J.M. SPAIGHT
C.B., C.B.E.

VOLCANO ISLAND

IN 1939, our Island was peaceful and innocuous; now in 1943, with its volcanic battle-stations of Bomber Command, it has the most terrific capacity for far-reaching destruction the world has ever known.

GEOFFREY BLES

MANSELL

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By the same author

THE BATTLE OF BRITAIN
BLOCKADE BY AIR

Frontispiece

THE RENAULT WORKS

VOLCANO ISLAND

By

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CHAPTER I

THE MAKING OF A VOLCANO ISLAND

Nature's Volcanoes

Volcanoes are as old as the hills, older, indeed, for it was often the volcano that made the hill. Volcanic islands have as long a pedigree. Nature has fashioned both, times out of mind. Existing islands have sprouted volcanoes. Other islands, alive with fire, have emerged suddenly from the bed of the sea. It has happened all over the globe, in the Mediterranean, in the Atlantic, in the Pacific, in the Bering Sea. Some have come to stay, others have sunk back into the deep.

This is the story of an old island which not nature but man's handiwork studded with volcanoes. Its inhabitants took a leaf out of mother nature's book.

Why did they do so? Why is any volcano born? There must be some good reason. Why did Vesuvius overwhelm Pompeii and Herculaneum long ago and Ottajano and San Giuseppe in our own generation? Why did Mont Pelée go mad in 1902 and blitz St. Pierre? Why did Krakatoa practically blow itself to bits one fine morning in 1883? Why have other volcanoes waked out of their long sleep and spread devastation abroad? Why, for that matter, were Sodom and Gomorrah destroyed?

They were destroyed, one cannot doubt, in some great natural catastrophe. The Bible story is assuredly based on fact and it points to volcanic eruption rather than earthquake as the cause of the disaster. They were evil cities. Nature wiped them off the face of the earth.

The Evil Cities

Nature does that no longer, at least directly. There are cities that cry to heaven for thunderbolts to strike them down, cities more evil than Sodom and Gomorrah, cities that are smithies of hell, that house the dark satanic mills of war, that forge the weapons for devilish men to use. Why are they not destroyed? Alas! Nature makes no volcanoes to order or in answer to the prayers of righteous men.

No, but righteous men who are also determined and ingenious men can make volcanoes themselves. So can the unrighteous men. Who can make the mightier volcanoes? Assuredly the righteous men when they have other

righteous men, more numerous than the unrighteous and more richly endowed by nature, labouring far away in the west to fashion for the righteous cause volcanoes more terrible still. Further, if the righteous dwell in an island more restricted in extent than the land of the unrighteous, they may be the better able on that account to put up a more powerful defence against the missiles of the latter's volcanoes.

An Island that Wanted Peace

Until but yesterday there was an island which dreamed of many things but never of transforming itself into a ramping, raging, rampaging hotbed of volcanoes. The idea was as unimaginable as any idea could be; yet it became a reality. The island was, to tell the truth, an unimaginative island, perhaps a lazy island, mentally, an island grown fat and rather self-complacent, rich and prosperous, an island whose streets were 'filled with merchants clad in gold'. It asked nothing of its neighbours but just to be left in peace. It certainly menaced no one in the wide world.

It had not always been so. It had been far from being a model of behaviour among islands. It had had a hot and lusty youth. It had been the home of adventurers, pirates, filibusters, buccaneers. It had given way to a propensity then for land-grabbing, for singeing kings' beards, for annexing chunks of the earth as the whim took it. But those days were past.

It had reformed. It had had a serious call. It had turned its back for ever on its wayward past—and it fancied in its folly that others had done it, too. Itself content with its place in the world, it forgot that others were not, that there were dangerous, ambitious, determined peoples whose lot it had been to come too late to the market-place where the spoils of the earth are sold to the boldest bidder.

War Comes

War came to it, war horrible and overwhelming. Enemies rose up against it. The men of the evil cities which forge the arms of destruction encompassed it about. Its freedom and its very existence were threatened.

Then it was that its inhabitants made their great decision. Those forges of Satan, they said, must be destroyed. But how? One way only seemed to be possible. It was the way of Vulcan. They would call Vulcan to their aid—Vulcan who was not only the maker of arms but the master-builder of volcanoes. Volcanoes, they knew, do something more than send forth streams of lava and clouds of steam. They hurl molten blocks far and wide —blocks that are called volcanic bombs. They noted the word. It was their

inspiration. They would make their island volcanic. From it should be hurled the *bombs* that would strike their assailants down.

The Island Becomes Volcanic.

So they girded their loins and set themselves to their task. Today that peaceful island, re-inforced by the embattled might of another and greater people across the ocean, is the scene of the most tremendous concentration of far-hitting might which the world has ever seen. Not all the volcanoes that have spouted fire and flame since time began could match it for destructive power. Nothing is safe within two hundred leagues of its shores. It can turn busy marts into solitudes in a night. It can unbuild cities as if by magic—a magic that would be horrible were it not used for righteous ends. The new cities of the plain which fashioned the arms meant for its destruction are themselves doomed.

Laputa—Britain

Has not a wonder as amazing as that which Swift's brain imagined 216 years ago come to pass? *His* island of Laputa could fly. Our modern one stands still, but it, too, has the power to quell revolt by means that are not very dissimilar from his. Laputa could be flown bodily over the scene of the trouble in the neighbouring country and the insurgents could be 'pelted from above with great stones, against which they have no defence but by creeping into cellars or caves, while the roofs of their houses are beaten to pieces.' Now the 'stones' are hurled from afar; they are more damaging than those of old and the 'cellars or caves' have need to be stronger to save the dwellers below from their destructive force. The whips of the old Laputa have been replaced by the scorpions of the new. The point at which fiction and reality meet is that at which fancy in the one case, science in the other, has endowed the islanders with power to crush an enemy by blows from the sky above.

The island? Great Britain.

The volcanoes? The battle-stations in that island of Bomber Command of the Royal Air Force, of the advanced air striking force of the United States Army, and of the Royal Canadian Air Force. It is not national prejudice which would claim for Britain the chief share in the bringing of the miracle to pass. And assuredly it was Bomber Command which led the way in the great assault that will increase in power now to the end. How that assault began, from what small beginnings there was built up the massive

offensive which we are witnessing today, by what degrees the colossal machine of Britain’s air power gathered momentum, this book tries to show.

CHAPTER II

THE PENALTY OF BOOSTING

Bomber Command and a 'Second Front'

The year 1942 has been one of outstanding achievement for the Bomber Command of the Royal Air Force. Its record has been magnificent—how magnificent, only those who know something of the difficulties which had first to be surmounted (and which cannot yet be disclosed) are in a position to appreciate. The great raids which it organised and carried out successfully will live in the annals of war. The idea that the decision to open a land front in the west is, somehow or other, an admission that those raids were a failure is pure nonsense. The foolish people who hold that view can be left to nurse their illusion. Every well-informed person knows that there is no conflict whatever between the Army and the Royal Air Force on this subject. A western land front is needed to draw off tanks and mechanised divisions from the Russian front. Bomber Command could not accomplish that; but then the Army could not bomb Germany.

That there is no conflict between the air offensive and a 'second front'—or any number of fronts—is evident from what Mr. Harry Hopkins, President Roosevelt's trusted lieutenant, said in New York on 22 June, 1942. 'A second front? Yes—and if necessary a third and fourth front to pen the German army in the ring of our offensive steel. Hitler's boastings are getting tamer and tamer, for he knows the Russian Army on his eastern front and the British-American Army on other fronts—when and where he does not know—will bring his vaunted Panzer divisions to heel. His cities, one by one, will be destroyed by the allied air forces.' So, too, Mr. Wendell Willkie at the close of his visit to Moscow urged strongly that the United States and Britain should open a second front in the west 'at the earliest moment our military leaders will approve', but was careful at the same time to add that the great raids on Germany should also go on. It was a coincidence that on the same day Mr. Eden, the British Foreign Secretary, was saying at Leamington that the Government 'fully understand the importance of maintaining the (bomber) offensive and further strengthening its weight week by week and month by month. This will be done.'

The Bad Patch in Early 1942

Yet, for all its great record, it is possible that if the war had miraculously come to an end—with a German victory—in the opening months of 1942, Bomber Command's war effort might have had to be set down as a failure. Almost certainly it would have taken its place in history as an example of misdirected strategy. The precise stage in the process of human achievements at which they are appraised has always an important bearing upon the nature of the judgment passed upon them. Abraham Lincoln would probably have gone down into history as a fumbling and unsuccessful leader of his country in war if Wilkes Booth's fatal bullet had been fired two years earlier than it was. It was the capture of Vicksburg, followed by Sherman's march through Georgia and the Carolinas, which changed the face of the Secession War.

So, too, Bomber Command's place in history would certainly have been a lower one if the beginning and not the close of 1942 had chanced to be the time of its assignment. Its stock stood at a low figure at the earlier date—an unfairly low one. It began to go up in March and it soared skywards in May. It had begun to pay dividends. It was a sound stock two months earlier, but it happened to be in the financial doldrums.

Professor A. V. Hill's Criticism

Dissatisfaction with the British long-range bombing policy was widespread. It was reflected in the debate in the House of Commons on the war situation on 24 and 25 February, 1942. Some of the speeches were distinctly critical, notably those of Professor A. V. Hill and Mr. Leslie Hore-Belisha. Professor Hill said:

'Past controversies about the independence of the R.A.F. have had one most unfortunate result, the exaggeration of the importance of bombing an enemy country. Against an ill-defended enemy, bombing, no doubt, can quickly produce disastrous results, but so can other forms of offensive action against an ill-defended enemy. In the present struggle none of the protagonists is ill-defended now against attack from the air. In fact, fighter defence over the land is rapidly developing superiority over attack both here and in Germany. In daylight that was made obvious already in the autumn of 1940. It is even more obvious now.'

Professor Hill went on to observe that the concentrated German attacks on this country killed about 50,000 persons, or two-thirds of the loss which the country suffered, in the form of personnel captured, at Singapore. They also disorganised transport and production to some extent, but 'the loss of production in the worst month of the blitz was about equal to that due to the Easter holidays'. The greatest damage done to Britain by bombing was its

effect in forcing her to spend a large part of her resources in defending herself. Her problem was more difficult than Germany's, the distances which her bombers have to cover being far greater. 'The Germans have developed highly successful countermeasures of various kinds, and the net result of bombing has long been known to be singularly small. The reports issued by the Air Ministry have been, in fact, far too optimistic, as perhaps for the first time the country realised when the three German warships sailed up Channel at top speed after 4,000 tons of bombs had been dropped in their neighbourhood. Everyone now knows what those who can do arithmetic and have an elementary knowledge of the facts knew long ago, that the idea of bombing a well-defended enemy into submission or seriously affecting his morale, or even of doing substantial damage to him, is an illusion. It may be persisted in by those who use big and beautiful adjectives; its futility is recognised by those who prefer arithmetic. Aerial reconnaissance and neutral observers have already told us what the facts are. We know that most of the bombs we drop hit nothing of importance. We know that German devices for leading us astray are multiplying, and the quality of their defence by fighters and searchlights and anti-aircraft guns is, like ours, improving. The disaster of this policy is not only that it is futile but that it is extremely wasteful, and will become increasingly wasteful as time goes on. An enormous effort has been put into it already and in consequence there has been a failure to provide the aircraft required to make land and sea operations a success, or even to save them from disaster.'

Mr. Hore-Belisha's Charges

Mr. Hore-Belisha asked in the course of his speech in the House of Commons on 25 February, 1942, on the war situation: 'Is it not time for us to reconsider our long-distance bombing policy? We have had evidence at Brest that you may, for ten months on end, raid an important harbour day after day, and frequently at night, drop an incalculable tonnage of bombs upon it, and yet find, at the end, that the ships you have sought to destroy can make their escape under their own power at 30 knots. It does suggest that we are putting too much of our energy and too much of our man-power into the long-distance bombing plane.' He suggested that building fighter planes for the army would be a more profitable use of our resources.

Flight-Lieutenant Boothby pointed out later in the debate that statements that night-bombing was useless had a depressing effect upon bomber crews. 'It is tough to ask these chaps to undergo great dangers and perils, which they do cheerfully and bravely, unless they are convinced, as they are at present, that it is worth doing.' He thought it would be 'a profound mistake'

to scrap heavy bombers and concentrate on torpedo-carrying aircraft, fighters and 'tank-busters'.

Mr. Garro-Jones's Suggestions

In the debate on the Air Estimates on 4 March, 1942, Mr. Garro-Jones returned to the charge. He said, *inter alia*:—'We know that these heavy bombers cannot operate except from extreme altitude or by night. In the former case they cannot hit their targets; in the latter case they cannot find their targets, and have not found them, unless they were zones and not targets. As far as direct hits on specified industrial targets by high-flying aircraft by night are concerned, we might as well send the long-distance bombers to the moon. That statement is no exaggeration of the value of that particular form of air attack.' He advocated a programme of 'widespread, continuous attacks by small forces on zone targets of an industrial character, easy to find and easy to hit. When it is necessary to carry out raids on specific industrial or naval towns, the only effective way to do it is by day, with the proper escorts of fighter aircraft.'

Hostility in the Press, etc.

The Press and the periodical literature of the times provide ample evidence of the public uneasiness about Britain's bombing policy. The misfortunes which she had been suffering in the Middle East and North Africa—and this was long before the disasters of the summer in Cyrenaica—were attributed to the persistent neglect of tactical in favour of strategical bombing and to the allocation of too great a share of the country's resources to the creation of a long-range bombing force. An example of the kind of comment that was prevalent may be found in an article by Mr. F. E. Holzinger on 'Bombing Policy' in the *Nineteenth Century* for May, 1942. In it he said that the failure to provide air support for the Navy and the Army was the direct result of the policy of building bigger bombers to raid Berlin or even more distant places in Germany. The bombing of Germany was, he said, the dominant part of British strategy, to which offensive action by the Navy and the Army was subordinated. 'Going over the top' was reserved for the Bomber Command of the Royal Air Force. He added that the production of fighter aircraft had admittedly been sacrificed to the production of big bombers.

With that last statement one may contrast one made in an article in the *Army Quarterly* for April, 1942, by Marshal of the R.A.F. Sir Edward Ellington, who was in a better position to know the true facts. Sir Edward stated: 'It has been the policy of the Government to build up the Fighter

Command, the Coastal Command and the Middle East Command as a first charge on the resources of the Empire and only to use the residue of the capacity for the Bomber Command.'

Perhaps the most definite (and dogmatic) challenge of the Air Ministry's bombing policy was that which appeared in an anonymous article in the *National Review* for July, 1942. It was headed 'Air Marshal Don Quixote' and took as its text the statement made by Air Marshal Sir A. T. Harris (Commanding-in-Chief, Bomber Command) and published in the Press on 1 June. This statement was to the effect that if a force of 1,000 bombers could be sent to Germany every night the war would be over by the autumn, and if 20,000 could be sent, it would be over 'tomorrow'. 'We wonder', said the article, 'with what feelings of contempt the German General Staff read these hypotheses built upon the fragile foundation of the word *if*.' 'With something of the contempt of Prince Rupert's cavalry for the battleground', it stated later, 'the R.A.F. are sacking the towns of the foe. . . . It is with some concern that we visualise our armies preparing for the great adventure while the indispensable air arm pursues its own strategy—a "bombing policy", whatever that may mean—and applies its own tactics to any situation, foreseen or unforeseen.' The article concluded by saying that 'great generalship is not to be reconciled with separate strategies'.

A False Conception

The fixed idea that the Air Ministry and the Royal Air Force have long cherished the thought of putting a strategical plan of their own into operation without caring for what the other two arms of the Service want, could probably not be eradicated by anything short of a surgical operation from the minds of those in which it is implanted. I can only say, from my own experience of the Air Ministry and the Air Force, that I believe there is no truth whatever in it. Indeed, it would probably be truer to say that the Air Ministry's own needs have been sacrificed so that the fullest possible assistance can be given to the War Office and the Admiralty; and that is true also in its application to the Air Force and the demands of the Navy and the Army. The reiterated attacks on the docks at Brest, while the three German warships were sheltering there, and on the submarine bases at St. Nazaire and Lorient, as well as on the north-western ports in Germany itself, undoubtedly reduced *pro tanto* the amount of strategical bombing which could be carried out in 1941. The support given to the Army in the campaign in Libya was acknowledged by the Military commanders there to be unstinted and most helpful.

After the massed raids on Cologne and Essen on 30 May and 1 June, 1942, there seemed to the public to be a curious lull, so far as attacks on the same large scale were concerned. The reason was that the bombers had been diverted for the time to other tasks. Substantial numbers of them were sent to the Middle East (where the situation had become menacing), to the Far East, and to assist Coastal Command and the Royal Navy in the battle of the Atlantic, then the most vital theatre of war. The great raids on Germany had simply to take a back place for the time. The Air Force was eager to resume the raids but it knew full well that the urgent call upon its services for work elsewhere made a resumption impracticable at that time. Subsequently, as we know, the mass raiding was begun again, but the intermission in question is evidence that the Air Ministry and Air Force have not, in fact, a selfish strategical theory which they cling to in all circumstances.

