



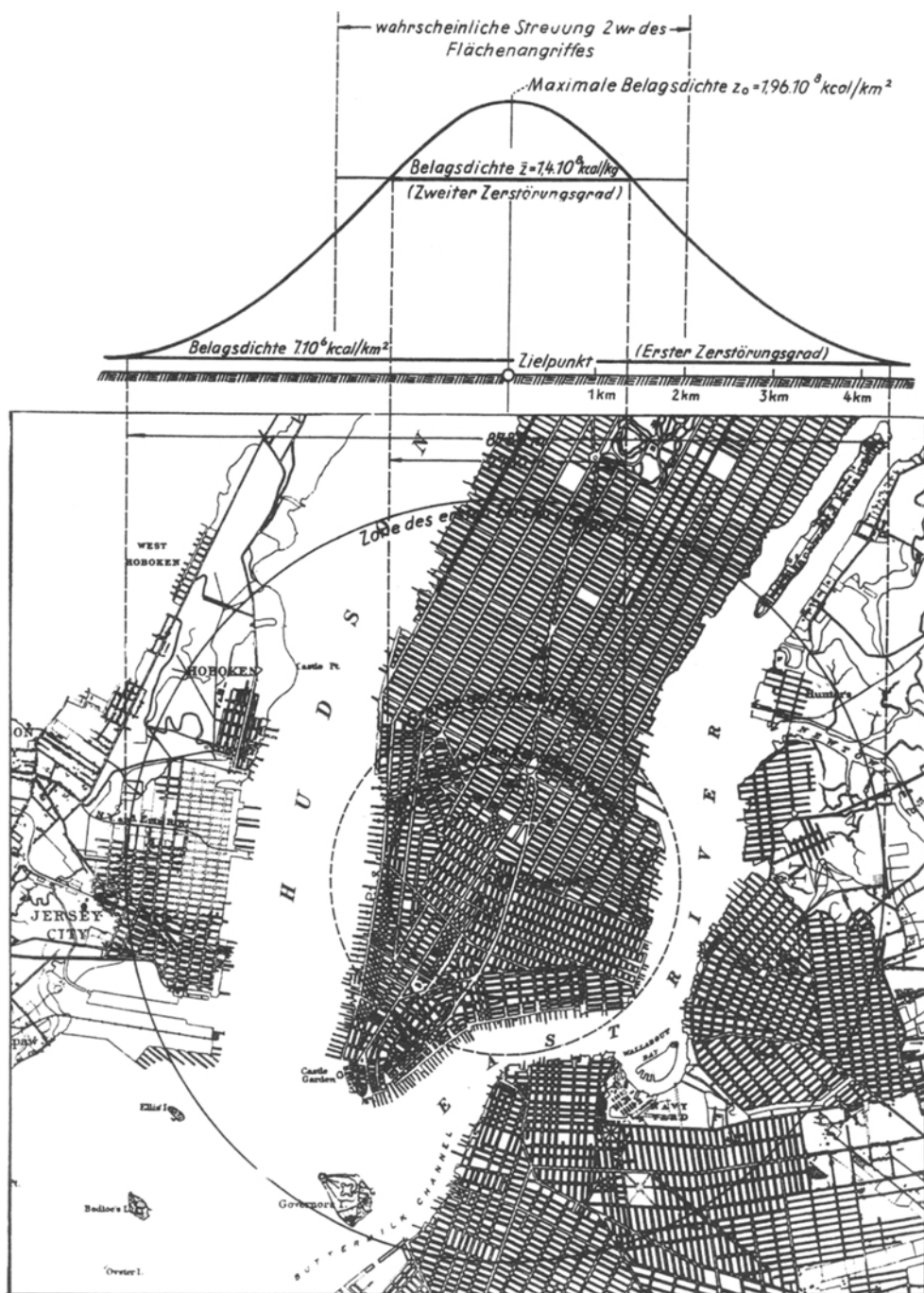
LUFTWAFFE OVER AMERICA

The Secret Plans to Bomb the United States
in World War II

MANFRED GRIEHL



LUFTWAFFE OVER AMERICA



Calculated effect of a bomb dropped on the centre of Manhattan from a rocket bomber in the stratosphere.

