. The directive of August 20th to bring the British fighters to an exhausting combat, had been pursued but still no decision had been obtained over the RAF. Doubts now began to rise as to the true

strength of Fighter Commands' forces. Kesslering gave his opinion that the RAF was finished, but Sperrle thought it still had 1000 aircraft at his disposal. The Chief of Intelligence had taken serviceability towards the end of August to be as low as 100 fighters, in spite of reinforcement from the Midlands and the North, but considered that the rest imposed by bad weather had allowed a recovery to about 350. The pilot position, the RAF's true difficulty, was not considered, in spite of the fact that intelligence had established that bomber pilots were being called in to replace losses.

Second Phase: The Bombing of London

23. The creation of the hoped-for conditions for invasion had not been, and possibly could not be, brought about by pursuing the original twofold plan. On the night of the 25th RAF bombers had attacked targets in and around Berlin and Hitler, in a speech on September 4th, seized upon this attack as an excuse for announcing his intention for the revenge bombing of London. According to the rigid pattern of previous campaigns, where the Polish and Dutch army capitulated after the bombing of the main centres of population and the Danish government capitulated at the threat of such a bombing, it was hoped that similar tactics would paralyse the British Government into submission. Hitler's order to the Luftwaffe, dated September 2 – two days before his speech – directed the attack should be made on the populations and defences of the large cities, particularly London, by day and night.

24. This decision was in part the admission of failure by the Luftwaffe High Command, but at the same time Goering still hoped that the RAF fighter arm might be finally exhausted and another turn of fortune would produce a victory at the last moment. On the afternoon of September 7th a force of 372 long-range bombers escorted by single and twin-engined fighters attacked thickly populated areas of the docks in East London and caused large fires and considerable damage. On this day the German fighters made 642 sorties and that night 255 bombers followed up with an attack on the same area, which was still illuminated by the fires of the daylight attack. During the succeeding days and nights forces of similar strength – although never reaching the scale of September 7th – were in operation and extended the target area to central London generally. On September 9th for example, 230 bombers and 529 fighters operated by day, and on the 15th, 123 bombers and 679 fighters by day and 233 bombers by night. (Towards the end of August, 120 bombers under Luftflotte 5 had been transferred from Norway and added to the strength of Luftflotte 2).

25. Again German losses began to be serious, and differences of opinion arose between the bomber and fighter arms, with accusations and counter accusations which caused the direct intervention of Goering in the dispute. The fighter arm wanted an escort system of loose formations built up of elements of four, with top cover and a freelance patrol at high altitude to engage the RAF fighters before they could attack. The bomber arm, whose losses were causing anxiety, wanted close escort in twos or threes with a form of wider escort in close formation and the addition of top cover. In the opinion of the fighter arm such escort was too rigid and precluded any early engaging of the attacking fighters. In addition, the bombers flew altitudes

of 21,000 feet to 23,000 feet to avoid anti-aircraft fire, at which height they were slow and were loaded with bombs. The low speed further increased the difficulties of the fighters, which were forced to weave continuously to maintain the required close escort. The weaving, which at intervals took fighters away from the bombers, apart from further limiting their own endurance, made the bomber crews more nervous, and resulted in them demanding through Goering a still closer escort. Goering, who had allowed himself to be influenced by the bomber arm, promptly gave orders accordingly.

26. The single and twin-engine fighters were to be bound to the bombers and could not leave until attacked, giving RAF fighters the advantage of surprise, initiative, altitude, speed, and above all fighting spirit. The German fighter men pressed Goering to give way to their point of view. The whole of their experience gained from the Spanish war onwards was being thrown away. Goering, however remained adamant, and the bomber arm as well as the fighter arm – already badly shaken by the superiority of the Spitfire – suffered accordingly.

27. As September drew to a close the Germans found that the large bomber formations were not paying a dividend comparable to the losses, and on the 27th of that month there was a change of tactics involving the sending of small bomber forces composed of about 30 of the fast new Junkers 88 bombers escorted by 200 to 300 fighters. In this period German indecision was clearly demonstrated by the manner in which one form of tactics gave way to another in a groping attempt to achieve satisfactory results. The mass formation attacks have now given way to smaller and smaller bomber formations with ever greater fighter escort. Daylight bomber operations then began to give way to the fighter-bombers operating singly and in small groups, penetrating as far as the London area. It had still been possible to maintain a fair rate of serviceability in the units engaged – single-engine fighters had dropped by the end of September to 68%, and long-range bombers to 52% of aircraft and 68% in crews – but the continual drain on strength at the steady rate from July the 15th onwards could eventually lead to a serious situation.