J. C. Slessor's Views

There has never been any intention or desire on the part of either the Air Ministry or the Air Force to go apart and wage a nice little war of its own, letting the Navy or Army go to pot! I could give a great deal of evidence in support of this statement, but will confine myself to this one fact. In a book written some years before the war by Wing Commander J. C. Slessor, who was afterwards Director of Plans of the Air Ministry and later still, as Air Vice-Marshal, has held important commands, the need for close support of the army was most strongly emphasised. Indeed, the main purpose of the book was to combat the idea that the Air Force's rôle was purely an independent one. On the contrary, when a land campaign was being conducted, the first task of the Air Force was to co-operate with the Army in the tactical field and only after that task had been performed should it be free to devote itself to other operations. Slessor insisted that the great asset possessed by the Air Force, its mobility, could not be turned to the best advantage unless it were used at the *decisive* point, and this would often be the field or area of land operations. 'No attitude could be more vain or more irritating in its effect', he wrote, 'than to claim that the next Great War—if and when it comes—will be decided in the air, and in the air alone.'[1]

An Air Vice-Marshal's Orders

That, it may be said, was precept. What of practice? On 6 June, 1942, Air Vice-Marshal Coningham said in an interview in Libya: 'I gave orders to my pilots that they were not to fly higher than 6,000 feet and they were to get on with the job of putting bullets, shells and bombs into tanks and infantry rather than go dog-fighting up in the sky. They did it, and did it

damn well.' How well they did it is evident from the fact that by the end of a fortnight from the start of General Rommel's advance to the east on 26 May they had destroyed more than a thousand Axis vehicles. The disasters which followed were not due to any unwillingness on the part of the Royal Air Force to give of its best.

When those disasters did occur the Royal Air Force, with the South African Air Force and the Royal Australian Air Force, played a major part in retrieving them. Their tactical work in the fighting at El Alamein was of the first order. 'From every quarter', Mr. Churchill said in his message of 4 July, 1942, to Air Chief Marshal Tedder, 'reports come in of the effect of the vital part which your officers and men are playing in the homeric struggle for the Nile valley.' A leading article in *The Times* of 7 July, 1942, referring to the continuous support given by the airmen to the soldiers of the Eighth Army, said: 'Nothing like this manifestation of air power has been brought to the aid of any British army before. . . . The sky above them is full of friends.'

When Rommel's attempt to outflank the Eighth Army was foiled at the beginning of September the airmen were again very conspicuously in the picture. 'The victory in the air was complete and undeniable', wrote a correspondent. 'During the withdrawal of the Afrika Korps some of the R.A.F. pilots found their Desert dream targets—the retreating vehicles massed in a Derby day traffic jam like Epsom visitors trying to get home after the race. Testimony to the R.A.F.'s work in the Desert today are the burnt-out supply vehicles, the enemy transports and tanks.'[2]

The contention that if the British bomber strength had been concentrated in Egypt instead of still being used to raid Germany the German successes of June would have been impossible displays a misconception of the possibilities and the limitations of the bombing arm. It seems an easy matter to switch 500 bombers over to the attacking of Tripoli or Benghazi instead of Cologne. Actually, it is not easy at all. It would require the building up in the Middle East of a vast ground organisation comparable to that established in Britain. To do this it would have been necessary to send many shiploads of men and materials to the Middle East, round the Cape of Good Hope, and the result would be that so much less shipping space would have been available for tanks and guns and the *personnel* to use them. It was the latter arms which were most sorely needed in Libya. The likelihood of disaster would have been greater, not less, if bombers had been sent instead of them.

The position would have been different if British air power had been endowed with a mobility which would have allowed it to be used, at discretion, with full force either from British or Egyptian bases. For this

purpose a ‘Transport Command’ would have been needed, to shift the essential ground crews, bombs, spares and other equipment to the area when they were urgently required. A suggestion that such a Command, at the service of the Allied Air Forces, should be established, has been put forward by Mr. Peter Masefield; such transport aircraft as the Douglas C-54 and the Curtiss-Wright C-46 could be used, he suggests, for the purpose. Until something of the kind is organised Bomber Command must remain chained to its main base and cannot be fully mobile.[3] Nevertheless, many of the heavy bombers were sent to Egypt and played an important part in the saving of the Nile Delta.

The Ruling of 7 October, 1941

Reverting to the question of the relation of the army to the air force command, one may usefully quote the ruling which, as Mr. Churchill stated in the House of Commons on 7 July, 1942, governs that relation in the Middle East and was given on 7 October, 1941. It was as follows:—

‘Upon the Military Commander-in-Chief in the Middle East announcing that a battle is in prospect, the Air Officer Commanding-in-Chief will give him all possible aid irrespective of other targets, however attractive. The Army Commander-in-Chief will specify to the Air Officer Commanding-in-Chief the targets and tasks which he requires to be performed, both in the preparatory attack on the rearward installations of the enemy and for air action during the progress of the battle. It will be for the Air Officer Commanding-in-Chief to use his maximum force for these objects in the manner most effective. This applies not only to any squadrons assigned to army co-operation permanently, but also to the whole air force available in the theatre.’ Mr. Churchill added: ‘This ruling is agreeable to both Services and has been in force ever since.’

Mr. Churchill was able to confirm the success of the system when he reviewed the war in the House of Commons on 8 September, 1942. ‘Co-operation between the air and the army’, he said, ‘had been brought to the very highest degree in the days of General Auchinleck, and it was renewed between Air Chief Marshal Tedder and General Alexander and Air Vice-Marshal Coningham and General Montgomery. The army and air commanders live and camp together in the same moving headquarters, and the Air Force, rather than being divided among the troops, is used as a whole in its characteristic fashion for their benefit, and so far as I can see not only for their benefit but to their very great satisfaction.’ ‘The Air Force has played a decisive part’, he added, ‘throughout this campaign.’ Later he

stated that 'nothing could exceed the admiration and good will in which the Air Force is held by their comrades in the Army'.

The co-operation was still more successful when General Montgomery opened his brilliantly successful offensive on the night of 23 October, 1942. 'The Eighth Army and the Royal Air Force in the Western Desert are one fighting machine, completely one', he told war correspondents on 5 November. A few days later, after the defeat of Rommel in the final break-through near El Alamein, he stated that the support given to the army had been 'quite magnificent'.

It has happened that, the circumstances being what they have been, the Air Force, through no fault of its own, has not had the opportunity to do very much in the way of supporting the army in western Europe. How can an Air Force co-operate, indeed, if the army is not operating? Actually it has taken part in the minor (combined) operations which the soldiers have carried out, and a valuable part. It will throw itself heart and soul into the business when anything of a bigger nature is on hand. Of that there is no doubt whatever.

The Boosting of the Bomber Offensive

The Royal Air Force has suffered in some degree from the kindness of its friends. At the beginning of October, 1941, the Air Ministry issued (through the Ministry of Information) the booklet called *Bomber Command*. [4] It had an enormous circulation. Probably nothing published during this war has been read by so many people. That, from most points of view, was all to the good. It was an admirable account of the work of the bombers, but it had one unfortunate effect. It left the reader with the impression that the raids had been on a greater scale and more destructive than they had been. Anyone who had studied it would have concluded that by July, 1941, up to which date the record ran, Germany had been battered so unmercifully that her war potential must have been seriously affected.

Actually the air offensive had not done her any really serious hurt by that date. *Bomber Command* was more guarded, indeed, in its statements about the damage than many of the reports issued by the Air Ministry from time to time had been. The public dissatisfaction at the beginning of 1942 was due in large measure to the discrepancy between these reports and some recent events of the air war, such as the failure to destroy or to immobilise effectively the *Scharnhorst* and *Gneisenau*. There was a general feeling that the results of the air offensive had been less impressive than the public had been led to believe.

The German Dummies and Fakes

Undoubtedly there had been exaggerations and overstatements in the reports. To re-read them now is to convince oneself that they were unduly optimistic (from the British point of view), which is far from saying that they were dishonest reports. They represented what those making them believed to be facts of the case. Appearances were, however, deceptive at times, and the devastation described was not always as great as it was thought to be. It is impossible to escape the conclusion that there was a certain amount of wishful thinking displayed in the official announcements made in the second autumn and winter of the war.

There is little doubt now that the pilots and air crews were taken in on some occasions by the devices which the Germans staged for their mystification. These were of an elaborate kind and very ingenious. The roads were painted green near Potsdam, for instance; ponds and sheets of water were covered with weeds, trees were planted on top of concrete buildings, and so on. Other devices included the laying of netting over such main streets as the Charlottenburger Chaussee in Berlin; the covering of the Lietzensee lake in Berlin with lattice work resting on piles or rafts and bearing dummy buildings, roads and trees which blended with the surroundings; the duplication of the Lombards Bridge in Hamburg by the camouflaging of the part of the Alster Lake south of the bridge in the same fashion and the construction of a dummy bridge across the Lake north of the real bridge; the stretching of canvas, with roads painted on it, over railway stations at Hamburg and Hanover; the building of a dummy main station at Stuttgart as decoy.

The Great Conflagrations Reported

The commonest device, and one which was successful for a time, was the lighting of large fires outside centres which were being bombed, the purpose being to induce the raiders following the first to deposit their loads there and not on the real target. Perhaps some of the conflagrations reported by the British crews were faked in this way. Others were genuine enough, but the effect of them was probably exaggerated. It is difficult now to believe that such enormous devastation was wrought at Politz, near Stettin, as the reports on the raids of 4 and 5 September, 1940, represented it as having been. The fires seen 70 miles away on the first of these two nights, 50 miles away on the second, the flames so fierce that the raiding crews could not see the flashes of their own bomb-bursts may possibly have been augmented for the purpose of deception. Was the great fire which the airmen saw at Hamburg on the night of 24 October, 1940, absolutely genuine? ‘It

was the father and mother of all the fires I have ever seen', a rear gunner said. Certainly the Air Ministry News Service seems to have had no doubt about the terrible effect of the raids on Hamburg in that autumn. On 12 November, 1940, it stated in one of its bulletins: 'Hamburg faces bankruptcy. Every report reaching London emphasises the growing effects of bomb-blight on this once great seaport. . . . The burnt-out shells of warehouses, the smashed wharves tell the tale of Hamburg's ruin.' Other centres in Germany were hardly in a better plight.

The air crews who bombed the Krupps' works at Essen on the night of 7 November, 1940, brought back tidings of catastrophic damage there. The works were a 'mass of raging flames'—'an absolutely astounding sight'—'a large rectangle of white flames'. One fire 'must have been nearly a mile long and a quarter of a mile wide'. There was 'a chain of fire sweeping across the area from south to north'. When Düsseldorf was raided on the night of 7 December, 1940, a pilot reported that 'even before the attack had ended the place was just a mass of flames'. A pilot who took part in the raid on Mannheim on the night of 16 December said 'I got tired of counting the fires'. On that night 'pilot after pilot saw a whole cluster of fires'. 'Spreading wastes of flames' were reported at Ludwigshaven on the night of 22 December. 'A swirling mass of flames' and 'a gigantic illuminated Christmas tree' were two of the phrases used to describe the effect of the attack on Bremen on 3 January, 1941. Two nights earlier, on 1 January, the attack had been 'overwhelming in its effect', and one of the reports on this raid was stated by the Air Ministry News Service to break into 'sudden and quite exceptional eloquence', so great was the devastation wrought. At Hanover on the night of 10 February, 1941, the fires were 'too numerous to be counted'. The description of the raids on Cologne on the nights of 26 and 27 November, 1940, might have been applicable to the great raid of 30 May, 1942, when damage exceeding that done in all Cologne's previous raids was undoubtedly caused.

The Oil Offensive

The repeated and widespread attacks on the synthetic oil plants and refineries throughout Germany were publicised with particular emphasis. On 27 October, 1940, the Air Ministry News Service gave some particulars of the damage caused by the raids on these as well as other targets. The case was quoted of an American oil engineer who had just returned to his own country after having been employed by an oil firm in Germany for fourteen years. 'His return', it was stated, 'had been made necessary because all the twelve plants of the firm which engaged him had been put out of existence

by the R.A.F. and there was nothing left for him to do.' More than a month earlier Dr. Dalton, the Minister of Economic Warfare, had stated in a speech at Newcastle (on 21 September) that 90 per cent of Germany's synthetic production of oil and 80 per cent of her oil refineries had been 'hammered with devastating effect'. That was undoubtedly an overstatement. If they had been hammered to the extent claimed, Germany's fuel position would have been a far more difficult one today than in fact it is.

An Expert's Doubts

The technical journal, *The Petroleum Times*, in an article which was produced in *Aeronautics* for January, 1942, gave some reasons for the conclusion that the air offensive had caused the German oil industry less injury than many of us had imagined. The article showed how remarkably the 'oil offensive' of 1940 had practically petered out in 1941. Oil targets at Gelsenkirchen, for instance, were attacked 35 times in the former year, those at Bohlen 32 times, and others elsewhere a less but substantial number of times. In 1941 there were two raids only on the plants at Gelsenkirchen, none on those at Bohlen, and none also on many other plants which had had numerous visits in 1940. The journal concluded that the oil offensive had been found to be less profitable than it was expected to be. 'In our enthusiasm', it stated, 'there is little doubt that most of us have been prone to over-estimate the tactical power of bombing such objectives. Even the most fervent advocate of the potency of bombing refineries can hardly delude himself into the belief that the intensive bombing campaign of July-November, 1940, has produced, by and large, any noticeable effect on the German campaign of 1941 to date. Did we not all expect too much, perhaps encouraged and misled by over-enthusiastic statements of certain Ministers? It appears so. Perhaps most of us failed to realise that, even with the unequalled skill of the average R.A.F. bomber crew, the element of luck must play a more vital part in attacks on refineries and oil-storage installations than is generally acknowledged, and this notwithstanding the vulnerable nature of their contents.'

A well-bunded depot, *The Petroleum Times* went on, has a lot of space between tanks, and one tank may blaze without the fire spreading to the next; and the vital points in any refinery are few. Much damage was done to the plants, but 'perhaps encouraged by the over-glowing accounts of raging fires in Air Ministry *communiqués* so prevalent last year [1940], a sort of impression was induced among the British public to believe "one bomb, one refinery".'

It is quite certain that Ministers themselves believed that the damage done to the oil industry of Germany, as well as to other objectives, was as great as we all then believed it to be. There is no reason whatever for thinking that they, knowing the true facts, told the public a different story. Already, by 17 July, 1940, we find Sir Archibald Sinclair, whose absolute honesty no one would doubt, saying in a broadcast: ‘We have reason to believe that the material damage caused to oil-storage installations and refineries, war industry, including aircraft factories and depots, and to railway communications, is very heavy indeed.’ He referred later in his broadcast to the ‘devastating work’ which the bombers were carrying out.

The Puny Bomb-loads

The fact is that the bomb-loads which were carried into Germany at that time were incapable of doing any serious amount of damage. They were puny by present standards. At that time 15 tons of bombs were apparently regarded as a formidable weight to be deposited on a target.[5] At all events that weight was mentioned on three occasions in Air Ministry Bulletins as having been dropped in the early raids. These occasions were the raids on the Junkers aircraft factory on the night of 28 August, 1940; on objectives in Berlin on the night of 30 August; and at Wilhelmshaven on the night of 8 October. The number of incendiary bombs dropped was also insignificant in comparison with those subsequently scattered. In the raid of 30 August on Berlin 750 were stated to have been dropped. That figure rose to 20,000 when Bremen was raided on the night of 1 January, 1941; the increase was notable but was far surpassed by the number of incendiaries dropped by the German bombers in their raid of 29 December, 1940, on London. Numbers were more nearly on a par a year or so later. In the raid on Mannheim on the night of 19 May, 1942, one detachment of Stirlings alone dropped 40,000 incendiaries.[6] In the raid on Hamburg on the night of 27 July, 1942, the number dropped by the British bombers was no less than 175,000—all dropped within the space of 35 minutes.

Bombs on London and Berlin Compared

How feeble in comparison with the strokes of the *Luftwaffe* were those of the Royal Air Force in the autumn of 1940 may be judged from the respective tonnages dropped on London and on Berlin. The *total* weight of bombs dropped in Britain as a whole between 10 August and 23 September, 1940, was claimed by the Germans to have amounted to 22,000 tons. What proportion was deposited in London does not appear to have been specified, but on the night of 26 September the weight was claimed to be 251 tons,

according to a statement made by Mr. Churchill in the House of Commons on 8 October. He did not challenge the accuracy of that figure and merely quoted it to show how small was the crop of casualties for the expenditure of high explosive. On that night 186 people were killed in London, and the rate was therefore three deaths for four tons of bombs. Against that weight of 251 tons there may be set the 200 tons which 'a high official of the Royal Air Force' was quoted as stating that the Royal Air Force had dropped on Berlin in *all* the raids up to 21 October.[7] Berlin had had 21 raids up to that time and the average works out at less than ten tons per raid.