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MANFRED GRIEHL

Translated by Geoffrey Brooks

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***'The most intriguing point for the historian is that
where history and legend meet'
Goethe***

Introduction

Prussian Dreams of Conquering the New World

From a quite early stage there existed, at least hypothetically, a threat to the United States of America:

The German High Seas Fleet, followed by an armada of colliers and troop transports, each tightly packed with tens of thousands of grenadiers, heads for the eastern shores of the USA. Perfectly trained, a perfect example of European military planning, the Kaiser had despatched his Fleet against the motherland of democracy.

The US Navy put to sea but suffered a devastating defeat off Norfolk, Virginia. Admiral George Dewey lacked the ability of his German counterpart, von Tirpitz, and so lost the battle.

German occupation troops came ashore at Cape Cod and set off for Boston while battleships and battle-cruisers entered New York's Lower Bay, pounded the coastal batteries into submission and bombarded Manhattan. Endless salvoes from the battle fleet's 16-inch guns turned New York into a city of burning ruins. The population fled in panic.

Now the USA was forced to negotiate with the German *Reich*...

During the winter of 1897, this was how naval lieutenant Eberhard von Mantey considered that an attack on the United

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States would succeed. Around the turn of the century, after the Samoan Crisis, Imperial Germany thought war against the USA a strong possibility, but at the time the *Reichsmarine* lacked the necessary battle fleet.

In March 1889, von Mantey presented his second study. This bold scenario reckoned that New York would fall to three battalions of infantry and one of engineers! The invasion force would require 25 days for the Atlantic crossing. Up to 60 colliers would be attached to the naval squadron. The young lieutenant thought it could definitely be done. Secretary of State Admiral Alfred von Tirpitz concurred and ordered the plans to be drawn up. But General von Schlieffen, Chief of the General Staff, had his doubts. He thought that such an expedition would require at least 200,000 troops for any hope of success. Imperial Germany still lacked the means to achieve such purposes but ideas like these played a part in providing the impetus for a rapid expansion of the German High Seas Fleet.

In November 1903, Operational Plan III for an offensive against the United States had not diminished in importance. Wilhelm Buchsel, a close confidante of Tirpitz, had been appointed Chief of the Admiralty Staff and was given permission to prepare plans for an attack against the United States, using the assumption that the German *Reich* would be completely free from other conflicts in Europe. Buchsel's idea was to take control of the Panama Canal and use this to break down Washington's domination of the entire continent. Schlieffen was asked to calculate what would be required in terms of ground forces, but by then the Venezuela Crisis of 1904 had demonstrated that the US Navy had begun to arm.

The growing problems in Europe, with the ominous signs of a new war brewing in the 'Old World', led within a few years to an increase in naval armaments across the continent. Within a few more years, Admiral Dewey's prophecy that the next enemy of the USA would be the German *Reich* proved correct.

Besides plans for an attack by German naval forces, from

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about 1917 the idea of using long-range bombers or large airships began to blossom. Airships easily had the range to drop up to 1,800 kilograms (kg) of explosives along the US eastern seaboard, but the planned bomber, with a maximum range of 8,000 kilometres (km), could not have managed the homewards leg.

The fascination for attacking the United States which had developed in the late 19th century lasted well into the 1940s. An intensive geopolitical study compiled by Department Ic VIII of the *Luftwaffe* Command Staff in 1941 under the title 'Grossraum USA' held forth:

The many nations of Europe embrace an area of ten million square kilometres. The United States, a single nation, is almost the same size. Impose a map of the USA without its exterior possessions over one of Europe and the breadth of the USA stretches from Gibraltar to the Black Sea. The distance between the American northern and southern frontiers is as far as Stuttgart is from Aswan on the Nile. Yet this enormous area has only one and a half times the population of the Greater German *Reich* alone. The USA is only a little smaller than all Europe and has just 120 million inhabitants, while Europe has 450 million. It is therefore not difficult to see that people over there cannot grasp what we mean when we say we are a 'people without living space'. New York lies 6,500 kilometres from Europe, six and a half times the distance from London to Berlin. The distance to Japan is much greater, from San Francisco to Yokohama 8,840 kilometres, to Hong Kong 13,000 kilometres. Americans seem to have no clear understanding of these immense distances, for otherwise they would not need to have practice air-raid blackouts in New York against German air attack.