28. Early in October the Luftwaffe was glad of the excuse of deteriorating weather conditions to call off daylight operations. It was Goering himself who made the decision. The Battle of Britain had been lost to the Luftwaffe, although nobody would admit the fact, but it was still hoped Great Britain could be worn down to the point of capitulation by resorting to mass night attacks on its industrial cities and by making seaborne supply impossible through the destruction of the main ports, and by sea mining and shipping attacks.

Factors in the German Defeat

29. The foregoing account about the Battle throws light on the main factors which contributed to the defeat of the Luftwaffe. The main factors may be summarised as follows.

(a). A fundamental failure in German air strategy and policy, which

concentrated on the doctrine of attack, and thereby led to a disproportionate weakness of the fighter arm as opposed to the strength of the bomber and dive bomber forces. The armament of the German Heinkel 111, Dornier 17 and Junkers 88 bombers which, in conjunction with the speed, had been relied upon in part to offset the deficiency of the fighters, proved inadequate and led to a wasteful use of the limited strength of the fighter escort to disastrous quarrels at a crucial point in the battle.

(b). A lack of foresight in planning the strategic use of air power in circumstances which involved the large-scale employment of big escorted formations against strong defences.

(c). A lack of appreciation by German intelligence of British early warning radar system and its possibilities when employed in conjunction with the control of the defensive fighter forces.

(d). German failure to take sufficient account of the fighting qualities of the Spitfire and the Hurricane, which had first become evident in France and over Dunkirk. The single and twin-engined fighter force employed in the Battle of Britain – which was thought to be ample in strength – was consequently outclassed when first rate aircraft were combined with the British system of plotting and fighter control.

(e). A misconception of the fighting power of the Messerschmitt 110 twin-engine fighter. Dependence had been put on this type for long-range escort work, when it failed, the Messerschmitt 109 single-engine fighters had not sufficient endurance (the drop tank employed later in the war had not yet been developed) nor were they sufficiently numerous to press the battle on to the London area and beyond.

30. It must be fully appreciated that opinion in the Luftwaffe, and indeed the whole of the German forces, after the rapid continental victories, ignored the mere possibility of any serious opposition to the great and victorious Luftwaffe. Goering himself was dazzled by his own self-esteem, and the whole of the Luftwaffe were subconsciously affected in their judgement by the outpourings of the German Propaganda Department. The German fighter men had begun to see the possibility of a tough adversary in the Spitfire and Hurricane, but the series of easy victories from Poland onwards had prejudiced their judgement in assessing the capabilities of the RAF; indeed anybody who as much as hinted at the possibility of a fighter superior to the Messerschmitt 109 incurred the risk of the serious disapproval of his superiors.

31. The attitude of Hitler and Goering themselves, rather than any lack of foresight on the part of the German Air Force General Staff, may be said to have been responsible for the launching of the offensive on Great Britain with a minimum of forethought. The probability that the employment of large forces of bombers with fighter escort over England would meet

with a new set of conditions was ignored in an almost incomprehensible mood of confidence. The experience of escorted bomber operations during the campaign in France was thought to be adequate, and consequently the Battle of Britain was begun without the advantage of preliminary planning, preparation of tactics, and training of aircrews. When the new conditions were encountered the inevitable result was confusion, friction, accusations and counter accusation.

32. The existence of the British radar system had certainly been known to the Germans at some point before the war – the airship Graf Zepplin during its peacetime cruises had been charged with obtaining data on the transmissions – but the secret of the highly developed plotting system linked with fighter control had been well-kept by the British.

33. A similar set of conditions applied to the bomber force. From the Spanish Civil War onwards the Junkers 88, Dornier 17 and Heinkel 111 had been able to outpace any existing fighter and, as the Luftwaffe had air superiority in all succeeding campaigns, it came to be accepted that bombers could look after themselves. It was not until after the assault on Fighter Command had opened that the strength of the British defensive fighter force was realised; but then it was too late to put heavier weapons and armour into the bombers. In a flash it was found that the use of powerful fighter escort was essential to counteract this shortcoming, but at this critical juncture the fighter force proved to lack the necessary strength, while a substantial part of it, the twin-engine fighter was more a liability than an asset. The German failure to foresee that the bomber types were not immune from fighter attack was one of the main factors in losing the battle. The consequence of this inadequate equipment was, that with the twin-engine fighter a failure and with the single engined fighter possessing inadequate range, the attempt to follow up the destruction of Fighter Command – a real threat in the early stages – failed once Fighter Command withdrew its bases beyond the effective escorted range.