The dropping of 251 tons in one night on the British capital was by no means the peak effort of the *Luftwaffe*. The German News Agency stated on 9 December, 1940, that 700 tons of high explosive bombs and 80,000 to 90,000 incendiaries had been dropped on London on the preceding night. That was undoubtedly an exaggeration—the greatest weight dropped on London or anywhere in Britain was 450 tons—but there is no doubt whatever that the weight dropped in Britain in the autumn and winter of that year was immensely in excess of that dropped in Germany. In a broadcast on 9 February, 1941, Mr. Churchill stated that the Germans had been able to drop three or four tons upon Britain for every ton she could send to Germany. 'We are arranging', he said, 'so that presently this will be rather the other way round, but meanwhile London and the other big cities have to stand their pounding.'

The reversal of the tables to which Mr. Churchill looked forward at that time was duly accomplished by the spring of 1942, though Germany's pre-occupation with the Russian front (which could hardly have been foreseen in February, 1941) was, of course, largely responsible for the improved position. On 28 March Lübeck received a load of bombs 50 per cent greater than Coventry had received on 14 November, 1940; and Lübeck is the smaller town of the two.[8] The weight dropped on Cologne two months later was far greater than that dropped on any British town.

On 12 August, 1942, the Air Ministry News Service disclosed some figures which illustrated the change that had come to pass. In the 'kolossal' raid on Coventry, already referred to, less than 200 tons of bombs were dropped. The loads unshipped on London on the nights of 16 April and 10 May, 1941, were 450 and 422 tons respectively, the former being a record for the *Luftwaffe*. In Bomber Command's raid on Osnabrück on the night of 8 August, 1942, more than 450 tons were dropped, and this was not a particularly heavy raid; less than 200 bombers were out that night, but they were mainly four-engined machines and their loads included some 40 to 50 two-ton bombs, some 70 to 80 one-ton bombs and a big weight of other high

explosive and incendiary bombs. During June and July, 1942, Bomber Command dropped more than 13,000 tons of bombs on Germany; in the same two months in 1940 the figure was 3,500.

Nazi Threats of Reprisals

No doubt Britain will have heavy raids again, but they can never be the one-sided affairs which they were in 1940-41. It is evident from the change of tone in the utterances of the Nazi leaders that they are alive to the alteration of the position. On 4 September, 1940, Hitler threatened that 'if the British throw two or three kilograms of bombs we will unload 150, 180, yes 200,000 . . . .' (A storm of applause interrupted his speech here). 'We will erase their cities', he said. People should remember those words if they are inclined to be merciful in 1943. He repeated the threat in his New Year proclamation of 31 December, 1940, when he said: 'We are in deadly earnest when we affirm that for every bomb ten, or if necessary, a hundred will be dropped in its place.' At a still later date an officer of the German Air Force, Captain Wolf Ley, warned Britain in a radio talk, on 8 August, 1941, that for every bomb dropped on Germany a hundred would fall on England, 'until the British people will curse Churchill for having initiated this kind of warfare.' He rather spoilt the force of his fulmination by admitting that the *Luftwaffe* could not be everywhere and that heavy bombing of Britain was impracticable so long as large-scale operations continued in Russia.

The reprisal rate promised had become more modest when Hitler addressed the Reichstag on 26 April, 1942. He contented himself with threatening to repay Britain by 'blow for blow' in the air. Here was a sad falling-off from the blood and thunder of the earlier threats. Those threats had some substance in them when they were uttered. The Germans were in truth in a position to return much heavier blows for each one that they received at that time. They did repay Britain's cities though not to the extent that Hitler had promised. The *Luftwaffe* did its worst. It left the British people battered but very far indeed from being broken.

The Re-action to Over-statement

Perhaps the failure of the *Luftwaffe* to affect British morale was due in some degree to the belief that the Royal Air Force were hitting Germany as hard as she was hitting Britain. To that extent the *communiqués* and Ministerial statements served a useful purpose; they helped the people to bear with fortitude the buffetings which they endured in the winter of 1940-41. That overstatements were made at that time in the official reports no-one can now seriously doubt; nor did they cease altogether when the time of

tribulation was past. They were (and are) harmful in the long run in so far as they were (and are) bound eventually to lead to a re-action of feeling and a loss of confidence in official statements. Those made in the early days of the air offensive have been refuted by events that followed. No country whose industries had been hammered as we supposed Germany's had been could possibly have mounted and maintained the vast offensive which she launched on 22 June, 1941. If the British raids had been as damaging as they were imagined to be she could never have smashed her way to the gates of Moscow and Leningrad, meanwhile pressing back the Soviet armies all along the fifteen-hundred-mile front.

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[1] J. C. Slessor, *Air Power and Armies*, 1934, p. 114.

[2] Peter Duffield in the *Evening Standard*, 7 September, 1942.

[3] Peter Masefield, 'Mobility is Essential to Air Power', in *Sunday Times*, 12 July, 1942. Major A. P. de Seversky is another strong advocate of such a proposal. 'It is ludicrous', he says, 'to make an air force, moving at 300 miles an hour, dependent on transport crawling along at ten or fifteen knots.' (*Victory Through Air Power*, New York, 1942, p. 150.)

[4] A sequel, *Bomber Command Continues*, was issued towards the end of August, 1942, and it, too, had a very large circulation. It carried the story of the British air offensive down to the end of May, 1942. The raids which it had to describe were far more effective than those dealt with in the original booklet, and there is much less tendency to overstatement of their results than there was in its predecessor.

[5] Indeed, the Air Ministry News Service thought it worth recording that *three tons* of bombs were dropped by Fairey Battles on Boulogne Harbour on 17 August, 1940. (Air Ministry Bulletin No. 1420.)

[6] *Bomber Command Continues* says (p. 45) that in this raid 'one detachment of Stirlings dropped more than 4,000 incendiary bombs'—a mistake or misprint, presumably, for 40,000, which was the figure given in Air Ministry Bulletin No. 7046 of 20 May, 1942.

[7] *Daily Telegraph*, 22 October, 1940.

[8] The weight of bombs dropped on Lübeck was 304 tons. (*Bomber Command Continues*, p. 44.) Among the results was the destruction of

3,000 houses and 40 per cent of the central part of the town. (Lord Sherwood in the House of Lords, 15 April, 1942.)

CHAPTER III

GERMANY'S WESTERN FRONT IN THE AIR

Germany's Western Front

It might be inferred from what has been written in Chapter II that the British air offensive of 1940 was futile and did little good. That was far indeed from being the truth. It had important results, as this and other chapters will make clear. Perhaps the most important was that it forced Germany to create a 'second front' in the air, a front which was one of great depth and extended right across the Reich as well as throughout the Low Countries and northern France; Norway, Denmark and the islands of the North Sea had also to be defended. To establish and maintain the immense organisation thus rendered necessary the Germans had to devote to this purpose a proportion which could ill be spared of their available man-power and machine-power. This strain on their resources had far-reaching results. Quite apart from the diverting of armaments and aircraft from the eastern front it reduced *pro tanto* the percentage of the population of Germany which could be reserved for agricultural work. Britain finds it necessary—and she has to thank her good friends in America and the men of the Royal and Merchant Navies for the blessing—to devote only one-twelfth of her man-power to work on the land. In Germany the proportion is one-fourth. Every call made upon labour for the fighting or protective services can be acceded to only at the cost of the agricultural front. Bomber Command's onslaught has served in this as well as other respects to support the action of the blockading forces and to intensify the pressure which they have been steadily bringing to bear upon Germany in the economic sphere.

Germany's Maginot Line of the Air

When Germany began the war by invading Poland she believed that her capital and her most important industrial centres were safeguarded against air attack. Much has been written and spoken of France's Maginot line and its calamitous failure in her hour of trial. Much less has been heard of Germany's Maginot line in the air. Undoubtedly she thought she had such a line. Her illusion was shattered by Bomber Command. That fact will reverberate down history. It will have lasting results of profound effect. Never again can Germany hope to keep the sufferings which war brings in its train far from her own homeland.

In January, 1937, representatives of the Royal Air Force went to Berlin to return the visit which General Milch and some officers of the *Luftwaffe* had paid to England some time before. An air correspondent who accompanied the mission stated on his return that the Germans believed Berlin to be invulnerable, so well organised and well co-ordinated was the network of guns, searchlights and fighter aircraft. 'From what I have seen', he said, 'I believe them.' The anti-aircraft guns of 88 millimetre bore and the quick-firing 1½ inch guns (for use against low-flying aircraft) won his special praise. He expressed admiration for the way in which each battery of four heavy guns was 'electrically controlled by an elaborate monitor manned by the experts who can instantly calculate the speed, height, drift, climb and even circular flight of a bombing formation'. (This early reference to the predictor is interesting.)

'With unpleasant personal recollections of the efficiency of the German "Archies" during the war', the correspondent went on, 'my conclusion was that if these modern guns live up to expectations and there is effective collaboration with the searchlight batteries, Berlin has not much to fear from the air. . . . Even modern bombers would find it difficult to make much impression on the German capital.'[9] The 88 millimetre gun to which he referred, it may be added, was subsequently used by the Germans as an anti-tank as well as an anti-aircraft weapon, and as such it proved to be an important contributor to Rommel's victories in North Africa in June, 1942.

The Berlin Defences

When the British raids began in 1940, Berlin was soon found to be by no means so invulnerable as this well-informed correspondent, in common with many other people, had supposed. The defences were never negligible, indeed. We find reference to 'intense anti-aircraft' in the report of a pilot who was over the city on the night of 30 August, 1940. He was shelled both *en route* and over Berlin itself. 'It must have cost them thousands of pounds to put up the show they did. What a waste of money.'[10] The flak round Berlin was reported to be very heavy by air crews who raided objectives there on the night of 23 September, 1940. A week or so later, it was the number of searchlights which impressed the airmen; one of the pilots who was there on the night of 1 October said: 'There were large concentrations of searchlights apparently co-operating with fighters. At one point we were held by fifteen searchlights. However, we didn't encounter any fighters and managed to dive out of the lights. After that we had very little trouble.' Six nights later (7 October), when Berlin had its heaviest raid up to that time, the bombers had to make repeated runs in the face of 'an intense barrage of

powerful gun batteries'. 'The sky was alive with flak', a pilot reported after the raid of the night of 20 October; it was intense again when the bombers were over Berlin three nights later (23 October). 'The barrage was pretty fierce', said a sergeant-pilot of this last raid. 'Several times I saw a long line of shells bursting in front of us. They were creeping across the sky on our course, but we dodged them all right. The tail-gunner, of course, hadn't been able to see what was happening. When I got in among all the smoke bursts he thought that we had run into the middle of a balloon barrage.'

The Defences Strengthened

The Berlin defences appear to have been made stronger still during the winter of 1940-41. The Air Ministry News Service said of the raid of the night of 9 April, 1941: 'As they [our bombers] went in to make a heavy attack on the German capital, all the defences sprang into action. In the opinion of many pilots these defences had been strengthened since the last attack, but this new attempt to make the city as impregnable as it was once declared to be did not prevent our bombers from discharging their load of high explosive bombs and their many thousands of incendiaries in the centre of the city.' Four months later, on 12 August, the air crews who visited Berlin had to meet 'one of the worst barrages they have ever had to face'. 'Our crews fought their way through every defence Berlin could muster. Searchlights in hundreds, massed in groups of 30 or 40, followed the bombers through the sky and the barrage continued without remission.'

In the heavy raid on Berlin on the night of 7 September, 1941, when widespread damage was caused, the flak appears to have been severe in some areas but strangely inactive in others. 'We flew right over the centre of the city', said one of the observers. 'The flak was there but we have been shot at worse in other places.' Another observer (in a Wellington) said: 'The searchlights didn't worry us unduly, flak was not too bad.' Other bombers had less pleasant experiences, and some of the Manchesters, Hampdens and Wellingtons were damaged by the anti-aircraft fire or by night-fighters, four of which were shot down by the British bombers. Of the twenty bombers which were lost on that night, the majority were victims of the ground defences at Berlin.

The North-West Ports

Apart from Berlin the most strongly defended places in Germany were the north-west ports, the Ruhr and the Rhineland. Bremen, Hamburg, Emden, Wilhelmshaven and Kiel have been dangerous places for British airmen to visit from the earliest days, and they became more uninviting still

as time went on. In addition to powerful naval and other anti-aircraft guns, there were usually night-fighters about, especially after the early summer of 1941, when a special night-fighter division was formed, under the command of General Kammhuber, to defend the north-western ports. The machines used for this purpose were Messerschmitt 109's and 110's and Junkers 88's. (A second night-fighter division was organised a little later under the command of General von Doering, to cover the occupied territories and other areas in Germany.)[11] The defence in the air does not appear previously to have been very efficient. The pilots who took part in the heavy raid on Bremen on the night of 1 January, 1941, reported that while 'a formidable barrage of anti-aircraft fire frequently concentrated at points where searchlights converged in a cone' made things difficult for them, the enemy aircraft which were observed seemed to be 'wandering ineffectively over the town'. A 'vicious barrage' was met with again at Bremen (and also at Hanover) on the night of 14 July, 1941. The fighter opposition was much more formidable nearly a year later at the time of the 'thousand-bomber raid' of 25 June, 1942. 'It was nothing unusual for crews to be surrounded by three or four night-fighters, and there were many fierce battles', said the Air Ministry News Service. Three at least of the fighters were shot down by the British bombers.

The Hamburg Defences

At Hamburg on the night of 11 March, 1941, one of the sergeant-pilots found great difficulty in evading the searchlights and gunfire. 'We were getting near our target', he said, 'and thought we were unobserved when suddenly one searchlight picked us up and immediately twenty more came up and held us in a cone of light. We got clear by coming down in a screaming dive and from 3,000 feet we released our bombs.' Then the bomber was hit. 'I found it very difficult to get away from the searchlights and flak, and the second pilot called out that if we didn't we should have to hit the deck. I went down to twenty feet'—and at that height he flew home! 'My second pilot told me that he thought I was trying to knock people over on the roads, I was flying so low.' The Hamburg defences were strengthened still more in the months that followed. 'A barrage or extraordinary violence' was encountered at Hamburg, as well as Emden, on the night of 15 January, 1942. A Halifax crew who took part in the raid described a 'box-like concentration of 70 or 80 guns' there.

Emden and Kiel

Emden was always strongly protected and there, too, the defences were increased as the war progressed. The air crews who raided it on the night of 22 June, 1942, were impressed by the barrage at the port. 'We seemed to be moving against a wall of coloured streaks of light and fire', said a pilot. 'Emden is a hot-spot for night-fighters', said the Air Ministry News Service, 'and a number were sighted. A Halifax returned to base with more than fifty holes in it from machine-gun and cannon fire.' Kiel was no less difficult a proposition for the raiders. The 'concentrated barrage from this well-defended naval base' was specially mentioned in the official account of the raid on the night of 11 March, 1941. On the night of 7 April, 1941, it was again sustained and powerful. 'For five hours', said the Air Ministry News Service of this raid, 'our bombers went in over Kiel in wave after wave. Throughout the first hours of the raid they had to pierce a curtain of anti-aircraft fire from one of the most heavily defended areas in Germany, but in the end the very weight and resolution of the attack seemed to bear down the defences and there were significant lulls in the gunfire.' The effect of the counter barrage of bombs—for that is what it was—was so great that, to quote a pilot, 'the only way to put out the fires would have been to push the whole place into the sea'.

The Ruhr Defences

Göring had boasted that the Ruhr was immune and safe from air attack. He was soon undeceived. There and in the Rhineland the engines of the Wellingtons, Hampdens and Whitleys were heard overhead with a regularity and 'damnable iteration' that must have puzzled the propaganda-fed dwellers in those regions. No centres in Germany have been so frequently raided as these. It was never, however, a picnic for the pilots who went air-cruising along the Rhine. The defences were never negligible. The anti-aircraft barrage at Cologne, Duisburg, Essen and some other towns was always held in respect by the air crews. It became more formidable still in the spring of 1941. When Cologne and Duisburg were raided on the night of 18 August, 1941, the crews reported that new defences had been brought up and that the number of searchlights had been greatly increased. There was fierce anti-aircraft fire on both sides of the Rhine and over Cologne itself one of the British bombers was held for a whole hour in the searchlights. Ten days later, on 28 August, the opposition at Duisburg was stronger still; the crews stated that they had never seen such anti-aircraft fire. 'Some of the bombers were caught in vast shafts of light', said the Air Ministry News Service. 'One crew saw their bombs lit up and gleaming white as they fell, so that they looked like "huge, deadly flakes of snow". Caught in such a

concentration of searchlights, a Stirling was shelled for fifteen minutes and then attacked by fighters until it dived down out of control. But at 500 feet and at the last moment the pilot got control again. He flew home all the way at that height and landed his damaged aircraft in England.'