In 1941 7 per cent of the world's population occupied 6 per cent of the world surface but controlled more than 60 per cent of the total oil resources, 56 per cent of the rubber production, turned out 78 per cent of all motor cars and 67

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per cent of all lorries, and cornered between 30 per cent and 40 per cent of the world production of lead, coal, copper and zinc. American industrial production served not only its own markets but cemented its alliances by the supply of weapons and food. The Atlantic and the Pacific protected the United States against external aggression, particularly the expansionist designs of Imperial Japan or the Greater German *Reich*. Well distanced from any foreign threat and provided with all necessary raw materials, the United States could engage in an armaments programme enabling it, should the need arise, to intervene in the farthest-flung theatres of war in Asia or Europe.

The German plan to use trans-oceanic aircraft such as the six-engined Junkers (Ju) 390, Messerschmitt (Me) 264 or Tank (Ta) 400 for global air war failed because the capacity to produce such machines in great numbers, as was possible in the USA and Britain, did not exist. Not even a limited colonial enterprise could be undertaken. Yet these great plans might have become reality if it had been possible to overcome the Soviet Union by the beginning of 1943. With the seizure of Grozny and the Caucasian oilfields, the *Wehrmacht* would have had more fuel available than it knew what to do with. Victory in the East would have provided German industry with the material to mass-produce giant bomber aircraft. With a range exceeding 14,000 km, they would certainly have been the starting point for a strategic air war.

The defeat at Stalingrad, inflicted by a Soviet Army partly supplied and armed by the United States, and a *Wehrmacht* hemmed in between two fronts in a 'Europe without a roof', sealed Germany's fate.

Besides the gradual collapse of the whole infrastructure and its transport system, the lack of fuel and raw materials for the construction of aircraft and rockets became increasingly apparent from 1943 onwards. From 1944, drastic cuts followed in the huge aircraft development and production programmes, and at the end of it all the Thousand Year *Reich* caved in.

Since the reunification of Germany in 1990 the idea of

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so-called 'wonder-weapons' has gained prominence in a certain branch of specialist literature. These range from guided missiles such as the V-1 flying bomb and V-2 rocket to partial further developments, such as the A9 to the multi-stage A15. The numerous concepts based on the A10 and A11 intercontinental rockets advanced little further than mathematical calculations and design sketches. The breakdown in the infrastructure from mid-1944 ensured that guided missiles of that type could not be proceeded with at the pace the exigencies of the war situation demanded.

Numerous small groups seemed to have worked in parallel in the quest for nuclear power and explosives. What level of collaboration existed between them remains uncertain. Whether, as seems possible, they were close to perfecting small explosives with great destructive effect built on the atomic principle only the still-classified files in British, French and American archives can prove. That Germany was far more advanced by the end of 1944 in armaments technology than is widely believed today is confirmed by the intensity with which Allied scientific teams rounded up German scientists and confiscated their research work. The switch to building the flying-wing jet bomber in the last year of the war, and the search for airframe surfaces and paints able to deflect radar beams, is evidence for this. From the beginning of 1945 a properly directed exploration of such possibilities had become as impossible of achievement as a programme to develop weapons of mass destruction or their carrier systems.

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The Path to Strategic Air War

The idea of establishing reliable air links between Europe and America interested a number of German aircraft manufacturers from about the summer of 1917, even at the height of the First World War. Supported by Deutsche Bank, the Mannesmann firm outlined an ambitious project for gigantic biplanes and triplanes for the civilian air route to the United States. Military planning for air raids against targets along the American eastern seaboard began at about the same time when, on 18 October 1917, engineer Villehad Forssmann presented his promising portfolio. All these ideas came to naught with defeat and the terms of the 1919 Treaty of Versailles. In the years following, attention focussed on plans for huge airships, but the financial and political climate of the 1920s was not conducive to the enterprise.