34. Thus, by early October when the Luftwaffe began to throw the weight of its bombing effort into night attacks on ports and cities, its General Staff had dropped the original first objectives of destroying the fighter defences in the South and then the RAF itself. The new aim was to bomb Great Britain into submission by direct attack on its civilian population and its whole war economy. The one objective to which the High Command held throughout the Battle of Britain, and continued to hold during the subsequent night assault, was the continuous attack by small numbers of bomber and minelaying aircraft on shipping and ports.

35. In studying the German bombing and selection of targets to be bombed, the question arises as to whether the German bomber force was used strategically or tactically. The answer is that the Germans were not clear themselves. The opening aim of bomber forces was certainly tactical and had it achieved success the invasion could have taken place and operations could then have followed the familiar Luftwaffe pattern. As it was, with the failure to achieve the two opening objectives, German thinking became confused in the extreme. They were forced into improvisation on their original plan and the Chief of Air Staff found it

impossible to draw up any clear alternative amidst the conflicting opinions and advice thrust upon Goering from all sides. The Navy demanded minelaying and attacks on shipping. The original programme called for the bombing of British aircraft industry. Other industrial experts suggested concentrating on the railways, blast furnaces and the Sheffield steel industry; the Chief of Intelligence tried to draw attention to a ponderous and academic work called the Blue Study which set out British industrial undertakings in essential services such as gas and sewerage and their relationship to the country's economy. Hitler, above all, wanted the destruction of cities and revenge for the RAF's bombing of Germany. Hitler had his way, but attempts were at the same time made to attack targets of a strategic and even a tactical nature. Thus, by the time the true Battle of Britain had passed, the air war had moved by gradual stages from tactical to strategic and then to nothing but an attempt to produce a quick victory by an attack on civilian morale. When the latter bid fair to fail the Luftwaffe continued with a combination of planned strategic bombing and attacks on cities.

The "Blitz" on Great Britain October 1940 to May 1941

Night bombing of British cities

36. In the Luftwaffe assault on Great Britain between July and November 1940, the changes from one form of attack to another were the clearest indication of the Germans' continuous search for new expedients to replace each successive failure. The various phases of the assault cannot, however, be said to follow one another in any clear-cut sequence. From September onwards the daylight offensive against Fighter Command continued on a gradually reducing scale, heavy bomber attacks giving way to raids by escorted fighter-bombers. During the same period the attempt to produce a quick surrender of the British Government by massed raids on London was followed by a full-scale night assault on the capital. In November, this assault on London spread to other British cities and centres of industry. The attack alternated between a pure attempt to break the nation's morale and carefully planned strategic assaults on supply and production. These phases of the night assault, beginning with the raid on London on September 7th and dragging on through the winter to cease finally in May 1941 came to be known in Great Britain as the Blitz.

37. The main reason why the Germans finally threw their heaviest effort into night bombing was that during September losses and damage to aircraft in battle were causing serviceability in the bomber force to fall at such an alarming rate that night operations, with their comparative immunity from fighter attack, were the only alternative. The large-scale night bombing can only be said to have been an improvisation forced upon the German Air Force Staff, and it had only been foreseen by a few – much less by Goering. The German objectives at this stage still remained clear, however; London was to be pounded to the point where the Government would find it impossible to continue the war in the face of a collapse in civilian morale.

38. For the Luftwaffe, night bombing immediately brought with it the additional problem of navigation and bomb aiming. The German bomber force, with the exception of a few specialised units, not only lacked training in night bombing, but the loss of a large proportion of its more experienced crews during the prodigal days of the Battle of Britain had, by October, seriously reduced efficiency. The Germans, however, considered that any lack of training in night navigation and bomb aiming would be more than compensated by the employment of their recently perfected radio bombing beams. These beams – a novelty in aerial warfare – had been under development at least since 1937, and had been used in one form experimentally in Poland, and in another form had been employed occasionally against special targets in the United Kingdom since the fall of France. Yet another form was reaching the operational stage early in October. The beams had been devised as aids to daylight bombing in cloudy weather. It was the fact that they were available which gave the Germans the fortunate opportunity of continuing the assault.