After the raid on the Ruhr of the night of 16 September, 1942, an experienced commander of a Halifax flight explained why the defences of that region are so formidable. 'If you are attacking a target on the outskirts of the Ruhr it is not so bad', he said. 'It is rather like attacking Cologne, where there are about five hundred guns. But if it is right in the heart of the Ruhr, whichever way you go in you've got to get to the centre of a gun-defended area five times as big as that round Cologne. So to fly over three or four miles to your target you have to pass hundreds of guns.'

'A great avenue of searchlights' all along the Rhine was reported by the pilots who flew to Mannheim on the night of 5 August, 1941, and both there and at Frankfurt, visited on the same night, the anti-aircraft fire was terrific. It had been formidable already in the preceding winter at Mannheim. A pilot who was in the raid against that great industrial city on the night of 16 December, 1940, described the anti-aircraft fire as 'a continuous golden fountain'. Here, again, the attack was so heavy that the weight of it seemed to harass and bewilder the defence, and while some of the bombers were heavily shelled, others were left almost completely alone. The defences of all western Germany were strengthened further during the winter of 1941-42. 'Our pilots report that the Ruhr defences are thicker than ever', said the Air Ministry News Service on 16 April, 1942. 'More night-fighters have been brought to the Ruhr and the numbers of searchlights and of light and heavy guns have greatly increased.' When Frankfurt was raided on the night of 9 September, 1942, the city appeared to the British airmen to have been given new defences after the recent heavy raids on the Rhineland; some crews estimated that 200 to 300 searchlights were in use. The anti-aircraft defences along the coast of France and towards the German frontier were also found to have been strengthened, and almost every crew reported a greatly increased barrage on the French coast. Flensburg, too, was found to be more heavily defended on the night of 1 October than it had been when visited about a week earlier. Possibly the additional guns and searchlights were taken from localities further to the east. It is noteworthy that the Soviet bombers which raided Koenisberg, Budapest and other places in Germany and Hungary in the early part of September met with no such opposition as that encountered by the Royal Air Force in the west.

In the areas lying further distant than these from the British bombers' bases the Germans do not appear to have made much, or any, provision for

protection in the early days. The pilot of one of the bombers which raided the synthetic oil plant at Stettin on the night of 4 September, 1940, said: ‘It seemed to us that the enemy had not expected us to come so far east. There were only a couple of searchlights, and the anti-aircraft barrage could not be compared with that over Berlin and the Ruhr.’ Nor was Regensburg, on the Danube, regarded, it seems, as being a vulnerable point. There was no opposition when it was raided on the night of 5 September, 1940. Pilsen, in Czecho-Slovakia, where the Skoda works were attacked on the nights of 27 October and 19 November, 1940, appears to have been given increased protection between the dates of the two raids. At all events, the air crews found the anti-aircraft guns there very active on their second visit, whereas they made no reference to the flak on the first occasion. These and other centres throughout Germany were given still further protection during 1941.

The process of adding to the defences continued, indeed, in 1942. British bombers raided Rostock on the nights of 23, 24, 25 and 26 April. After the second raid the defences were strengthened and again after the third. The official account of the raid of 25 April said: ‘It was only after the second night’s attack that they [the Germans] realised that the defences of Rostock would have to be strengthened. Last night crews reported more heavy guns round Rostock and an attempt to prevent low-level bombing by a curtain of fire from light anti-aircraft guns, which must have been hastily posted in the city. There were also more night-fighters than had been met on the two previous nights.’ The report on the raid of 26 April said: ‘The Germans brought up still more reinforcements for the battle of Rostock last night, including flak ships which had come up the river.’ No doubt the attacks on Rostock led the Germans to pay more attention to the neighbouring town of Warnemünde. When the latter place was raided on the night of 8 May, 1942, the British crews encountered ‘a fierce barrage, particularly of light anti-aircraft fire, and a great concentration of searchlights, including two made up of as many as forty-two beams’.

The immense army of home defence which was thus built up by degrees was not confined to the Reich itself. The territories occupied by the German forces had also to be protected and here, too, the defences were strengthened more and more as the war went on. Early in its active stage, from mid-1940, this process began and by the autumn of that year the ports along the Channel—the ‘invasion ports’ as we called them—had begun to absorb anti-aircraft guns and searchlights which the German High Command would have preferred, one need not doubt, to retain in Germany itself. The ports were not strongly protected at first. A pilot who took part in some of the earliest attacks stated that raiding them was ‘quite the simplest job of work

we have to do'. 'A quiet trip there and back' was his description of one of these raids. The almost incessant attacks which the Royal Air Force began to launch against the ports at the beginning of September, 1940, soon brought about a very different situation. On 23 September, 1940, one finds the Air Ministry News Service writing:—'In an attempt to escape the full force of the R.A.F. nightly attacks on the Channel ports and to lessen the amount of damage which is being done to docks and shipping and to equipment, the Germans have greatly strengthened their defences. Last night there were many more light and heavy guns in action. Shells from coastal guns followed some of the bombers out to sea for a distance of two miles.' In the reports of the raids on the Channel ports during the late autumn and winter of 1940 one finds frequent references to the fierce opposition which the air crews encountered.

The western ports were as powerfully defended. Brest became a veritable hornets' nest for the British airmen after the *Scharnhorst* and *Gneisenau* took refuge there in March, 1941. The fixed armament included 150 anti-aircraft guns, and the warships themselves and the flak ships were able to swell the volume of fire which the airmen had to expect. There were few more powerfully defended places in Germany itself than Brest. St. Nazaire, Lorient and Cherbourg were also very strongly protected. On the Norwegian coast there were more strong points. Trondheim, Bergen and Narvik were all powerfully defended.

It was not only against attacks by night that the Germans had to be prepared in all the occupied territories which lay within reach of British medium bombers. The daylight raids which grew in frequency and intensity from the spring of 1941 onwards tied down an increasing number of day-fighter squadrons to the vulnerable areas of the Low Countries and northern France. The aerodromes, factories and railway centres there had to be protected, as well as the ports and harbours. The air crews who raided the power stations and other objectives at such places as Lille, Mazingarbe, Comines, etc. brought back reports of strong opposition from ground defences at all of them, while in the attacks on harbours such as Rotterdam and Den Helder the British airmen had always to run a gauntlet of fire that was most difficult to evade. As the daylight offensive developed so the German countermeasures became more widespread and thorough. The heaviest gunfire yet encountered in northern France was reported by the fighter pilots on 5 November, 1941. In that winter the defences were strengthened still more and the Boston bombers had to meet stronger opposition in 1942 than the Blenheims had had to face in 1941. The German defenders were given little time for relaxation. 'German airmen and anti-

aircraft gunners, from Flushing to Le Havre, have had few days of peace for many weeks', said the Air Ministry News Service on 9 May, 1942.

An Army Immobilised

Three weeks earlier, on 17 April, the Air Ministry News Service had issued a bulletin which summed up, in the able fashion which we have been led to expect from that very efficient Service, the effect of the raids upon Germany's manning problem. 'In western Germany', it said, 'well over 1,500,000 German soldiers and civilians are fully engaged in defence against the British air offensive conducted by Bomber and Fighter Commands. This is an important fact which may well be missed in view of the more spectacular details of the material damage done to Germany. In effect, Bomber and Fighter Commands are compelling the enemy to maintain a long and purely defensive western front.' The defences, it was added, were in the main against Bomber Command. Half of the 1,500,000 men were wardens, fire-fighters, demolition men, bomb-disposal squads, ambulance and hospital staffs and others employed on a full-time basis on the many duties of passive defence. The remaining 750,000 were largely the gun and searchlight crews. The great searchlight belt, some 200 miles long and in some places 20 miles deep, which stretched across north-west Germany and had a group of ten to thirty lights every five miles, and the separate searchlight establishments of the various cities required many tens of thousands of men for their operation. Thousands of anti-aircraft guns were dispersed throughout Germany and the occupied territories—Bremen alone had 500, Rotterdam 200—and each light gun needed 12 men to serve it and each heavy gun 25. About 600,000 officers and men were thus absorbed by the manning of the guns and searchlights. 20,000 more were serving in the observer corps, 15,000 were engaged in air raid communications work, 20,000 in the night-fighter squadrons' establishments, and 60,000 in the headquarters and administrative staffs. Besides all these a large number of naval ratings were continually employed in sweeping mines laid by British aircraft. It was no exaggeration to say that the effect of the air offensive was to immobilise a huge army in western Europe.[12]

The benefit which Bomber and Fighter Commands' activities thus conferred on Britain's Russian allies in their gallant struggle is obvious. It was to be seen in the transfer of fighter squadrons of the *Luftwaffe* from the eastern to the western front. On 27 October, 1941, a war reporter stated in a broadcast from Berlin that some crack squadrons had been so transferred,

including the famous Oesau squadron, named after its commanding officer, a major who was credited with a hundred air victories.

If Bomber Command had done nothing more than compel the Germans to devote such a substantial proportion of their available man-power and *matériel* to the protecting of their homeland and the occupied territories, it would have performed a service of inestimable value to the cause of the free nations. It would have dictated—it did dictate—to the German High Command how the German forces should be distributed. You shall keep so many hundreds of thousands here in western Europe, it proclaimed in effect. You shall move them to the east at your peril. Nay, you shall reverse the process. Take this—and this—and this—and many a blow to come. *Now*, will you do as I command? That was how the Bomber Command spoke to the Nazis. Air power called the tune and the German *Herrenvolk* danced to it. But it did far more than that.

The Spirit of Attack

It kept the spirit of *attack* alive when there was a danger of its drooping and losing vigour in Britain. The British army could do little then; the navy's work was shrouded in the mists of the Atlantic. Only one arm could *hit* the enemy, and that was the air arm. The achievement of Fighter Command in 1940 was magnificent and is immortal, but it was essentially an achievement of *defence*. Bomber Command went out to attack. (So did Coastal and Fighter Commands whenever opportunity offered, but Bomber Command did it all the time.) From the summer of 1940 onwards it hurled itself at the enemy's throat. Two years later, when great armies were still locked up in the United Kingdom and America, it was (unfairly) said, in grim jest, that Britain and the United States had adopted a Gandhi-like policy of non-violent non-co-operation. Assuredly that could never be said of the Royal Air Force. It was fighting from the word Go, and fighting hard. And its offensive saved the British people at home from many a tribulation. It reduced the weight of the enemy's counter-offensive, not only by its attacks on his aircraft factories and aerodromes, but also by forcing Germany to create and maintain a higher proportion of fighting squadrons than she would otherwise have needed and to limit *pro tanto* the number of bomber squadrons which she could afford. Then there were its effects, far from negligible, upon the industrial effort of Germany, upon the transport system, and upon the people's morale. It is no straining of language to say that while Fighter Command saved and will save Britain from defeat, Bomber Command is her architect of victory—which is *not* to say that the war will be won by bombing alone.

[9] *Sunday Times*, 27 January, 1937.

[10] And it was wasted, sometimes, when the raid was only a dummy one. An Irish sergeant-pilot who had dropped all his bombs at Stettin flew back over Berlin 'for fun', and, he said, 'made the ground defences waste a lot of energy and ammunition for nothing!' (Air Ministry Bulletin No. 2090, 26 Oct. 1940.)

[11] These particulars about the formation of the two night-fighter divisions are taken from an article in *The Aeroplane*, 29 May, 1942.

[12] Reuter's correspondent on the German frontier computed at the beginning of August, 1942, that the effect of the British war effort was to pin down six millions out of Germany's total of 22 millions available for armed service and war industries. The six million were made up of:—790,000 in the air forces and anti-aircraft defences; 750,000 in civil defence against the R.A.F.; 100,000 for repair of R.A.F. damage; 250,000 extra for manufacture of *ersatz* goods necessitated by the blockade; 100,000 extra employed because of dislocation of normal routes, e.g., of coal to Italy; 1,000,000 extra for farm work as a result of the blockade; 650,000 in armies in occupied countries and Africa; 200,000 naval personnel. The odd two million were industrial and transport workers supplying to the *Luftwaffe* in the west and the forces in Africa. (*Daily Telegraph*, 5 August, 1942.)

CHAPTER IV

THE IMPUDENT AIR OFFENSIVE OF 1940

The Impudence of Bomber Command

As I have said at the end of Chapter III, the bomber offensive initiated by the Royal Air Force in the middle of 1940 kept the war alive and vigorous at a time when otherwise it might have become again the kind of 'phoney' war which it had been for the first nine months. At the time in question there was no other way in which the fighting spirit of the British nation could be maintained so vigorously and successfully. Critics of the strategical offensive are apt to forget the circumstances in which it began.

In the official booklet *Bomber Command* it is stated (at page 105) that 'the collapse of France created a situation in which Bomber Command found itself responsible almost overnight for most of such offensive operations as were possible against the enemy'. The programme which it at once put into operation was, it is added (page 106), 'not unambitious, considering the strength that was available'. That is to put the position tactfully. Actually, the programme was an almost impudent one. Great Britain really had not the bomber force which justified it. Bomber Command took on a job which now, in the retrospect, simply fills one with amazement. It did so because it had to do so. It could do no other. Its foolhardy operational plan was the logical sequel to the nation's foolhardy decision to fight on. What the Command did was in keeping with what the nation did, in its darkest hour. Both threw logic, commonsense, safety-first and all the sober guides, canons, precepts, maxims and rules of conduct clean out of the window. Never has there been such a defenestration as there was then of calm judgment and prudent regard for the unhappy probabilities, of most of the characteristic qualities which are supposed to be the possession of the normally unemotional British people. Yet there was profound wisdom in this madness.

The Desperate Situation

Consider the situation. France was down and out. Her great army had crumbled away. Her powerful fleet was immobilised, perhaps destined to pass under the enemy's control. Her ports on the Channel and Atlantic coasts were open for use by German U-boats. So were the Norwegian ports and from them commerce raiders, too, might slip out to harry British

shipping. Britain herself had lost most of her tanks and guns in France.[13] Her ports and cities were exposed to air raids from bases much nearer than those available to the enemy in 1914-18. She had lost the advanced air striking bases near Alsace-Lorraine which she had used in that war. In the Middle East the scheme of defence which had been concerted with the French Government had been knocked to pieces. The position was indeed a dismal one. Viewed dispassionately and with regard only to the military considerations, the prospect was so unpromising that the British Service chiefs might well have thought it their duty—their hateful duty—to advise the Government that the only possible course was to make terms with Germany. That is what Pétain, Weygand and Darlan would have done—what they did do, in fact, in counselling the surrender of France. To do anything else was magnificent but not war.

The Chief of Staff's Fateful Meeting

Britain's Service chiefs did nothing of the kind. They knew their Churchill and they knew their people. 'To the devil with the probabilities', they said, in effect. 'Fight on!' They echoed Admiral Paul Jones's famous answer to the summons to yield: 'Surrender? Why, we've only just begun to fight!' In that dark hour they saw a gleam of light ahead, though it can then have been little more than 'the half of a broken hope for a pillow at night'. 'I can assure the House', said Mr. Churchill on 18 June, 1940, 'that our professional advisers of the three Services unitedly advised that we should continue the war, and that there are good and reasonable hopes of final victory.' That statement could only mean that the Chiefs of Staff Committee had given a considered and unanimous opinion in favour of fighting on, alone.

There have been many mistakes made by the Service Departments in this war. Things have been done which ought not to have been done, others left undone which clamoured for the doing. There has been much to blame; there is in every war. But there has been much, too, to commend, and nothing so highly as the valiant decision which three worried men took on a June day in that year of disaster. Sir Dudley Pound, Sir John Dill, Sir Cyril Newall—those names should be held in honour for all time. *They* knew all the facts. They were aware—they must have been aware—how desperate the situation was. They chose to discount the odds, to look beyond the ominous present, to trust in the British nation's age-old, almost uncanny capacity for getting itself safely out of horribly tight places. The Roman Senate was wont, after a successful war, to tender its thanks to the consuls because 'they had not despaired of the commonwealth'. That was only a form of words,

often of little meaning. The old phrase could be applied, with absolute truth, to what the three Service chiefs did in 1940.

‘Fight on!’ they said. But how? Only in the air—as I have said in Chapter III—was it possible to aim at the enemy the blows which, resounding, showed the world and, above all, the sore-tried British people that there was fight left in the nation still. The withdrawal of France had one compensating advantage at least. France had feared for the safety of her cities. She had put a brake on the use of her and Britain’s air striking forces. No longer was Britain bound by the restriction which regard for an ally’s wishes had imposed upon her freedom of action. She could carry the war into Germany’s hinterland at her own discretion now.