The principles for large bomber operations were laid out in a report entitled 'Development of Large Aircraft for Bombing Purposes' written by *Major* Helmuth Wilberg in 1926. About three years later the *Heereswaffenamt* (Army Weapons Office) mapped out in secret its criteria for bomb carriers, but it was 6 July 1933 before it announced its tactical requirements. It was thinking of a four-engined machine with a crew of eight. Armament would be two 20-mm cannon and five machine guns. Operational height would be 6,000 metres, the ceiling 7,000 metres. A top speed of 300 km/hr was wanted. Range would be about 2,000 km.

Amongst the first projects offered by German industry was

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the four-engined Rohrbach large night bomber 'Gronabo', while other manufacturers supplied very progressive studies. When Hitler seized power in 1933 a whole new range of ideas came into vogue, not least the idea of a German Central African colonial region and ultimately world domination. Such plans required very long-range transport aircraft and trans-oceanic bombers for distant theatres of war overseas. Relatively early the United States was identified as the ultimate opponent in the quest for world mastery. In the unpublished version of *Mein Kampf*, Hitler made his plans for world domination explicit, and these were the fundamental ideological objectives of the Nazi Party programme.

Plans for long-range aircraft preceded Hitler's arrival on the world stage, however. In 1932, at the instigation of Willy Messerschmitt, Bayerische Flugzeugwerke (Bf) had begun a project to build an aircraft able to reach the Antipodes, and the M34 was scheduled to make a circumnavigation of the world in 1936. Lack of development potential ensured that nothing came of the design, and in any case the *Reichsluftministerium* (RLM – German Air Ministry) was by now more anxious to see a fast fighter (Bf 109) and a fast long-range fighter (Bf 110) for European service. All that remained of the M34 was a two-engined machine for long-range courier duty between Europe and Japan, while a new design – the Me 261 – was pet-named 'Adolfine' because the *Führer* had spoken of it in favourable terms.

The first useful prototypes to appear in the mid-1930s were the Dornier (Do) 19 and Ju 89. Both machines were under-powered, however, and the *Luftwaffe* considered them only fitted for the air transport role. All efforts by the RLM to turn out a large bomber with great range were frustrated by the lack of a suitable engine. It was evident from a mere glance at the map that in a future conflict with the USSR, targets well inside Russia, and particularly armaments factories and power plants behind the Urals, lay beyond the tactical reach of the *Luftwaffe*. The development of aircraft hull forms had out-paced engine development to such an extent that it

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prejudiced all ideas of a balanced long-range bomber from the outset.

The Dornier company began work at its own risk in the summer of 1933 on a four-engined bomber known as 'GB' (*Groß Bomber*) for short. On 1 July that year Design File 1173 was presented to the RLM. After positive discussions on 31 October between the firm and *Oberst* (Colonel) Wimmer, head of the RLM Technical Office, Dornier pressed ahead with the work, despite having no official order, and came up with Design File 1188 offering a four-engined bomber with several gun positions. By now the RLM had decided upon the technical and tactical criteria required and the guidelines were circulated in November to Dornier, Junkers and Rohrbach amongst others.

On 24 February 1934 Dornier received a contract to build a wooden mock-up of its design for presentation at Friedrichshafen in August that year to enable the RLM to form an impression of how the long-range bomber of the future would look. The first details of the Do 19 appeared in the Aircraft Development Programme of 8 May 1935. Three prototypes, Do 19 SV-1, SV-2 and SV-3, and a series run of nine were to be produced. The first prototype, Works No. 701, D-AGAI, was piloted by *Flugkapitän* Egon Fath for its maiden flight at Friedrichshafen-Löwenthal on 30 October 1936. The Inspection Board took possession of the aircraft on 10 January 1938 and the RLM accepted it on 26 January. By then the prototype had flown at least 80 times, spending more than 32 hours in the air. The first prototype was transferred to *Flugkommando Berlin* and served as a flight trainer for Lufthansa before the war. Allocated to transport duty with 10. *Staffel, Transportgeschwader* (TG – Transport Group) 172 on mobilisation on 5 September 1938, together with two Ju 89s, the machines saw service as auxiliaries during the Sudeten crisis. The last report mentioning Do 19 SV-1 places it at Köllda in 1939 and notes that the RLM had listed the machine for scrap. None of the remaining Do 19s could be completed. SV-2 (Works No. 702) was due to be fitted with four BMW 132F engines but these failed to meet requirements.