39. The premature use of each of these bombing beams over England from June onwards had in turn compromised the secrecy and once they began to be used in massed bombing attacks, British radio countermeasures robbed them of much of their effectiveness. Quarrels, uncertainty and improvisation again beset high quarters in the Luftwaffe and resulting confusion in the policy of employment of the beams. Added to this, the ever present differences of opinion as to selection of targets, produced – with a few notable exceptions such as Coventry – a lack of concentration of bombing effort, a failure to pursue advantages gained after bombing certain types of target, and a continually improvised plan of campaign. The winter assault, although on a massive scale, gave the British civilian population time to recover from attacks, and the damaged industries opportunity to repair, improvise and disperse.

The Strength of the Bomber Force

40. The bomber force available for the Blitz comprised the same units of Luftflotten 2, 3 and 5 as had been engaged in the Battle of Britain, with the addition of some 90 aircraft which had meanwhile been held in Germany. A strength of about some 1300 bombers were available on paper but serviceability during August and September had reduced effective strength to a maximum of about 700. During the whole of the Blitz period the Luftwaffe was never able to recover its bomber serviceability, which remained around 50%. The reduction in wastage of aircraft in battle was offset by an equal wastage due to bad landings at night on airfields – many in France – as yet undeveloped for night flying and for use in wet weather.

Brief Appearance of the Italian Air Force

41. The RAF had in the meantime been causing Mussolini some embarrassment by the continual bombing of the industrial centres in Italy, such as Turin, with bomber aircraft based in England. It was a political gesture as much as a serious military effort, Mussolini dispatched 40 BR20 bombers and 54 CR42 single-engine fighters to bases in the Brussels area, where they could take part in the assault on England. This force arrived early in October and making use of German radio networks, opened in early November with a night bombing sortie by 24

bombers on the south coast of England. On November 11th, a force of 10 bombers escorted by some 40 fighters attempted to attack the harbour installation at Harwich. Losses to both bombers and fighters were heavy, and the next sortie by 10 bombers on a convoy off the Essex coast on November 17th had an additional heavy escort of German fighters.

42. November 23rd saw the last Italian attempt at an attack in the form of fighter sweep over the Kentish coast; some Italian bombers also took part in the raid on the same night. After that the Italians withdrew to their own country, and never again flew against England.

The Assault, and the Bombing Beams

43. After the mass daylight attack on London docks on September 7th the Luftwaffe continued to make London its main target. On every day during the remainder of the month there were raids by bomber forces varying from 35 to 280, and on every night by 60 to 260 bombers. By the early part of October, when attacks began to be confined to the hours of darkness, the Germans began to realise that the bombing beams on which they founded their hopes – the Knickebein – which they were employing over London was being seriously upset by British radio countermeasures. Although they had the 2 other types of beam, the "X" - first employed in Poland - and the "Y", these could not be employed as could the Knickebein for navigating large forces of bombers to a target. For the transmitting equipment available on the Western continental coast for "X" and "Y" beams was insufficient for this purpose, and the rather more complicated training which their use entailed had only been confined to two specialist units.

44. With the realisation that the Knickebein system was being rendered useless in massed attacks, the Germans adopted a temporary measure of relying upon periods of bright moonlight for large-scale raiding, when the bomber forces could see their target area and could navigate independently. Such was the totalitarian discipline, nobody dared to admit the failure of the Knickebein, and during the early part of October nightly assault continued on London by forces of bombers of an average strength of 200. On the 9th of that month, however, orders were passed to the Luftflotten to prepare for large-scale raids on London during the full moon period in the middle of the month. The first of these raids was a heavy one by 1940 standards and was aimed at London by 487 aircraft carrying 387 tons of high explosive bombs and some 70,000 1-Kilogramme incendiary bombs. On succeeding nights the attack was repeated with forces of 307, 150, 303 and 320 bombers. The Luftwaffe was hammering London to produce the expected surrender, but the effects of the bombing were too scattered to produce large-scale destruction. The Germans also began to realise that the high explosive bombs they were employing, by far the larger percentage of which were 50 kg, were not sufficiently destructive. They resorted to the use of parachute sea mines where their powerful blasting effect somewhat compensated for this shortcoming, but their inaccuracy when released from great heights could not improve concentration of attack. The realisation of this partial failure and the fact that London civilian morale had not collapsed brought another change in policy, this dictated by Goering.