Our Night Offensive

Inevitably the air offensive was one carried on under the cover of darkness. A daylight offensive would have been too costly. That was already clear from the experience of 1918. In that year Trenchard’s Independent Force, operating from bases much less distant from their objectives than those from which British bombers now had to start, lost 48 per cent. of its crews and 60 per cent. of its aircraft a month in daylight raids. At night its losses were 23 and 46 per cent, respectively.[14] The rate of loss of crews was thus more than twice as heavy in the daylight than at night and that loss is a more serious one than the loss of machines. If it can be halved or reduced even more substantially by confining the offensive to the hours of darkness, and if night-bombing is half as effective, at least, as day-bombing, the case for adopting the former rather than the latter operational method is, militarily, established.

The Practice of War

Legally and ethically there is nothing to prevent resort to night-bombardment. It is not forbidden by any rule of international law, and it has indeed been a practice of war to which all belligerents have resorted from time to time. In the air the Germans themselves initiated night-bombardment in 1915, when their Zeppelin and Schütte-Lanz airships began to raid England. Herr Hitler has evidently forgotten that fact. He has fulminated against British night-raiding in this war, has denounced it as a ‘Churchill crime’, and has taken credit to himself for not having done anything of the kind in Poland or the other countries which his armies have overrun. Why should he have resorted to night-bombing? He was able to achieve his aims by sending his bombers out by day only; and what did they do by day? Warsaw, Rotterdam and Belgrade could give the answer. So too—to take a

minor but pitiable instance—could the village in southern England in which a school was bombed on 29 September, 1942, and the death-roll was over 30. Was *that* a lawful operation because it was carried out by the light of day? What is the logic, in fact, of Hitler's case? He condemned night-raiding because, forsooth, it was inhumane. What else was his own daylight raiding? Not humanity but self-interest was the motive behind his condemnation. That is evident, indeed, from the reception given by the German Foreign Office to a suggestion that certain areas of Leningrad should be reserved as sanctuaries where civilians might congregate in safety from risk of injury by shells or bombs. A spokesman of the Wilhelmstrasse stated that the suggestion could not be accepted; the entire population of Leningrad must be regarded as members of the garrison.[15]

The 'Misguided Propaganda'

The German agitation against night-bombing was simply a ramp, but unfortunately it was echoed in Great Britain by a section of the public—a very small section—which for various reasons regarded night-raiding as open to objection. Questioned about it in the House of Commons on 27 November, 1941, Mr. Herbert Morrison, the Home Secretary, referred to the 'misguided propaganda' upon this subject and stated that it was not attracting serious attention. Later, on 8 May, 1942, Sir Archibald Sinclair, too, mentioned the German attempt to persuade the British people that 'night-bombing is no good, that it is out of date, that it achieves nothing'. 'No finer testimony to the success of our policy could be wished for', he said, 'than this clumsy propaganda.'

It is no less significant that Hitler in almost every speech he has made since the autumn of 1940 has protested against the British raids. Why does he hate them so? The answer seems easy. Unfortunately, the 'misguided propaganda' to which Mr. Morrison referred has given him a handle for alleging (as he did in his speech of 30 September, 1942) that the German reply to those raids led to people in Britain 'weeping and whining' and talking of 'barbarity'. As a whole we did nothing of the sort.

The Bishop of Derby's Letter

The case against the proposal to ban night-bombing was admirably stated by the Bishop of Derby in a letter to *The Times* of 13 November, 1941. He had been asked, he said, to sign a petition in favour of such a ban and had found himself unable to do so. He agreed that bombardment from the air was 'a lamentable, clumsy and barbarous method of warfare, the total abolition of which by universal consent (if the nations could be relied on to

keep their engagements) is surely much to be desired'. The proposal that it should be discontinued by *night* was, however, illogical. 'If the bombing aeroplane is to be used at all, there is no valid moral distinction which can be drawn between bombing during the hours of darkness and bombing during the hours of daylight. The greater difficulty of finding and reaching the target after nightfall is obviously only a question of degree; and the expediency or otherwise of night operations is a technical question, on which as an ecclesiastic I do not think that I have any special competence to express an opinion.' 'Whenever', the Bishop went on, 'bombardment of any kind, whether by aeroplane, ship, or land artillery, takes place, civilians who are in the line of fire suffer as inevitably as any troops who may be there. The proper object of all forms of military operations should be the destruction of the enemy's capacity to make war; and, to this end, it is inevitable that in modern war attacks should be made not only upon the armed forces of the enemy, but also upon his sources of supply. This means that munition factories, power stations, systems of transport, docks, harbours and communications generally are all liable to be bombed; and that civilians of both sexes who are directly engaged in promoting the war effort are inevitably liable to share the risks of the troops. On the other hand, there is a clear distinction to be drawn between attacks on war objectives, involving incidental risks to civilians, and terroristic attacks, deliberately aimed at civilians as such.' The Germans had adopted the latter policy on numerous occasions, but Britain had not followed their lead in any 'such methods of barbarism'.

The Propagandists Shift their Ground

A little later the German propagandists shifted their ground a little and tried to discredit the bomber offensive by attacking it from a different angle. Now it was the bombing of towns, whether by day or night, that was cried down, not night-raiding alone. A German radio service masquerading as the 'New British Broadcasting Station', and other 'Free British' services operating from Germany or occupied Europe, were brought into operation for this purpose. 'We should know better than anyone', the first said ('we' being the British) 'that the bombing of towns cannot bring the end of the war nearer. London withstood about as heavy a bombardment as could be launched, something compared with which the raid on Tokyo cannot have been more than a pin-prick. The proper use of aircraft is to support land forces in the actual battle zone, and as the Royal Air Force is not large enough to fulfil all its tasks, it should be reserved for this purpose only. A

daylight raid on Augsburg, for instance, may be spectacular, but its practical value is negligible.'

A very interesting list of quotations from the 'Free British' radio wireless messages was given in the *Daily Telegraph* of 7 July, 1942, by Mr. J. C. Johnstone. The gist of them was that air war was not decisive, that it was waste of effort, that the British Air Force would be much better employed in Libya, Burma or elsewhere, and that the sensible course would be to call a truce to the bombing of towns. Just before the great raid of 25 June, 1942, on Bremen, one of these services assured listeners that the thousand-bomber-raids could not be kept up and quoted the opinion of aeronautical experts to the effect that they were too expensive. After the raid it tried to cover itself by referring to the loss of bombers incurred and accusing Mr. Churchill of defying the advice of the chiefs of the R.A.F.

Mr. Johnstone's conclusion was this:—'In every line the cloven hoof is visible a mile. Day after day these Nazi hirelings harp on the "mistake" of bombing Germany and the superior advantage of turning the bombers on to the Japanese in Burma, Rommel in North Africa, or indeed any target other than German cities. Could anything betray more clearly Hitler's preference for the bombing of Benghazi to the bombing of Cologne, or provide a more handsome testimonial to the success of the R.A.F.'s offensive?'

Here again there were in Great Britain people who played the enemy's game by giving expression to views of very much the same kind. Indeed, it is often difficult to tell the difference between the German and the British propaganda on this subject. When on 25 February, 1942, Sir Stafford Cripps made a statement in the House of Commons on bombing policy and foreshadowed a resort to tactical bombing at an unspecified date in the future, his words were hailed as meaning that long-range bombing was to be abandoned. The critics of the air offensive were jubilant. It had been, they said, a policy adopted *faute de mieux* and Britain was now to regain her senses and substitute a wiser policy. The air arm, it was almost implied, was respectable only when chaperoned by its elders—and it should never, of course, be out alone at night. The pronouncements of the adherents of this sort of doctrine would have been amusing if they had not been so dangerous.

The Bombing Policy Unchanged

Actually, as later statements by Mr. Churchill and Sir Archibald Sinclair made it perfectly clear, there was no intention on the part of the Government to abandon the bombing offensive. 'All the summer, all the autumn, all the winter, all the spring, all the summer, and so on', was the Prime Minister's forecast of its duration on 10 May, 1942. Two days before that Sir Archibald

Sinclair said that the Air Force had been hitting Germany hard but what it had done 'only foreshadows the force of the Anglo-American bombing effort to come'. His words were echoed by General H. H. Arnold, Chief of the United States Army Air Service, in an address at Mount Pleasant, Ohio, on 8 June. 'Raids like those on Cologne and Essen', he said, 'were just starters to those which are to follow when the United States and Royal Air Force fighters and bombers ride the skies as a team.'

That will indeed be something worth waiting for, the sight of the massed air flotillas of the two great democracies riding the range in western Europe. How can anything on earth stand up against them? The majestic sweep of their combined air power will cleanse the skies, befouled by Nazi domination for far too long a time. When that day comes we must not forget that the foundations of the victory which will then be near at hand were laid by British airmen when the fortunes of their country were doubtful indeed. Looking back now, one is amazed by what was attempted at that time. The Wellingtons, Whitleys and Hampdens went roving far and wide. The amount of ground which they covered was extraordinary. It was a case of a little everywhere and not very much anywhere, but still they did succeed in casting their thunderbolts—not so devastating then—in measure which was lavish in the bulk if not overpowering at any one point of impact.

The Widespread Raids of 1940

Here are the names of the places which they raided on three nights in September, 1940:—

On 11 September, they attacked objectives in Berlin, Hamburg, Bremen, Bremerhaven, Cologne, Ehrang, Hamm, Mannheim, Coblenz, Wilhelmshaven, Stade, Borkum, Wangerooge, Norderney, Metalin, Husum, Flushing, Ostend, Calais and Boulogne. Three nights later, on 14 September, they raided—'in appalling weather'—Westhofen (near Dortmund), Ahaus (near Münster), Osnabrück, Mannheim, Ehrang, Hamm, Krefeld, Aachen, Julich, Antwerp, Boulogne, Dunkirk, Ostend, Flushing, Ijmuiden, Brussels, Zutphen, Deurne and De Kooy. On 25 September the places visited were Kiel, Ehrang, Hamm, Mannheim, Osnabrück, Lübeck, Hanover, Lunen, Haltern, Rendsburg, Varel (near Wilhelmshaven), Warnemünde, Antwerp, Brussels, Flushing, Dunkirk, Ostend, Calais and Boulogne.

Many other lists almost as long could be quoted. It was the exception, indeed, to concentrate attack on one or two centres at that time. The fact that by the end of 1940 Hamm had been raided more than 80 times, Cologne more than 50, with other centres following in fairly close order, shows how

active the bombers were in that year. Raiding of Germany's hinterland only began, it must be remembered, in the early summer.

Raiding Grows more Concentrated

Lübeck, it will be noted, was among the centres raided on the night of 25 September. It was visited on three other occasions in 1940 and again several times in 1941 and 1942. One may compare three of the raids, one in each year. In that of 25 September, 1940, it was only one of nearly twenty places at which bombs were dropped on that night. In the raid of the night of 30 November, 1941, Hamburg, Emden, Bremerhaven, Wilhelmshaven and Kiel were also attacked. On 28 March, 1942, Lübeck had the individual attention of the British bombers, so far as places in Germany itself were concerned. A comparison of the three raids illustrates well the change in operational methods that took place in eighteen months. The raid of 1942 was a smashing one. That of 1940 was a pin-prick affair, and that of 1941 hardly more.

Pin-prick raiding was probably the right policy in 1940. The Royal Air Force had to make the most of its small bomber force, and its wide-ranging activity compensated in some degree for its paucity of numbers. It may not have done a very great amount of damage anywhere, but it did prove to the German rulers and people that there was no point in Germany beyond the swing of its spear. It forced the Germans to look to their defences at centres which they had believed to be well outside the danger-zones, and in doing so it set in motion the process which culminated in the immobilising of a huge army of home defence. The British people had to pay at home for the bombers' aggressiveness. Fortunately, the German *riposte* which it drew down upon their heads was endured by the cities and towns with steady fortitude. The time of trial through which they had to pass was a necessary stage in a journey which, grim as it was, could not be by-passed or shirked.

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[13] 'The British lost in France more than half the total Army equipment that then existed for Britain in the world.'—Mr. A. V. Alexander at Southport, 24 January, 1942.

[14] E. J. Kingston-McCloughry, *Winged Warfare*, 1938, pp. 39, 44.

[15] *The Times*, 26 September, 1941.

CHAPTER V

TARGET AREAS

The Development of December, 1940

In the booklet *Bomber Command* issued by the Ministry of Information for the Air Ministry at the beginning of October, 1941, it is stated at page 114:—

'A gradual change or rather development in our bombing attack on Germany became noticeable early in December, 1940. The weight of the attack began to be directed to special areas where industry or transport was concentrated and where in consequence the greatest amount of damage could be inflicted. This change or development was due to a very simple cause. More crews and more aircraft were coming into action. The process began shortly before Christmas and is continuing on a steadily rising scale.'

In other words, the practice of bombing individual targets as such was modified in favour of one in which the emphasis is henceforth rather on the bombing of *target areas*. The official booklet, evidently hesitating to state the fact too baldly, describes the 'change or rather development' by a tactful periphrasis, about the actual effect of which there can be no real doubt. What the effect really was soon became evident from the attacks which followed, beginning with those on Düsseldorf and Mannheim in December, 1940, and continuing in the new year with raids on Bremen, Cologne and other centres. These raids are duly dealt with in the booklet.

Utility Services Interrupted

It points out that the first raid on Mannheim in December severed the main leading from the water tower and thus interrupted the work of the fire-fighting services and also brought the marshalling yards to a standstill. The result was congestion in the yards and a serious dislocation of the coal traffic which passes through Mannheim and upon which Italy is largely dependent. The attack had thus an adverse effect upon industrial activity in both the Axis countries. It is evident, indeed, that area-bombing, in so far as it is calculated to put utility services out of action, is likely, on the whole, to be more profitable than the bombing of a particular factory, for, even if the factory is missed, the destruction of services upon which it depends may be

almost as damaging as a hit. It should be easier, normally, to sever the power or water connections than to hit the individual plant.

One finds now and then in the official reports, reading them between the lines, indications of the difficulty of finding and hitting a particular factory. On the night of 19 November, 1940, for instance, the Ilse Bergbau synthetic oil plant at Ruhland was raided. ‘In spite of the fact that this plant lies in a clearing cut out of the surrounding forest, a number of our bombers were able to detect their objective’, the Air Ministry News Service stated on 20 November, 1940. The inference is that other bombers failed to find it. Indeed, the frequency with which bombers returned with their loads of bombs intact in those early days is notable.

Return with Bomb-loads Intact

On the night of 17 July, 1940, for instance, some of the bombers brought their bombs back to England because they could not locate their objectives. No less than 24 bombers did the same on the night of 29 July, and two nights later one finds others returning with their bombs for a like reason. There are references, too, in the reports to pilots spending a long time searching for their targets. One bomber was over the target area for an hour and a half on the night of 4 August, 1940, before it could locate its objective. The result was that on the homeward flight its petrol failed and it had to come down in the sea; the crew were rescued by a trawler. (The Sea Air Rescue Service had not yet been organized then.) It was only after the indiscriminate attacks on London in September, 1940, that the references to return of bombers with loads intact faded out of the reports. It was recorded, indeed (one expects with a good deal of grim satisfaction) that on the night of 10 September, 1940, when Berlin was raided, *all* the bombs carried were released. For those people who lived in or near London then there was comfort in this announcement—comfort that may have been reprehensible but was eminently human.

Hitler’s Blunder No. 2

Hitler made his greatest blunder of the war when he attacked Russia, gratuitously and treacherously, on 22 June, 1941. He had already made another, hardly less calamitous for his country. This was when he sent the *Luftwaffe* to scatter bombs indiscriminately over London on 7 September, 1940. He did so because he lost his temper. There is no doubt on that point. He was beside himself with rage. He screamed his denunciations of the Royal Air Force for presuming to bomb his sacred *Reich*. The effrontery of a contemptible little Air Force—as compared with the German—in carrying

the war into the heart of Germany filled him with ungovernable fury. He would teach England a lesson for all time.

If the bombs which the *Luftwaffe* splashed over London had been concentrated on the docks of Thamesside, Clydeside, Merseyside and other British ports, they might have done almost irreparable damage to harbour installations and shipping at the quays.[16] As it was they were largely wasted. It was worse than waste, indeed. The onslaught on London, and the other cities, simply steeled the citizens' determination to carry the war of liberation through to the end. The attack on Coventry on the night of 14 November, 1940, was a further example of the mis-direction of the German effort. It was the spoilt child's smashing revenge, in a tantrum, for the raid of 8 November on Hitler's precious Munich. To fill his spleen he must hit at the historic Coventry, whose destruction could have no effect on Britain's war effort. So Coventry, its residences, shops and churches were wrecked—and Lübeck paid the debt sixteen months later.