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SV-3 and the materials for the nine machines of the series run were scrapped. A Dornier design for a civilian machine (Do P 30), powered by four SAM 322B engines with capacity for 30 passengers but easily converted into a long-range bomber, found the RLM unenthusiastic.

Junkers had more experience in the field of multi-engined aircraft and soon led Dornier with its 1933 design for the future Ju 89. Delays in supplying the four DB 600C engines put the development behind schedule and the two prototypes were not ready at Dessau until March 1937. Two different sets of construction plans had been submitted: SV-1 was based on plan 290236/29 February 1936, (Works No. 4911, D-AFIT) and SV-2 on plan 150356/15 March 1936, (Works No. 4912, D-ALAT). *Flugkapitän* Hesselbach piloted SV-1 on its maiden flight of 11 April 1937. SV-2 under *Flugkapitän* Kindermann followed on 12 August. The aircraft were under-powered and proved a handful. Nevertheless, Kindermann achieved the distinction of breaking two world air records when he flew SV-2 to 7,200 metres with a payload of 10 tonnes, and to 9,300 metres with 5 tonnes. For commercial reasons the record was attributed to the Ju 90 which was being offered for export. The two prototypes' last flights before official proving were made from Dessau in September 1938 after which they joined Do 19 SV-1 with *Flugkommando Berlin*. Subsequently one of the two Ju 89s was at Dornier in Löwenthal for a short period while the other was used for gunnery practice and bomb testing at Roggentin airfield near Rechlin. The RLM had no further interest in the type and ready parts not required for the Ju 90 were scrapped.

One of the first conferences to consider powerful long-range bombers was held in Berlin on 3 June 1936 under the chairmanship of Roluf Lucht (RLM, Office LC II 1). Taking part were engineers Zindel (Junkers), Dr Vogt (Hamburger Flugzeugbau), Lusser (Messerschmitt), Nikolaus (Henschel) and Eichner (Heinkel). The Air Ministry was asking for a four-engined bomber with three crew ready for testing by the beginning of 1938 at the latest. The initial requirement was for an aircraft with a range of 5,000 km capable of carrying

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a relatively light 500-kg bomb-load. Heinkel responded with Project He P41 (later He P 1041, and later still the He 177 A-0 to A-10, the new standard bomber of the *Luftwaffe*). Six prototypes were ordered, and the full size mock-up inspected on 20 October 1938. The power plant was to be two DB 606 coupled engines, but by the beginning of 1939 four Jumo 201 or four BMW 801 coupled radials were planned instead, and for the B variant four BMW 801/80s or four Jumo 212 air-cooled engines and a wing-surface cooling system. The reason behind opting for BMW engines still under development was primarily for better handling in the event of engine failure. The other manufacturers, including Rohrbach-Werke, began with designs for a heavy four-engined short-range aircraft.

In February 1936 the RLM had asked Focke-Wulf to design a four-engined commercial aircraft with four BMW 132G radial engines. Following the submission of Offer No. 760 on 9 July, a provisional order for two prototypes was placed on 13 August. The first of these machines (Fw 200 V-1 Works No. 2000, D-ACON, later D-AERE) was provided as little more than an airframe with engines on 19 July 1937 and was first flown on 6 September by Kurt Tank and Johannes Sander. After proving trials the machine was distance-tested by Lufthansa. V-2 (D-AETA) was found less satisfactory as regards stability and had problems with the engine cowlings.

On 11 August 1938 Fw 200 V-1 caused a sensation when *Flugkapitän* Dr Alfred Henke flew the machine 6,370 km non-stop from Berlin-Staaken to New York. A planned circumnavigation of the globe (Berlin-Tokyo-San Francisco-New York-Berlin) was called off after the American entrepreneur Howard Hughes made a four-day flight of 23,500 km to the North Pole, Russia and Tokyo. The civilian career of the Fw 200 was to be of short duration, however. Lacking long-range aircraft, the RLM was soon forced to requisition four-engined commercial machines for conversion into the naval reconnaissance role.