The Final Plan of Strategic Bombing

45. If Great Britain could not be beaten down and invaded immediately, at least she must not be allowed to gain time for replacing the army lost in France or for increasing her war production. Goering took the decision in early November to extend the Luftwaffe effort to long-term attrition against the whole British industrial effort. The objective was to destroy the main industrial centres with their populations. Parallel with this new plan had come the decision to employ the "X" beams in massed attack. KG 100, the one specialist unit capable of using this system would act as target finders. Aircraft of this unit were to proceed ahead of the main force and, acting on highly accurate bomb aiming data supplied by the beams, light the target areas with incendiary fires to permit visual bombing by the main force.

46. Once more the Germans were beset by quarrels in high places, with attempts by protagonists of the "X" and "Y" navigational systems to force their sole operational use. The result was that both systems were employed and, like Knickebein, were introduced prematurely so that their effect was largely impaired by the inevitable British radio countermeasures. The latter led to further quarrels and uncertainty was extended to the operational units. It brought about a general lack of confidence in the ability of the fire raising units to find their targets accurately. The Germans had only now come to realise that the British were using the only powerful defensive weapon which they possessed at that time – radio countermeasure. The radio high-frequency war, which was to have such a far-reaching effect on the Luftwaffe strategy had begun. It found the Germans unprepared.

47. From mid-October onwards the nightly attacks in London continued with an average strength of 150 bombers and with occasional employment of Knickebein. Reliance was placed on the surprise element. Early in November, however the new plan for strategic bombing was launched by Goering in a new set of orders given to the Luftflotten as follows.

1. London to remain main target

   (a). In daylight attacks by escorted fighter-bombers and when there is cloud cover by single bombers

   (b). In night attacks of equal forces of Luftflotten 2 and 3.

2. Attack industrial areas of Coventry, Birmingham and Liverpool by small forces at night.

3. Mining of the Thames, Bristol channel, Mersey and Manchester shipping canal by Fliegerkorps IX.

4. Destruction of the Rolls-Royce aero engine works at Hillington (Glasgow) by a Gruppe of KG 26 (using 'Y' for target finding).

5. Damaging of enemy fighter arm by fighter sweeps.

6. Attacks, with fighter escort on convoys in the English Channel and on assemblies of shipping in the Thames.

7. Destruction of the enemy aircraft industry by special crews of Luftflotten 2 and 3.

8. Attacks on enemy night fighter bases.

9. Preparation for attacks on Coventry, Birmingham and Wolverhampton using "X" beams.

10. Bomb load in proposed two large-scale attacks on London –

    (a). Half with heavy and heaviest bombs

    (b). Half with incendiary bombs

This plan shows the beginning of the use of "Y" beams by small numbers of aircraft against special targets and of "X" beams in the large-scale attacks on Coventry, Birmingham and Wolverhampton (the latter cancelled owing to prior British knowledge). The fire raising aircraft of KG 100 (at that time based at Vannes in Brittany), preceded the main forces. The attack on Coventry took place on November 14th and was undertaken by a force of 469 bombers, carrying 420 tons of high explosive bombs and large numbers of incendiaries. This raid marked the first operational use of the "X" system for pathfinding and was extremely successful. The Birmingham attack, by over 700 aircraft, took place on the 19th and was followed during the remainder of that month and December by a succession of large-scale raids on London, Bristol, Plymouth, Liverpool, Southampton and Sheffield.

Burning of the City of London

48. The year 1940 closed with a sharp attack on London in the evening of December 29th. The raid was called off by the Germans some two hours after its commencement owing to a deterioration in weather conditions, nevertheless, in this short attack the main part of the City area of London was destroyed by fire. It is interesting to note that, contrary to common belief the raid was not a premeditated attempt on the part of Goering to destroy the City of London by fire – no order to that effect appears to be in the German staff documents covering this period – but was to be merely another routine night raid on London. That evening the "X" beam was, in fact directed on London as an aid to navigation by KG 100 the Pathfinder force, but the line of the beam was actually laid in a south-eastern north-west direction over the Charing Cross Road and Tottenham Court Road. A fresh south-west wind was blowing at the time and the Pathfinders, evidently giving insufficient allowance for this wind, placed the first incendiary marker bombs about a mile east and immediately to the north-west of St Paul's

Cathedral. Aircraft of the main bomber force, seeing the resultant fires, contributed a load of high explosive and incendiary bombs without further question, and so the City of London burned.