An American on Coventry

A shrewd and observant American visited Coventry a few days after the raid. He found the destruction there 'appalling', but he found something more striking still, namely, that very little damage had been done to Britain's war effort. He returned to London with the conviction that 'fire bombs would not beat England'.[17]

Hitler did something more in the autumn of 1940 than Mr. Robertson or other commentators could then have foreseen. He freed the British Government from an inhibition which had hitherto restricted to an embarrassing degree the freedom of action of the Royal Air Force. Its cutting edge was dulled by that restriction. In effect, it imposed on the British bomber crews the obligation to confine their attack to identifiable military objectives and went, indeed, a little further than that.

Mr. Chamberlain on Bombing

The view which the British Government took of the permissible limits of aerial bombardment was made clear by Mr. Neville Chamberlain in the House of Commons on 21 June, 1938. The House was discussing the air operations which, in Spain and China, had resulted in damage and injury to civilian, and some neutral, life and property. The statement made by Mr. Chamberlain was as follows:

'There are at any rate three rules of international law, or three principles of international law, which are as applicable to warfare from the air as they

are to war by sea or land. In the first place it is against international law to bomb civilians as such, to make deliberate attacks upon civilian populations. . . . In the second place, targets which are aimed at must be capable of identification. In the third place, reasonable care must be taken in attacking these military objectives so that by carelessness civilian populations in the neighbourhood are not bombed.'

He added that while these three general rules would command general acceptance, a number of practical difficulties arose in the application of them. One, for instance, was—what is a military objective? Another was—what is reasonable care?

As regards the meaning of military objective, I cannot do better than refer to the remarkable letter by the Bishop of Derby quoted in Chapter IV.[18] Reasonable care is clearly impossible to define, but on this point what I shall be saying a little later is not without relevance.

The Declaration of 1 September, 1939

The principle of the military objective was affirmed as a rule of conduct in the joint declaration which the British and French Governments issued on 1 September, 1939, and in which it was stated that the two countries' armed forces had received explicit instructions 'prohibiting the bombardment, whether from the air or from the sea, or by artillery on land, of any except military objectives in the narrowest sense of the word'. Both Governments referred to this declaration in expressing their acceptance of President Roosevelt's appeal (of 1 September, 1939) that the belligerents should not resort to bombardment from the air of 'civilian populations or unfortified cities'.

Every rule of this kind is and must be subject to reciprocity, and it was in fact expressly stated in the Anglo-French declaration that 'in the event of the enemy not observing any of the restrictions which the Governments of the United Kingdom and of France have thus imposed on the operations of their armed forces, these Governments reserve the right to take all such action as they consider appropriate'. Germany's action in Poland, Norway, Holland, Belgium and France could be pleaded as freeing the British Government, the co-belligerent of these countries, from the restriction voluntarily accepted in regard to bombing operations; and any possible doubt upon this score was set at rest by the Germans' deliberate attack on the civilian population of London in September, 1940. Actually, therefore, the Royal Air Force *might* legitimately have been empowered to adopt indiscriminate bombardment, by way of retaliation. *A fortiori* it was justified in the less drastic measure of resorting to the bombing of target areas.

The Legitimacy of Area Bombing

The practical question which arises in any consideration of the legitimacy of area-bombing is whether the incidental destruction of civilian life and property, for such there must normally be, can be justified by the military advantage to the attacking belligerent of the effective destruction or reducing of the enemy's capacity to make war. The question is one of degree. It is an admitted principle of the law of naval bombardment, at least, that an attacking commander is not responsible for damage unavoidably caused by the bombardment of the objectives named in the Convention on the subject. (Article 2 of Hague Convention No. IX of 1907.) The extension of that principle to aerial bombardment cannot be regarded as a revolutionary departure from accepted usage. The real question is whether the true purpose of the attack is to destroy or immobilise a war industry or activity in the area or whether it is simply terrorism and intimidation of the population.

A sensible belligerent will not waste his bombs, which cost money, but if there is known to be in a certain area an objective or objectives whose destruction or damaging would be seriously detrimental to the enemy's war effort, and if, because of darkness, intense anti-aircraft fire or other reason, the only way to make sure of putting the objective or objectives out of action is to place a pattern of bombs over the area where it or they are known to be situated, it cannot be held to be contrary to international law to bomb that area, even though civilian life and property inevitably suffer. Certainly the Germans cannot logically question such a practice. Apart from their resort to indiscriminate bombardment they have established at sea the (Germanic) usage of sinking merchant vessels without regard to the safety of passengers or crews. They would justify this, no doubt, by the argument that the preventing of ships and cargoes from reaching their enemy is of such vital importance for their success in the war that the incidental destruction of non-combatant life is condoned by the military advantage. By parity of reasoning the bombing of target areas can obviously be justified; but it is in fact supported by other arguments also.

The immortal Earl of Kildare who burned down Cashel Cathedral in 1485 and excused himself to King Henry by the plea that he believed the archbishop to be inside it was guilty, of course, of trying to justify one illegal act by pointing to another. To burn down an urban area in order to make certain that an important arms factory therein is destroyed cannot be held to be open to a similar criticism. Military necessity can be pleaded for the operation if the destruction of the factory is of such vital importance to the attacking belligerent's interests that the other damage caused is, on

balance and objectively, a less evil than the sacrifice of those interests. It has come to pass, it seems, that the effective destruction of an enemy's sources of munitionment can indeed be accomplished, but accomplished only at the cost of the incidental destruction of civilian property (and, to a less extent, life) on a scale which was not formerly contemplated. One might almost say that it has been found necessary to reverse the process by which the Chinese arrived at the secret of roast pork. The cooking could be done, after all, only by the burning of the house down. To wreck a submarine engine plant it is necessary that a substantial part of the town in which it is situated should be wrecked likewise. That development is deplorable, but modern war is full of terrible things.

British High-duty Bombs

Target-area bombing will be the more effective if the bombs which are used are so powerful that anything within a wide radius from their point of impact is fairly certain to be destroyed or damaged by fragments or blast. It so happened that not very long after the change or development of bombing policy to which reference has already been made[19], bombs of a new and very powerful type were brought into use by the Royal Air Force. These bombs, sometimes called 'high-duty bombs', and known to the Germans as 'block bombs'—because they could destroy whole blocks of buildings—were first used against target areas at Emden on the night of 31 March, 1941, and subsequently at Berlin and other cities. The damage which they caused at Hamburg and Mannheim was described by the Air Ministry News Service on 1 June, 1941. 'In Hamburg one of these new bombs fell into the Steinwerder industrial area. Industrial buildings covering a space of 20,000 square yards were completely demolished. Over a space of 75,000 square yards there was severe damage from blast and at two points more than 1,100 feet apart the effects of blast were very obvious. Reports from within Germany describe Hamburg as a "tragic picture", and it is said that there is scarcely any district in the great city, the second largest in Germany, which has not suffered. . . . In Mannheim it has been equally impossible to conceal the damage. Though after the attack on the night of 5 May [1941] the great chemical works in the industrial suburb of Ludwigshaven were cordoned off by the army, ambulances were seen to leave the works throughout the day. . . . Sixteen bays of warehousing on both banks of the Verbindungs Canal were entirely gutted and this area of complete devastation covers four and a half acres.' Other details of the destruction caused in Mannheim were added. With bombs of this kind the odds upon damaging a known objective

within a target area in which a pattern of bombs is deposited are clearly increased.

The bombs introduced in 1941 weighed at first 2,000 and later 4,000 lb. each. Bombs twice as heavy as the latter were brought into use in the autumn of 1942. They weighed 8,000 lb. and were dropped on objectives in Karlsruhe on the night of 2 September, 1942, and in Düsseldorf on the night of 10 September; they were subsequently used against other target areas. They contributed to the immense destruction caused in the raids of 2 and 10 September; at Karlsruhe an area of 270 acres and at Düsseldorf one of 370 acres were completely devastated, in addition to widespread damage in other parts of each of these towns.

There is another important effect of target-area attack, too. It is that the task of the fire-fighting and other protective services is made much more difficult. Incendiaries are usually dropped as well as high-duty bombs, and the number of fires springing up may well be such that it is impossible to deal effectively with a particular one—which may be at one important factory or railway junction. The work of the demolition squads is also hampered. The chances of a given building suffering damage from blast or fire are increased when such bombs, together with incendiaries, are dropped in the area containing it.

The increased accuracy of the bombing was referred to both by Mr. Churchill in the House of Commons on 8 September, 1942, and by Mr. Eden at Leamington on 26 September. ‘A far larger proportion of the bombs’, said the former, ‘now fall in the built-up target areas. The improvement was due largely to the introduction of the system of “pathfinder” bombers which went ahead of the main force and marked the target for those that followed. Their crews were specially selected men of exceptional experience and skill, expert navigators and accustomed to finding their way in the darkness; alive, moreover, to all such enemy tricks as the lighting of dummy fires to mislead the raiders.’

The Effect on Morale

The effect on morale is greater, too. Carefully selective bombing of military objectives only is, of course, damaging to the enemy’s war effort, if successful. It may, however, have the result of lessening the psychological effect of raiding. The correspondent at Lisbon of a London newspaper reported at the beginning of January, 1941:—‘The general impression of travellers returning from Germany is that the R.A.F. bombing has not produced a noticeable psychological effect because it has been confined to military objectives. That the Nazi Government dreads such effect is shown

by the frantic speed with which signs of bomb damage are cleared up, whenever possible.'[20] There is no doubt that a profound effect has been produced by the attacks which, though not so directed deliberately, have embraced the workers' dwellings in the neighbourhood of the military objectives which, by area-bombing, it was sought to destroy or damage.

In the House of Commons on 6 May, 1942, Mr. McGovern asked the Secretary of State for Air whether the instructions given to the Royal Air Force who raided Lübeck and Rostock included instructions to impede and disorganise the German effort by the destruction of workmen's dwellings. Sir Archibald Sinclair replied: 'The objects of our bombing offensive in Germany are to destroy the capacity of Germany to make war and to relieve the pressure of the German armies on our Russian allies. No instructions have been given to destroy dwelling houses rather than factories, but it is impossible to distinguish in night-bombing between the factories and the dwellings which surround them.' The impracticability of drawing any such line is, indeed, one of the reasons why the bombing of target areas is calculated to have a greater psychological effect than the kind of attack which was the rule before December, 1940, in the British air offensive against Germany.

Strategical Bombing and Morale

There is, in fact, no such clear-cut distinction as is sometimes supposed between bombing for a military end and bombing for moral effect. One could quote many instances in which the attempt to make such a distinction has led writers or speakers to misconceive the true situation. Mr. Victor Gollancz, for example, wrote as follows in his widely-read book[21]:—

'To destroy morale the Germans bomb civilian populations far from any military objective. Do we do the same? I do not know whether we do, but the words must be wrung from me that, if thus alone could we win, we should, God forgive us, be right. And whether we do so or not, that is what . . . newspaper after newspaper is advocating. I do not blame them for advocating it, if they think, as I deny, that it is a militarily necessary or effective policy, for the defeat of Hitler should be our supreme consideration.'

To the question asked in this quotation it is not possible to give a straight and unqualified answer. That is because the question is itself an instance of over-simplification of the issue involved. The Royal Air Force *are* bombing to destroy morale but they are doing so by attacks on military objectives; whether they are military objectives in the sense intended in the extract is another question. They are bombing industrial areas and communications;

these, in a totalitarian war, cannot be regarded as other than legitimate objectives. The true difference is between bombing, the primary, and possibly sole, purpose of which is to destroy morale, and bombing in which such destruction is incidental and subsidiary to another purpose. British bombing is strategic but it has inevitably, as a kind of by-product, a psychological effect, that is, an effect on morale—the morale of the population and the morale of the rulers of the country.

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[16] Major A. P. de Seversky states in his *Victory Through Air Power*, which I had not had the advantage of reading before this book was written:—'Those thousands of planes and pilots invested in striking at London might have been expended more intelligently against key industrial centers; against production units of the aviation industry, especially those related to the fighter command, such as the Rolls-Royce plants as well as the Spitfire and Hurricane plants; and, in general, against the ground potentials of the air force.' (p. 72.)

[17] Ben Robertson, *I Saw England*, 1941, pp. 189, 196.

[18] See page 55.

[19] See page 62.

[20] *Daily Telegraph*, 7 January, 1941.

[21] *Shall Our Children Live or Die?* 1941, p. 93.

CHAPTER VI

THE DAYLIGHT OFFENSIVE

The Daylight Raids

Bomber Command's offensive was essentially a night shift. That was inevitable, for reasons already given. At rare intervals one or two of the heavy bombers—Hampdens or Fortresses—would make swift incursions into Germany by daylight, and the Lancasters earned immortal fame by their great raids on Augsburg on 17 April, 1942, and on Le Creusot exactly six months later. Mainly, however, the Command's raids in 1941 and 1942 were confined to the hours of darkness. It was then that the Wellingtons, Hampdens and Whitleys, and later the Stirlings, Halifaxes, Manchesters and Lancasters came out of the north to remind the *Herrenvolk* of their existence.

These, however, were not the only arrows which Bomber Command had in its quiver. There were other machines, medium bombers, which were better fitted for work by day, though for the most part they confined themselves to raiding those appanages or satrapies of Germany which are known as the occupied territories. The Low Countries and France were the hunting ground of these daylight raiders. Occasionally they went across the frontier of the *Reich*. They did so on 31 December, 1940, for instance, when a small force of Blenheims attacked targets at Emmerich and a factory at Cologne. On most of their raids into the occupied territories the Blenheims were escorted by pilots of Fighter Command.

Fighter-bomber Sweeps

The first notable bomber-fighter sweep took place at about midday on 10 January, 1941, when aerodromes in the Pas de Calais and other targets were bombed by Blenheims, protected by about a hundred fighters. Other sweeps followed in January and February. Sometimes fighters alone were in operation. In the raids on the more distant objectives the Blenheims dispensed with escort. On 27 April, 1941, they attacked an industrial plant near Cologne, making use of cloud cover, and all returned without loss. Next day, one of the Stirling heavy bombers proved that it was not simply a night bird, by bombing Emden from 1,500 feet, and it, too, returned safely. Heligoland was attacked by daylight more than once in the spring of 1941. So was shipping in the Kiel canal. In many of the raids strong opposition

was encountered. When a plant near Béthune was attacked on 17 June, 1941, 10 British and 16 German fighters were shot down, but not a single Blenheim was lost. It was indeed a rare occurrence for any of the bombers to be missing at the end of a sweep, so good was the protection afforded by the screen of escorting fighters.

Ascendancy in the Air

If the Royal Air Force had been able to establish over northern France and the Low Countries such a measure of ascendancy as is attainable in air warfare, the daylight offensive would have been substantially fortified and could have been considerably extended. It seemed in June, 1941, that such ascendancy was within reach. The midsummer air combats were a conspicuous triumph for Fighter Command. On 21 June, 1941, 26 enemy fighters were shot down, on 22 June 30, and on 23 June 20, the bag being thus 76 for three days, during which the Royal Air Force lost 8 fighters and 3 bombers (by daylight). In the period from 12 to 23 June, 112 German fighters were brought down for a loss of 26 British aircraft, the pilots of five of which were saved. On some days the balance was less favourable. In a bomber-fighter sweep towards Lille on 27 June 9 British and 7 German fighters were shot down. A few days later, on 2 July, when Blenheims, escorted by fighters, raided Merville aerodrome, near Lille, the opposition from the ground and in the air was found to be formidable and 4 bombers and 8 fighters were lost, but 21 enemy fighters were destroyed. A still better balance could be shown at the end of another sweep on 4 July, when 16 enemy fighters were destroyed for the loss of 3 British fighters and 1 bomber. On the same day unescorted Blenheims made a low-flying attack on Bremen; 5 were missing after it, which indicates the increased risk when fighter protection is not available. The escorts were no less successful in safeguarding their charges when, exceptionally, heavy bombers took a hand at raiding industrial plants and railway yards in France early in July; on the 6th, 7th, 8th and 9th they did so by daylight and lost not a single bomber—a remarkable success for the accompanying fighters. Some fighters were missing but they made the enemy fighters pay more heavily still. Both heavy and medium bombers were out over France on other days in July and in each instance the fighter escort shepherded them home with little or no loss. Then on 16 July came the Blenheims’ greatest raid, on the shipping lying in Rotterdam harbour. They swept in at almost mast-height and put about 140,000 tons of shipping out of action, for the loss of four Blenheims. Other successes followed in July and August, and on the 12th of the latter month the Blenheims accomplished another very remarkable feat. Escorted by

twin-engined Whirlwind fighters as far as Antwerp, they flew over Belgium and Western Germany to attack the power stations at Quadrath and Knapsack near Cologne. Their task accomplished, they returned and were met over Holland by long-range Spitfires, which escorted them home. There was strong opposition in the air, and 12 Blenheims and 8 fighters were lost. A graphic description of this brilliant raid was given by the captain of one of the Blenheims, and it is worth quoting.