On 23 November 1937, in company with Ernst Udet and Erhard Milch, Hitler paid a visit to Augsburg for talks with Willy Messerschmitt whom he rated highly. Hitler's *Luftwaffe*

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ADC *Oberst* Nikolaus von Below observed in his memoirs that Messerschmitt said: '*Mein Führer*, I would like to show you something else here,' and led Hitler to the mock-up of a four-engined bomber. Apparently neither Udet nor Milch had foreknowledge of the new design, and both appeared taken by surprise. Hitler left Augsburg convinced that the *Luftwaffe* would soon have the strength in depth in bombers it needed for global war. Shortly afterwards, at the beginning of 1938, the RLM drew up fresh technical specifications and presented them to industry. They contained the guidelines for the future long-range bomber programme. Operational altitude was set at 5,000 metres, range 6,700 km. The bomb-load had been doubled to 1 tonne and the crew increased to four.

Messerschmitt was actually working on three long-distance bomber designs. Me P 1062, known affectionately at Augsburg as the '*Führerflugzeug*', was an aerodynamically advanced machine powered by four DB 606 engines coupled in pairs. The decision to order the first Me 261 prototypes was taken in the spring of 1938 and within twelve months the work was well advanced. At the time the Me 261 was required as a courier aircraft and lightly armed long-range bomber. For this reason intensive effort was put into designing a bomb release gear. Consideration was also given to the idea that the Me 261 could tow a Bf 109 as its escort. Experiments of this kind were the brain-child of Dr Wurster who had made a number of successful flights in his Bf 109 E-3 (Works No. 1952) whilst under tow by an He 111. The series programme of 26 April 1939 scheduled three prototypes for readiness between December 1939 and March 1940, and by September 1939 the first scale models of the Me 261 had been wind-tunnel tested by the *Deutschen Versuchsanstalt für Luftfahrt* (DVL – German Test Institute for Aviation) and the Messerschmitt firm.

Me 264/4m (project Me P 1061) was concurrent with Me P 1062, the principal difference being the arrangement of the four engines singly. The design was known scornfully as the 'banana aircraft', and on account of the more urgent work on the order books – the production of the Bf 109 and Bf 110

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– received only sporadic attention between 1938 and the summer of 1940.

The third Messerschmitt project, Me P 1073A, evolved in July 1937 and was intended as a long-range anti-ship bomber for the U-boat arm which could double as a well-armed intruder over the land. By the summer of 1940 it was being seen as a useful addition to the global attack strategy.

The Minister for Aircraft Production, Ernst Udet, and the Chief of the *Luftwaffe* General Staff, Hans Jeschonnek, were both highly sceptical about mid-air refuelling for heavy bombers, and a suitable alternative was seen in six-engined flying boats for long-distance reconnaissance and bomber operations far from the *Reich*. Refuelling seaplanes from U-boats or other *Kriegsmarine* vessels at sea seemed feasible with a modest outlay. The resupply of fuel and bombs, and crew change-overs, made possible nuisance raids anywhere in the world. Two Blohm & Voss flying boats, the BV 222 and BV 238, were the only giant seaplanes to be considered for operations. Only the former saw active service. Designs offered by Heinkel and Dornier were far too heavy for the task. As was to prove the general problem, the production of any kind of heavy bomber in appreciable numbers in wartime Germany was simply not possible.

The BV 222 was originally a six-engined civilian flying boat (a four-engined version was never realised for lack of the required power plant). At the beginning of 1938, a full-size mock-up was inspected after which Blohm & Voss began work on a military version of the design. At the end of March 1939 the builders announced that the BV 222 had a cruising speed of 275 km/hr and a range of at least 7,000 km. That summer Blohm & Voss clarified the specifications for Deutsche Lufthansa which wanted the machine for its *Transocean* service. However, Blohm & Voss did not receive instructions to design the BV 238 until February 1940.