The Main Ports As Targets of Attack

49. By December, London had ceased to be the main nightly target for attack, and the assault continued on the main ports and industrial centres, albeit with varying success owing mainly to the growing British mastery of the "X" beam and the development of elaborate decoy fire systems near main target areas. By January the general lack of confidence in the navigational bomb aiming systems was such that, for the next three months, German aircraft only penetrated to inland targets in force during moonlight. The main attention of the Luftwaffe was focused on the chief ports, such as Plymouth, Bristol, Swansea, Cardiff and Hull over which the beams could still be employed with minimum disturbance.

End of the Blitz: Withdrawal of Bomber Forces

50. In April, 1941, the Balkan campaign was already underway, and some of the bomber units in the West, amounting to a total of about 150, were quietly withdrawn from France and north-west Germany. Other types of aircraft such as dive bombers, single-engine fighters and reconnaissance had already been taken southwards during the winter and early spring. Fliegerkorps X had moved from Norway to the Mediterranean at the end of 1940 in order to reinforce the Italians in their attempt to deny the Mediterranean to British shipping. During May 1941 preparations for attack on Russia were already afoot and some ground units of Luftflotte 2 and then some of the flying units were being moved eastwards. As a cover for these moves there were raids on Great Britain accompanied by spoof radio traffic to simulate larger forces. On May 10th, a large-scale night attack was launched on London as a demonstration that if there were rumours of moves, the Luftwaffe was still facing Great Britain in strength. The raid, the heaviest of the whole of the Blitz was made by 550 aircraft – a scale achieved largely by double and even treble sorties on airfields in France and Belgium. They carried 708 tons of high explosive bombs and 86,700 incendiaries, and caused tremendous damage in Greater London. Three nights later the raid was repeated in similar strength.

51. At the end of May, Kesslering moved the whole of Luftflotte 2 to the East in readiness for the attack on Russia. The bomber units of Fliegerkorps IV and V were also withdrawn from Luftflotte 3 leaving only a small mixed force of bomber reconnaissance and minelaying aircraft, together with single-engine fighter forces for defensive purposes in France and Holland, to continue with a holding war against Great Britain. The programme for the beating of Great Britain had overrun its time and, although considerable damage had been brought on the cities and industry, the time for the hoped-for collapse had passed. The Germans had every opportunity to bring Britain to her knees but failed because they had no firm and continuous policy of attack. Had the Germans been prepared for radio warfare, the navigational beams, themselves an improvisation in their application to night bombing, could have achieved disastrous damage to British cities and industry. The lack of policy at staff level had all too

frequently resulted in allowing hard-pressed cities to recover from large-scale attacks when one more attack would have produced complete breakdown. The only solution now lay in starving Great Britain of food and supplies by combined air and sea attack on shipping and waiting for or forcing surrender after the expected defeat of Russia in the autumn of 1941.

The Anti-shipping Campaign and the Battle in the Atlantic 1939 to 1942

Development of Shipping Attack

52. Early in 1939 there existed in the High Command of the Armed Forces a vague conception of the possibility of combined air fleet operations, but ideas had not yet crystallised to the same extent as in the case of combined army and air force operations. The aircraft had indeed been considered as a means of laying minefields in the high seas and trials had taken place, but with negative results. Minelaying was still regarded as a strictly naval affair and there was no clear conception of aerial minelaying in shallow coastal waters and harbours. Bombing, too, had progressed little further where shipping attack was concerned, though early in 1939 courses of training for bombing of ships were held over the North Sea. A Junkers 87 dive bomber unit was envisaged for the new aircraft carrier Graf Zeppelin. In torpedo attack with sea planes slight progress had been made, but development was handicapped by the unsuitability of the existing naval torpedo for airborne operations and the personal prejudices of Udet. The torpedo bomber did not come into its own until 1942.

53. The German Air Force as a whole, with the exception of its fleet reconnaissance units, remained completely untrained in navigation over the sea and in August 1939, was unprepared for anti-shipping warfare. The Fleet reconnaissance units comprised a small elite of Fleet Air Arm officers and men who had been drawn almost entirely from the Navy and the Merchant Service. They were already highly trained in sea navigation. The command of these forces lay within the hands of General der Luftwaffe beim Oberkommando der Kriegsmarine (Air Officer with the Naval High Command) who was responsible for equipment training and operations. Operations would always be in cooperation with the Naval High Command. Subordinate to Ob. d. M were the Fuehrer der Seeluftstreitkraefte (Air Officer Commanding Fleet Air Arm) East and West whose retrospective areas of responsibility corresponded to those of the equivalent naval commands. The forces at the disposal of the Fleet Air Arm at the outbreak of war were an establishment of 220 aircraft. Many of the types available were obsolescent. The Heinkel 59 a twin-engine biplane with float – for minelaying and torpedo work, the Heinkel 60 single engined biplane seaplane for close range and shipborne reconnaissance, and the Dornier 18 twin-engine flying boat for long-range reconnaissance were all due for replacement with more modern types. Experimental formations of Junkers 87 dive bombers and Messerschmitt 109 single-engine fighters existed in readiness for aircraft carriers.