The Raid of 12 August, 1941

'Over Germany', said this pilot, 'we flew below the level of the trees. My observer called me up when we were seven minutes from the target, and at that moment another squadron of Blenheims crossed our paths. They were on their way to the other power station. The air seemed alive with British bombers. We were nearly there when my rear gunner cried "Tallyho, fighter to port". I felt the aircraft jar twice and saw cannon shells hitting the port wing. I told my flight to take evasive action. Then the flak became intense. I could see it bursting among bombers in front of me and I looked on the ground to see where it came from. I saw flashes from a gun emplacement and went straight for it. We passed about three feet over the gun and I saw soldiers in a trench hit by a stream of bullets. The gun ceased fire. You couldn't miss the target. There were the twelve chimneys—a row of four and a parallel row of eight—standing dark against the sky. The sun was to our port bow. There were smoke and flames coming from the plant, so we climbed to attack. The flames were 50 feet high and the smoke too thick to let us bomb accurately from any lower. Inside the buildings we could see the sudden red glow of explosions under the smoke. I flew straight between the chimneys. I was watching my observer's elbow as he pulled back the release lever, and then I heard him call "bombs gone". I did a steep turn over a belt of trees down into a sandstone quarry to get away from the "flak". I should think we went about thirty feet below the level of the ground. As we came up there was a great deal of crackling in the earphones and I couldn't quite catch something my rear gunner said. But then I heard him repeat it. It was "fighter again", and at the same moment a piece of my port wing fell away. I heard no more from my rear gunner and it must have been then that he was wounded. I tried more evasive action. A bullet came in behind my head and another smacked the armour plating at my back. My observer said that he could see a stream of bullets coming between his legs. I turned to the right to give the fighter a more difficult angle of fire and this seemed to work. He sprayed the air above us. While we twisted about I hit the top of a telegraph post and chipped one airscrew. I could see that the yellow tips were uneven

as they turned and the note of the airscrews' roar was a little different. But this didn't seem to affect our flying. There was a film of oil over my perspex. I didn't see a church spire and my observer told me of it just in time to let me miss it. I banked sharply and caught the tip of my wing in a tree. Once more we were lucky and we managed to catch up with the others. The worst of the attack was over then, but I have never known anything so welcome as the squadrons of British fighters which came out to meet us. They staved off the attacks of more Messerschmitts and then I had time to think of my rear gunner. I tried to call him up and then he passed me a note he had written on his kneepad. "Please get here quickly. Bleeding badly", it said. I gave the observer a bandage and he crept through to the gunner. We flew on back in an interval between two storms and I made straight for base. Our undercarriage had been damaged and would not go down. The observer had to hold the rear gunner while we made a belly landing.'[22]

Other Raids in August, 1941

On the same day, 12 August, heavy bombers were also out by daylight, Fortresses over Germany and Holland and Hampdens over France. The Fortresses, flying at such a great height that they could dispense with fighter escort, dropped bombs on railways, industrial buildings and aerodromes at Emden, Cologne and De Kooy. The Hampdens were escorted by Hurricanes and Spitfires; their targets were the power plant at Gosnay and railways near St. Omer. Another successful raid on shipping at Rotterdam (on 28 August) brought a notable month in the annals of the Blenheims to a close.

A good deal had been hoped for from the daylight forays of the Fortresses but the results did not come up to expectations. The official booklet, *Bomber Command Continues*, has this to say about their operations (p. 29):—

'Prior to the attack on Knapsack (12 August, 1941) a Fortress had bombed Kiel docks in daylight from the substratosphere on 2 August. On 31st of that month another Fortress bombed Bremen in a similar manner and the attack was repeated on 2 September. The effect on German morale was reported to be serious, as the first intimation of our presence was usually the arrival of the bombs. Fortresses were subsequently used to attack shipping in Rotterdam on 4 September and in Oslo on 6 September and again on the 8th, when two fell victims to fighters. But the weight and scale of their attack could not be made heavy enough to justify the possible loss of a number of highly trained crews, and these daylight attacks from the substratosphere were discontinued.'

When at a later stage the United States Army Air Force began to use its Flying Fortresses against objectives in northern France much more successful results were obtained, as is recorded in Chapter IX, later.

The F.W.190 Appears

In September there were more fighter-bomber sweeps, as well as many in which fighters only were in action, and during the month there occurred an event the significance of which was not appreciated at the time but which was found later to be of major importance in its influence upon the issue of the air fighting. This was the appearance of a new German fighter which some British pilots mistook at first for the Curtiss Hawk, the fighter which the French Army of the Air had obtained from the United States in 1939, while other pilots thought it might be the Italian Macchi 200. The new machine had a radial engine, as had also the Hawk and the Macchi 200, and the mistake was therefore not unnatural. Actually, it was the Focke-Wulf 190, a fighter for which the Royal Air Force were to acquire considerable respect in the months to come. The Air Ministry News Service quoted on 10 January, 1942, the views of some British pilots upon it, which were then to the effect that the Spitfire could out-manœuvre it, that it was not very fast at 28,000 to 30,000 feet, and that the Spitfire could turn inside it. Later, on 10 May, the same Service, while admitting that the F.W. 190 had a very high rate of climb, claimed that the British fighters were able to turn within a smaller area and were much more powerfully armed. ‘The Spitfire today’, it was added, ‘is undoubtedly the finest all-round single-seater fighter aircraft at present in operation.’

However that may be, there is no doubt that when, in the spring and summer of 1942, the F.W. 190 began to be met in numbers over Northern France and the Low Countries, the British fighter pilots found their task a far more difficult one than it had been in 1941, when the Messerschmitt 109E, followed by the 109F, was the German fighter mostly in evidence. Undoubtedly the F.W.190 was an improvement upon the Me109F and the German claim that it was the best fighter in the air was not so preposterous as are many of the Nazi boastings. Perhaps the most profitable result of the heavy raid on the night of 23 June, 1942, on Bremen was the wrecking of the Focke-Wulf factory and assembly works, which were mainly engaged in the production of F.W.190’s.[23] It may be added that in the House of Commons on 14 July, 1942, Colonel Llewellin, the Minister of Aircraft Production, stated that the newest British fighter, now coming out of production (the reference appears to have been to the Hawker Typhoon), was superior to the two latest German fighters at nearly every height and as good

at any height. An F.W.190 was captured practically intact on the British south coast about the end of July, 1942, and some details of its performance were disclosed early in August. Its armament was stated to consist of four cannons and two machine-guns, 200 shells being carried for each of the cannons and 1,000 rounds for the other guns. The top speed was nearly 400 miles per hour and the ceiling about 36,000 feet. A well-informed air correspondent's verdict on the F.W.190 was that it was 'a formidable fighting machine' but at the same time that it was 'in no way superior to our latest fighter aircraft which are still on the secret list'.[24]

The Hurricane Bomber

The respective sides' losses in the fighter sweeps were more evenly balanced in 1942 than they had been in 1941. Already, indeed, the Royal Air Force had had a few bad days in the closing months of 1941. On one of these days, 8 November, they lost 15 fighters as against the enemy's loss of four. This was a big day in the air, 300 British fighters taking part in the day's operations, which included an attack on a factory at St. Pol. It was one of the first occasions on which Hurricane bombers were employed in the fighter-bomber sweeps. These newly developed fighter-bombers speeded up the tempo of the daylight raiding considerably. A very interesting description of the technique which they used was given by a 'Hurribomber' pilot in a broadcast on 19 November, 1941.

'Whoever thought of fitting bombs to a Hurricane is to be thanked for giving the Squadron which I command some of the most thrilling days' work that has ever fallen to the luck of Fighter Command pilots. Low level bombing of ground targets by fighters which it makes possible is, of course, something quite new to R.A.F. pilots. In our Hurricane bombers we don't have to dive on to our targets. We come down almost to ground level before we reach them, and drop our bombs in level flight, with consequently greater accuracy than can be achieved generally in dive bombing.

'The whole thrill of the Hurribomber is in this ground level flying over the target. There we are, like a close formation of cars sweeping along the "railway straight" at Brooklands, only, instead of fast car speeds, we are batting along at between 200 and 250 miles an hour. At times we may exceed 300 m.p.h. The impression and thrill of speed near the ground has to be experienced to be believed. Even though we are travelling so fast, there would be a risk of being hurt by the blast of our own bombs if they were of the ordinary type which burst on contact. Consequently our bombs are fitted with delayed action fuses, so that they do not explode until we have got well outside their blast range.

‘It might seem that, flying on to the target at only a few feet altitude, we would be easy prey for Bofors or machine-gun posts. We would be, if the gunners could see us coming. But generally they cannot see the low flying fighter until it is almost overhead, and then they have to be remarkably quick to get the gun trained on the fleeting aircraft. Moreover, they have little time to calculate what deflections to allow in their aim. On the other hand, of course, the pilot would have precious little chance of baling out if his aircraft were hit. Indeed, he would have practically no space in which to regain control of his aircraft if a hit threw him temporarily out of gear. So far, however, the advantage seems to be on our side, and not on the side of ground defences. I have seen flak and machine-gun fire pelting at my aircraft from all angles, but none of it has hit me.’

The Boston Bomber

The other type of bomber used in the daylight raiding in 1942 was the Boston, which took the place of the Blenheim for this purpose. This machine, developed from the Douglas D.B.7, the fine American aircraft which in another of its transmogrifications is the Havoc night-fighter, proved itself an outstanding success in this kind of work. Its speed and adequate armament make it a match, on occasion, for even enemy fighters. It was used in the daylight raid on the Matford works at Poissy on 8 March, 1942, and on numerous other forays. One of its most successful operations was the attack upon the docks at Le Havre on 16 April, 1942. The ‘superb bombing’ of the target on that occasion won the admiration of the escorting Spitfire pilots, who had one of their busiest days on that date; more than 400 Spitfires were engaged on offensive operations over northern France during the day.

The Danzig Raid, 11 July, 1942

The longest of Bomber Command’s daylight flights to raid an objective in Germany was that of 11 July, 1942, when the submarine building yards at Danzig were attacked. Several squadrons of Lancasters took off in the afternoon and fairly soon flew into foul weather; there were clouds extending from 800 feet at their base to 15,000 feet above, and thunderstorms, static electricity and severe icing made navigation difficult. In fact, a few of the Lancasters, unable to find their way, had to turn homewards before reaching their objective. A formidable force went on, however, and deposited their bombs, including some of 4,000 lb. weight, on the target area. The cloud-base over Danzig was at 6,000 feet, and the enemy turned on the searchlights, though the attack was made well before

twilight, to aid the anti-aircraft gunners in their attempt to repel the raiders. The latter went down below the cloud-base to drop their bombs. Some were even more adventurous. One pilot reported: ‘As I came towards the target I ran into a field of flak. I came down first to 2,500 feet and then right down. Skimming over the roofs, I saw light flak going over the top of the Lancaster and hitting houses on the other side.’ This pilot ‘saw some fires, burning well’.

The submarine yards at Flensburg on the German side of the frontier with Denmark on the Baltic were raided at the same time, also from a low level. Only three bombers in all were missing after the two raids—a remarkably small loss for such an ambitious operation.

The Augsburg Raid

The great daylight raid of 17 April, 1942, on Augsburg has already been referred to briefly. The account of it given by Squadron Leader J. D. Nettleton, who received the V.C. for his exploit, is worthy of record.

‘As soon as the French coast came into sight, I took my formation down to a height of 25-30 feet, and we flew the whole of the rest of the way to Augsburg at that height. Soon after we crossed the coast enemy fighters appeared in fairly big numbers. A fierce running fight developed. It was our job to pierce straight through to our target, so we kept in the tightest possible formation, wing tip to wing tip so as to support each other by combined fire. We went roaring on over the countryside, lifting over the hills and skimming down the valleys. Fighter after fighter attacked us from astern. Their cannon shells were bursting ahead of us. We were continually firing at them from our power-operated turrets. We rushed over the roofs of a village and I saw the cannon shells which had missed us crashing into the houses, blowing holes in the walls and smashing the gables of the roofs. The fight lasted fifteen minutes or so and aircraft were lost both by ourselves and the Germans. Then their fighters gave up—probably they were running out of ammunition.

‘After that we had no more trouble until we reached the target. We swept on across France and skirted the border of Switzerland into Germany. I pulled the nose of my aircraft up a trifle to clear a hill, pushed it down the other side and saw the town of Augsburg. We charged straight at it. Our target was not simply the works, but certain vital shops in the works. We had studied their exact appearance from photographs and we saw them just where they should be. Low angle flak began to come up at us thick and fast. We were so low that the Germans were even shooting into their own

buildings. They had quantities of quick-firing guns. All our aircraft had holes made in them.

‘The big sheds which were our target rose up exactly ahead of me. My bomb aimer let go. Our bombs, of course, had delay action fuses or they would have blown us all up. We roared on past the town. Then I had the painful experience of seeing one of my formation catching fire. The aircraft was ablaze, hit all over by flak. It turned out of the formation and I was thankful to see it make a perfect forced landing. I feel sure that the crew should be all right. At that moment all our bombs went up. I had turned and so could see the target well. Débris and dust were flying up in the air. Then I set course for home. The light was beginning to fail. I was not attacked again. Until it was dark we again flew a few feet above the ground. Then we rose to a normal height and got home without further incident.’[25]

Of the 12 Lancasters which set out, 4 were shot down before they reached their objective and 3 after they had dropped their bombs on it; 5 returned safely to England. The significant and very important feature of the attack was that the loss was not evenly distributed between the two sections of the raiders. It fell mainly on one; the other encountered practically no opposition from enemy fighters, whose attention was apparently diverted to the first. That fact is a pointer to the successful organization of daylight raids in the future, when many more than two sections of heavy bombers will be available. Some of them should be able to get through without heavy loss and to bomb their target with more accuracy than is possible at night.

The Raid on Le Creusot

It is unlikely, however, that the casualty list will be such an extraordinarily short one after a deep raid by daylight into Germany as it was after the attack on the Schneider armament works at Le Creusot on 17 October, 1942. Of the 94 Lancasters which took part in this brilliant raid only one failed to return, and it was lost, it seems, not through enemy action but through an unlucky mischance; it was apparently struck by débris thrown up when the power plant which supplies the armament works was bombed from the very low altitude of 500 feet. The loss was balanced by the success of another Lancaster which shot down two out of three Arado floatplanes which had the impudence to try to intercept it. Except for this feeble attempt, the Lancasters encountered no opposition in the air.

The outward flight was made by daylight, and the first bombs fell at about ten minutes past six in the evening. The attack was swift and concentrated. It was all over in seven minutes, which meant that the bombers followed one another over the target area at intervals of less than

five seconds. They had flown the 300 miles into France at hedge-top height; on nearing the objective they went up to 4,000 feet to 6,000 feet to drop their bombs. Crew after crew saw their bombs burst on the buildings in the works of 287 acres.

‘All the way over there were other Lancasters on each side of us, roaring at zero feet over France’, said a sergeant-pilot. ‘It was a wonderful flight, especially when we were going over the castles by the Loire. They looked beautiful. I thought how good it would be to visit France again when we’d got rid of the Hun. We got to Le Creusot just after sunset. We could see the factory dead clear. A stick of bombs from another aircraft dropped in front of us right across the works. Then we dropped our stick parallel to it. The buildings just flopped apart. There was a red flash in the middle of one building and it wasn’t there any more. In a little while all we could see was a cloud of smoke with red fires and bombs bursting inside it.’[26]

The air crews had been ordered to avoid injuring the French inhabitants, and the facts that it was a Saturday evening and that the daylight made accurate aiming possible reduced the risks to the local people. Nevertheless, the Vichy News Agency announced that 57 people were killed and about 250 injured; over 400 houses were wrecked or damaged.

The Raid on Milan

Just a week later, on 24 October, the Lancasters surpassed their great exploit against Le Creusot by a still more spectacular daylight raid. A large force of them flew the 1,350 miles to Milan and back. They had fighter escort for the first part of the outward journey, but thereafter had to rely on surprise for the success of their foray. They hedge-hopped across France and reached their objective at about five o’clock in the afternoon. There were clouds over the target area. Some of the bombers came down to fifty feet to make sure of hitting their objectives. One squadron leader stated that he saw a 4,000 lb. bomb hit a factory ‘good and hard’. Many big fires were started. Most of the homeward flight had to be made without the cover which darkness afforded in its last stage, but only three of the raiders were absent from the roll-call after this magnificent flight.

‘We took off in the morning’, said a flight commander, Squadron Leader D. Clyde-Smith, D.F.C., ‘and as we flew towards the English coast other Lancasters came in to join us till they were stretching on all sides. As we crossed the English coast the fighters met us exactly on time and turned to fly with us across the sea. It was a most encouraging sight. When we reached the French coast we met cloud and I saw nothing of the ground until we reached the Loire. Then once again I saw the châteaux, just as I had seen

them on the way to Le Creusot. For a time I flew low, though not very low. Meeting no opposition I began to climb and flew on over scattered clouds.