Blohm & Voss' direct competitor Dornier had sketched the outline of a civilian 40-passenger flying boat for the transatlantic route in 1939. The enormous fuselage, 5.6 metres broad and 6.5 metres high, allowed for almost every

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imaginable luxury. The Do P 93 project – later the Do 214 – was to have eight DB 606 engines or, failing that, eight Jumo 212s or eight DB 613Cs, each developing 4,000 horsepower (hp). Fuel load was 6,000 litres. Instead of the usual Dornier below-wing outrigger floats the fuselage was given an all-round bulge on the waterline. In July 1939 Dornier received a provisional order and began work that autumn on the huge mock-up. As an easier and less costly means of obtaining information about flying qualities, a one-fifth scale model was built. The Göppingen (Gö) 9, as it was called, performed successfully in towing trials on the water and in the AVA wind tunnel at Göttingen.

An important Focke-Wulf design derived from the type of flying boat in which Blohm & Voss specialised was a four-engined wheeled aircraft known as 'TO' (*Transocean*) for which the first studies and theoretical work began in 1937. On 11 October 1938 Focke-Wulf completed the provisional design for a civilian Europe–USA long-haul 40-seat commercial aircraft which could also be used as a long-range bomber and reconnaissance aircraft. Even against a 40-knot headwind all the way the civilian version in 1938 was expected to have a range greater than 5,600 km. The four DB 606 engines would produce a top speed of 600 km/hr. Dimensions were 35.8 metres, both hull length and wingspan, and a wing surface of 128 square metres. Take-off weight would be 42 tonnes.

The four airscrews were turned by long shafts driven by a motor installation in the centre fuselage. Beyond this lay the toilets and washrooms for the passengers. Because the location of this installation affected the centre of gravity, Dornier wanted to install a retractable nose-wheel. The RLM was altogether unimpressed and version B was replaced eventually by version F which had its four DB 606s or paired Jumo 212s in the wings for no loss in speed. The modifications involved a longer wingspan of 40 metres, the wing surface area increased to 236 square metres, take-off weight 49 tonnes and payload 3.8 tonnes. In version L the crew and passengers were accommodated in a pressurised cabin. By now the RLM had increased the required military range to

Chapter 1

7,500 km. The extra fuel meant an increase in take-off weight to 54 tonnes, although the wing area remained unchanged. Neither this version, nor designs R and S which followed it, ever flew. The military version also went under the axe. The development of the Fw 190 fighter robbed the company of any capacity it might otherwise have had for another large project. As it was, the later Fw 300 and Ta 400 were both based on the *Tranzozean*, and so ultimately the costly investment in development was not in vain.

After the death of *Generalleutnant* Wever, first Chief of the *Luftwaffe* General Staff, in an air crash at Dresden-Klotzsche on 3 June 1936, the air arm had begun to be seen primarily as an extension of the ground forces. The majority of squadrons were equipped with the Ju 87 Stuka, He 111 and other medium-range bombers. The tactical short-range support role was primarily the yardstick.

Chapter 2

From the Outbreak of War to December 1940

Although great hopes had been set upon the He 177 relatively early, the new standard heavy bomber of the *Luftwaffe* was not awarded a particularly high priority in the late summer of 1939. The prototype first flew two months after the outbreak of war in Europe. He 177 V-1 (Works No. 177 0001) was powered by two DB 606 paired engines. The early flights soon proved that coupled engines gave no guarantee of early operations. Various other points of weakness, particularly as regards stability, were soon apparent. Nevertheless, *General-Ingenieur* Roluf Lucht promised on 28 June 1940 that the He 177 'is one of the most important aircraft of the German *Luftwaffe* simply because the developing political and military situation makes it essential'. From 19 July 1940 onwards the degree of priority tended to fluctuate regularly in comparison with the He 111 and Ju 88, but delays in development were now such that nothing could be promised for the experimental unit *Kampfgeschwader* (KG – Bomber Group) 40 at Lüneberg until August 1941. Not until 1 October 1942 did the He 177 receive the second highest 'SS' priority rating.

In 1940 Junkers designed for the Lufthansa *Transocean* service an aircraft designated EF 100 with six Jumo 223 engines. The motors were powerful diesels with cylinders arranged on the square, each providing some 2,500 hp at 4,400 revs/min. The machine was designed to fly 9,000 km non-stop with up to a 20-tonne payload. Wing surface of all versions was about 380 square metres, wingspan 65 metres