54. In the late summer of 1939 the Luftwaffe General Staff became convinced of the necessity of providing modern bombers for attacking enemy naval forces which might attempt to enter the German waters, as well as the possibility of bombing of British warships in their own anchorages where German naval forces could not penetrate. The Fleet Air Arm could not be employed for this purpose as it possessed neither the crews, training or necessary aircraft, besides which the Naval High Command was prejudice in favour of the employment of aircraft solely as the eyes of the fleet. The only alternative was to train crews of the Luftwaffe bomber force in navigation over sea and in attacks on ships. The first step in this direction was taken when General Geisler (later to become Air Officer Commanding of Fliegerkorps X) who was appointed in April, 1939, and General Special Purposes Luftflotte 2 at Kiel and was charged with organising the Luftwaffe anti-shipping forces.

55. Two Luftwaffe bomber units KG26 and KG 30 equipped respectively with the Heinkel 111 and the Junkers 88 – the latter the most modern bomber aircraft – were chosen to undertake shipping attack. The best possible crews were selected, who after receiving the necessary training, began operations as soon as war broke out. No previous background and experience in the bombing of warship existed, and the small band of enthusiastic officer pilots engaged in these operations evolved and perfected their own methods of attacking warships in the North sea and at the anchorages, mainly at Scapa Flow and the Firth of Forth. The extension of these activities to convoys of merchant shipping was a natural and obvious step and the successful results achieved in convoy attack began to have their effect on the German Air Force Staff.

56. General Geisler's small command under Luftflotte 2 was elevated and became Fliegerdivision 10, with Major Harlinghausen as Operations Officer. The reconnaissance units of the Fleet Air Arm cooperated closely with Fliegerdivision 10 and reported targets for attack, but still operated under the orders of the Naval High Command. As 1939 drew to a close the bomber units KG 26 and KG 30, were being rapidly expanded and each reached a strength of some 40 aircraft. In Febuary 1940, General Geisler's Division was again upgraded to become Fliegerkorps X. With the experience in tactics of shipping attack now accumulated, the Fliegerkorps had come to be recognised as an expert in the field, was the obvious choice the leading the Luftwaffe the Norwegian campaign in April 1940.

Development of Minelaying

57. Parallel with the development of shipping attack by bombing, a small nucleus of enthusiasts in the Fleet Air Arm, without any direction from above, was evolving new tactics for aerial minelaying. In August, 1939 General Coeler, the Air Officer Commanding Fleet Air Arm West, was given operational command under Ob d M of the whole Fleet Air Arm and took over the title Air Officer Commanding Fleet Air Arm. General Coeler immediately began agitating permission to conduct aerial minelaying operations in British ports and coastal waters. This permission was finally granted by the Navy, and after agreement as to the areas of operation, his Heinkel 59s began to lay naval mines in the Downs, Thames estuary and

off Sherness. At this time the Navy demanded prior approval of each and every sortie, but finally General Coerler obtained permission to continue with independent operations. A firm agreement with the Navy provided the Fleet Air Arm also to cover such shallow coastal waters as were out of reach of naval vessels. These waters included the Clyde, Firth of Forth, Plymouth, Liverpool and Belfast.

58. The Luftwaffe High Command had as yet no interest in minelaying and there was nobody but General Coeler and his staff who were competent to pronounce judgement on the subject. From September, 1939 onwards the Heinkel 59s of the minelaying units were replaced by Heinkel 111s and Dornier 17s, but as operations were extended the British defences began to develop and losses began to mount up. This brought the personal interest of Goering who in mid-December, 1939 called General Coeler to headquarters to give an explanation. Coeler succeeded in pointing out that though losses were heavy, successes against British shipping were correspondingly great. The result of the interview was that Goering became convinced of the usefulness of minelaying and undertook to create a special Luftwaffe command for minelaying forces. In February 1940 this command was formed and named Fliegerdivision 9.

Decline of the Fleet Air Arm

59. On the formation of Fliegerdivision 9, the unit of the Fleet Air Arm which had been responsible for developing minelaying was withdrawn from the command of Ob d M and the direct influence of the Navy. This move marked the beginning of the disintegration of the Fleet Air Arm, a tendency which became more pronounced between the latter part of 1940 and 1942 as one unit after another was seconded to the Luftwaffe proper and then absorbed. There was much disagreement between the German Air Force and Navy staffs as to the functions of the Fleet Air Arm. The Navy always maintained that these forces should be employed solely for fleet reconnaissance. As one unit after another converted to land-based aircraft and then added bombing to its reconnaissance duty, losses were suffered which the coastal training schools were unable to keep pace. The Luftwaffe supplied replacement crews from the bomber schools and obtained a lasting grip on the units. The Norwegian campaign saw an acceleration of this tendency as many of the Fleet Air Arm reconnaissance units were thrown into the common effort of shipping reconnaissance and bombing, and then seconded to the Luftwaffe never to be returned.

60. The Navy held to its Fleet Air Arm theories until the end of the war. The Luftwaffe and Goering however failed to employ to the full advantage the anti-shipping forces which they had built up or acquired. From the time of the fall of France and through the Battle of Britain and the Atlantic these forces were continually devoted to overland bombing duties. This misuse of forces was largely due to the weakness of Ob d M Felder who failed to form a coordinated anti-shipping command from the forces which were at hand. Another important factor was that the two and then three front war which the Luftwaffe was fighting could not allow sufficient forces to be dispersed in the West for a simultaneous assault on Britain and her shipping.

From the Norwegian campaign to the Battle of Britain

61. At the opening of the Norwegian campaign, the Luftwaffe anti-shipping forces had reached a recognisable stage of development. As Fliegerkorps X was leading the Luftwaffe in the campaign, its forces were inevitably expanded by the addition of bomber, dive bomber and fighter units seconded from other Luftflotten. The nucleus of specialised shipping attack units, however still continued with the task of attacking the British Navy at its bases and supply traffic between Great Britain and Norway. The Fleet Air Arm, continued the conversion of its aircraft and obsolete types to the Heinkel 115 floatplane and the Heinkel 111 and Dornier 17. The reconnaissance activities of some of its units had been extended to bomber reconnaissance and experimental torpedo carrying.

62. During the campaigns in the low countries and France the aircraft of Fliegerkorps X continued their attacks on naval and merchant shipping and improved the tactics and the bombing of coastal convoys in British waters. The large force which Fliegerkorps X had taken to the battle of Norway was, however no longer available, and for anti-shipping work the Fliegerkorps was reduced to its two original units KG 26 and KG 30. The bomber and other forces were largely withdrawn to take part in the campaigns for Holland, Belgium and France. Fliegerdivision 9 was able to increase minelaying forces after the fall of France by a whole Geshwader of some 100 Heinkel hundred and 111 aircraft – KG4 – which had taken part in the Norwegian and French campaigns as a bomber unit. In the period of preparation for the Battle of Britain in late June and July 1940, planned minelaying operations were continued on increasing scale and the successes claimed for the minelaying justifiably high.

63. When the Battle of Britain opened on August 13th, shipping attack became part of the campaign as a whole. At the outset the forces of Fliegerkorps X in Norway continued with their attacks on the British Fleet and convoys, but the full effort of the Luftwaffe was soon thrown into the bombing effort. The minelaying forces of Fliegerdivision 9 (raised to the status of Fliegerkorps IX in October), as well as the anti-shipping units of Fliegerkorps were withdrawn from Norway and attached to Luftflotte 2 to swell the bomber forces. Conversely, other Luftwaffe forces such as the dive bombers of Fliegerkorps VIII were thrown in for attacking both shipping and land objectives. The whole concentration of effort this time was on beating down the RAF and the aircraft industry and then on bombing Great Britain into surrender. It was not until March 1941, when the chances of a quick decision against England began to vanish, that the Luftwaffe Operations Staff turned its full attention to the supply of Great Britain from the sea.

64. A blockade of Britain had now become inevitable and a plan for shipping attack was accordingly evolved for the first time as a clear and single objective, however, Fliegerkorps X had been withdrawn for a move to Sicily and attention already turned to the Balkans, with Russia in the background, so that the forces which would be available to pursue this plan would sooner or later have to be seriously depleted.