'We climbed over the Alps, which stretched before us with their tops shining white in the sun and looking most impressive, and crossed about 1,000 feet above them. When we got to the other side there was cloud once again. We saw very little except occasional glimpses of villages beneath the cloud. Once I saw a clock tower and tried to read the time—I passed it before I could see what it was. Over Milan there was cloud, but we went down and saw Milan below. Just as we started our bombing run I saw a 4,000 lb. burst and send buildings flying. During the run incendiaries were falling and burning all the time. When we had finished our run and dropped our stuff we climbed into the cloud again and set course for home.

'It was getting dusk when we came to the Alps again, with the sun low in the sky. After we crossed the Alps the moon came up and on each side of us there was a blood-red disc. It never got completely dark. As soon as the sun set the moon was up. We reached our base without meeting any trouble.'[27]

Another pilot said: 'I've always wanted to see a 4,000 lb. bomb go off in daylight and now I have. It simply blew a factory to pieces. You think the factory is there—and then it isn't.' The fires started by the Lancasters were still well alight when a force of Stirlings, Halifaxes and Wellingtons again bombed Milan after dark.

The Mosquitoes Begin to Buzz

The spice of variety was added to the daylight raiding in the autumn of 1942 in more ways than one. It was then that the Flying Fortresses of the United States Army Air Corps came into action, and between these large and dignified bombers and the much smaller and almost impudent Mosquitoes which were brought into use by Bomber Command of the Royal Air Force a little later there could hardly be a greater contrast in the bomber class. The existence of the latter type of twin-engined light bomber was first disclosed officially when four Mosquitoes raided objectives at Oslo on the afternoon of 25 September, 1942. A meeting was being held by Quisling at the Gestapo headquarters there and the raid was timed to interrupt it. In this aim it was completely successful. The assembled quislingites had to take refuge ignominiously in the cellars. The flight of four Mosquitoes, led by Squadron Leader D. A. G. Parry, flew at a low height up the Oslo Fjord in brilliant sunshine and had no difficulty in finding the target. It was duly bombed from about a hundred feet. One of the Mosquitoes was shot down by a flight of Focke-Wulf 190's which rose to intercept them, but the other three

returned safely to their base, though they were followed for thirty miles by the F.W.190's.

The effect of the raid was described in a message from Stockholm a few days later. An apartment house occupied by German officers was hit by one bomb and burned out. Another apartment house inhabited by members of Quisling's party was hit by a second bomb and completely destroyed. The effect of a third bomb was totally to destroy a villa in which thirty-five German officers were assembling for dinner; twenty-six of them were stated to have been killed. The four other bombs dropped caused minor damage.[28]

It was not only in occupied territory that the Mosquitoes succeeded in stinging the Germans. On 6 October they flew into Western Germany by daylight in addition to attacking objectives in the Low Countries, and all those engaged returned safely. On 20 October they attacked objectives at Hanover, Wilhelmshaven and Bremen; one was missing after this raid. These were but a few of their darting intrusions—which may have inspired the Mustangs of Army Co-operation Command to imitate them, as they did on 21 October. On that day these fighters attacked objectives in Western Germany, for the first time, and all returned safely.

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[22] Air Ministry Bulletin No. 4743, dated 12 August, 1941.

[23] An aerial photograph of the damage done to the factory was published in *The Times* of 2 July, 1942.

[24] *Daily Telegraph*, 6 August, 1942.

[25] Air Ministry Bulletin No. 6729, dated 18 April, 1942.

[26] Air Ministry Bulletin No. 8323, dated 18 October, 1942.

[27] Air Ministry Bulletin No. 8386, dated 25 October 1942.

[28] Ralph Hewins, Stockholm, in *Daily Mail*, 1 October, 1942.

CHAPTER VII

MASS PRODUCTION OF BOMB DAMAGE

Britain's Weakness in the Air in 1939

Never in this war until considerably more than two years had passed were the conditions reproduced which those of us who had studied the question of the future of air power from the British angle had taken as our data. We had assumed that Great Britain would be at least as strong in the air as any other country within striking distance of her shores. That assumption was justified by a number of Ministerial pronouncements. There is no need to quote them—they are familiar to most people—but it is material to remind readers that until the close of 1941 Great Britain had never had since 1918 anything approaching parity in air strength with the strongest European nation. She was far below the one-power-standard in comparison with France (and indeed some other countries) during most of the inter-wars period and in comparison with Germany in the years immediately preceding the present struggle. That inferiority was naturally calculated to falsify the forecasts of those who could not bring themselves to believe that it would be permitted to exist or to continue.

Parity in Air Strength Attained

On 10 November, 1941, Mr. Churchill was at last able to inform the country, in a speech in London, that 'now we have an Air Force which is at least equal in size and in numbers, not to speak of quality, to the German air power'. Even then, however, it is permissible to question whether Britain had in fact attained parity with Germany, regard being had to their respective geographical positions. Germany, centrally situated, was free to switch her air units from one frontier to another more quickly than Britain, perimetrically situated, could move her air force. The existence of the Italian and (from 7 December, 1941, Japanese air forces had also to be taken into account, but this debit item in the balance sheet of comparative air power might be regarded as off-set by the credit entry of the United States' already substantial and potentially immense air strength on the other side of the account.)

A Forecast Falsified

Inevitably the picture which some of us had had in our minds when we tried before 1939 to foresee the influence of air power upon a future war was something very different from the actuality. Perhaps it was an instance of wishful thinking, but at any rate we envisaged a state of affairs in which the odds were not so heavily on the side of the aggressor as they proved in fact to be. We wrote, naturally, from the point of view of the non-aggressor nation. Britain was never in the least likely to go land-grabbing. The Committee of Imperial *Defence* was quite correctly so named. Nevertheless, defence today, to be effective, demands a capacity to hit as hard in the air as your enemy can hit. Britain could not do that in 1939-41.

To illustrate my immediate argument I venture to quote from a book which I wrote ten years before the present war began. I crave the reader's indulgence for this egotistical dip into the past. I then wrote:—'The significance of the amazing portent of air power is that, for all its menace, it is a disarming and not a slaying force. . . . You need a banner and a blazon when you go out to fight against men unbaptised. Land power has its device with the legend: *I can rend and slay*; sea power its symbol and message: *I can strangle and starve*. Air power, youngest, most terrible, most merciful of all, says simply: *I can disarm*.'[29]

That was a true appreciation before the event of one characteristic feature of air warfare; it involves no such massed slaughter as does war on land. It was not true in so far as it envisaged air power as a disarming force, at any rate air power such as Britain possessed in 1939-41; or, it may be added, air power such as Germany's except when it was used to crush a country practically defenceless in the air. The attempt of the *Luftwaffe* in 1940 to disarm Britain in the air by destroying the aerodromes of south-eastern England was an utter failure. But if untrue then in this particular, it is beginning to become true in 1942. Its truth will be abundantly clear in 1943. The first real glimpse of the truth of it was vouchsafed to the world on the night of 3 March, 1942.

The Renault Raid

On that night British bombers raided the Renault factory at Billancourt on the outskirts of Paris. The moon was just past the full and there was little cloud; the works, lying mainly on an island in the Seine, presented an easily identifiable target. The crews had been ordered to bring their bombs back if there was any possibility of mistake. Actually, the bombing was so accurate that by the end of the attack, while there were many large conflagrations within the perimeter of the works, only two small fires were to be seen outside, and these were just on the edge of the works along the river-bank.

The attack was completely successful; how successful may be judged from the fact that M. de Brinon, the Vichy representative of Paris, stated that as a result of it 30,000 workers were unemployed.[30] A fairly large number of the employees became casualties, but the figure of 600 which was mentioned in the controlled Paris press at the time was probably exaggerated. Still, the number was sufficient to prompt Marshal Pétain to refer in a message read at the funeral of the victims on 7 March to a 'bloody hecatomb.'

Photographs taken from the ground of the damage caused at the works and smuggled out of France by a member of 'La France Combattante' were published in the British newspapers on 14 July, 1942. They furnish a complete answer to those critics whose objection to the air offensive is that it causes little damage and is largely a waste of bombs. About the damage done at the Renault works there can be no doubt whatever. The raid was absolutely devastating. Its effect was as if a giant had taken a colossal hammer and smashed the works to pieces. Great buildings were shattered, their girders left twisted and torn, the machine-tools within wrecked and smashed, the whole plant tossed about in indescribable chaos and confusion. There has probably never been such an example of swift and definitive demolition which was not the work of an earthquake.

The R.A.F. Win a Major Tank Battle

Attacks were also made in March and April upon the Matford Works at Poissy, by day and night, and on 7 April, 1942, the Air Ministry News Service summed up the results of these raids and of that on the Renault factory as follows:—

'In three air raids, only one of which was heavy and two of which were on a more moderate scale, the Royal Air Force has struck a blow at the German armoured and mechanised divisions which would have been regarded as sensational had it been achieved by an allied army of millions of armoured and mechanised troops and as the result of a prolonged and bloody campaign. For, in these three raids, and in the space of about six hours, the Royal Air Force destroyed the greater part of the Renault works, mostly beyond repair, and seriously damaged the Great Matford works at Poissy.

'Between them, these two great factories were producing at least 20,000 heavy army lorries per year—or about 70 every day—in addition to large numbers of tanks and armoured fighting vehicles and the repair of many more. This immense production has been stopped—much of it for at least a year. Some of it cannot be resumed until after the war, owing to the destruction of irreplaceable machinery and machine tools. Even if part of this production can be ultimately resumed, the German army has lost at least

the equivalent of one year's output from Renault and that of many months from Matford. It has, in all probability, lost very much more. And it should be realised that this great total of military vehicles and weapons has been denied to the enemy before they ever appeared in the battle zone to cause loss and casualties to ourselves or our allies.

'This would have constituted a major defeat for the enemy, even if it had only been achieved at the cost of heavy losses in men and material and as the result of prolonged fighting on the heaviest scale. Imagine the effect of this news if it had been announced in an Allied war communiqué:—

' "Our armies, as the culmination of six months of heavy fighting, have destroyed more than 20,000 German lorries and large numbers of tanks and armoured vehicles. The entire equipment of five armoured and mechanised divisions has been destroyed."

'In effect, one of the major tank battles of the war has been won by the Royal Air Force in about six hours at a cost of four bombers and twenty-five men. This is not only of immediate and paramount importance to the Allied armies on both Russian and Libyan fronts, it is also the finest example of Bomber co-operation with the army which this war has yet afforded, and proves beyond question that the direction of so great a part of the national effort into the construction and manning of heavy bombers is a policy which brings immense and unprecedented advantage to our ground forces, and those of our allies.

'Yet the denial of this huge output of military machinery to Germany is not the only fruit of the victory. This great and expected flow of tanks and vehicles would have enabled the enemy to stage a great campaign, to defeat which the allied armies would themselves have suffered most serious casualties and severe losses in equipment. The sudden denial of some 20,000 lorries and great quantities of tanks and armoured vehicles must profoundly affect Germany's future strategy, circumscribe her actions, and cause drastic interference with her military plan.'[31]

On 13 July, 1942, the Air Ministry News Service issued some further information about the effect of the raid. About one-fifth of all the machines in the factory were put out of action, it was stated, and production until August would be under 25 per cent. of the normal figure. It seems that another visit on a later occasion by Bomber Command is indicated!

Effect of Augsburg Raid

The Renault raid will probably be recognised some day as marking an epoch in air warfare. It was the first occasion on which, by a single blow, an

important source of an enemy's munitionment was put out of action beyond all possibility of questioning. The fact that it seemed to have no immediate influence upon the German armies' operations in the field does not detract in the least from its importance and significance. Armies operate with equipment that is in existence. The raid on the Renault works affected only the supply of equipment in the future. It was followed by a number of raids on other sources of Germany's armament; one of them, the daylight raid on Augsburg, has been referred to in the preceding chapter. Here it is appropriate to the subject to add to what was said there that the raid was another example of successful interference with the enemy's constructional programme and, in particular, the part of that programme which had a direct bearing upon the battle of the Atlantic. It thus fitted into the operational plan which embraced the raids on Cologne, Emden and Bremen at a slightly later date.

Photographic reconnaissance revealed that the M.A.N. building at Augsburg which was the main Diesel engine assembly shop had its roof pierced by bombs. The interior damage is invariably greater in such circumstances than that which is visible, and there is little doubt that very severe damage was caused to the machinery inside the building. Two crank-grinding shops were also affected, one being entirely demolished, while other buildings were seriously damaged. Information obtained subsequently through a neutral channel confirmed the conclusions drawn provisionally from the examination of the aerial photographs. A civil engineer who assessed the effect of the attack stated that 'the success was complete'. Three departments were affected—those handling armoured vehicles, U-boat engines, and tractors and tanks—and the engineer estimated that at least five months must elapse before normal output could be resumed.[32] Since engines cannot be built as quickly as hulls of submarines, the effect would necessarily be that the latter would be kept waiting for their motive-power for at least that space of time. The whole process of U-boat construction must be thrown out of gear if the manufacture of Diesel engines is interrupted as it was at Augsburg.

The Mass-raids on Cologne, Essen and Bremen

A similar effect was produced by the raids on Cologne on 30 May, on Emden on 6, 20 and 22 June, and on Bremen on 25 June and on a number of other nights subsequently. At all these cities there are plants which manufacture the engines or other essential components of submarines. In the 'thousand-bomber-raid' on Cologne the Humboldt Deutz Motoren factory on the east bank of the Rhine suffered severely, six buildings being

destroyed and two others seriously damaged, while the Hagen Gottfried A.G. factory was also damaged. These factories construct engines and accumulators and batteries for submarines, respectively. They were only two out of a great number of factories wrecked in the raid. At Emden the Nordseewerke shipbuilding yards, which produce submarines of medium tonnage, were hit in the raid of 6 June and one large shed was gutted and another severely damaged by fire; nine other buildings around the yard were also gutted and two large warehouses demolished. Bremen is one of the principal centres of submarine production in Germany and the repeated raids upon it at the end of June and in July were closely related, therefore, to the operations of the battle of the Atlantic. So was the raid of the night of 8 July, 1942, upon Wilhelmshaven, and the raids of the evenings of 11 July on Danzig and Flensburg, and of 17 July on the submarine building yards five miles north-east of Lübeck and on those of Flensburg again.

In a letter to the Press early in June, 1942, Lord Trenchard explained clearly the connection between the air offensive and the battle of the Atlantic. We were applying, he said, 'the doctrine of the economy of force'. 'Surely', he said, 'it would be much more economical, so far as the Air Force and the Navy are concerned, for the Air Force to destroy or delay the production of submarines rather than have to find them and then destroy them in the seven seas. To attack the centre of production is surely preferable.'[33] That was what Bomber Command was doing in the great raids then in progress.

The Rostock and Warnemünde Raids

It was not striking only at the U-boats. It was hitting at the *Luftwaffe* also. In the four raids on Rostock, on 23 to 26 April, and in that on Warnemünde, on 8 May, the aircraft factories at these places were among the targets attacked. At Rostock the British bombers damaged severely the biggest assembly shop of the Heinkel works, where the He.111 is constructed. 'In the Rostock raid', said the Air Ministry News Service on 1 May, 1942, 'the German Air Force sustained a blow which in its weight and effect is equivalent to a major aerial defeat.' 'The main output of this factory for some time to come will be salvage, not aircraft.' At least three very heavy bombs fell in a tight stick through the roof of the largest assembly shop at the works, and one hole 72 feet across and two others of 50 feet width were made. 'The damage inside the shop from the explosion of these heavy bombs can be imagined.' A number of Heinkel sub-factories in the town were also severely damaged. The Heinkel assembly plant turns out about 35 bombers a week, according to Mr. J. C. Johnstone, who adds, in an

article referring to this and other raids: 'The loss cannot be estimated with precision, but supposing it were no more than two months' output—probably a low estimate—the resulting subtraction of 280 Heinkels from the Russian or Libyan fronts would by itself have represented a handsome dividend on the Rostock expedition, apart from all the other immense damage inflicted on this busy port and industrial centre.'[34] At Warnemünde the Arado aircraft factory was bombed and damaged as well as the port.

Concentrated Attack

The raids of 1942 were characterised not only by their magnitude but by their concentration. The attack was crammed into an hour or so. Some of the old raids were night-long affairs. The British bombers were over Hamburg, for instance, from nightfall to 6 a.m. on 16-17 November, 1940. Mannheim-Ludwigshaven had a raid lasting nine hours on 16-17 December, 1940. So had Cologne on 17-18 May, 1941. Dwellers in and around London had had their own experience of protracted raids. The alert period there on the night of 8-9 December, 1940, lasted for fourteen hours. These long raids were disturbing of course, to the people affected, but they did allow the defence and security services a breathing-space between bomb-falls. The new technique of sharp, short, overwhelming assault was much more difficult to cope with adequately. It was tried out by the Royal Air Force against Kassel on the night of 8 September, 1941, and one or two other places, but the forces employed were not then as large as they became in 1942. At Kassel less than 100 bombers were used—one-tenth of the number employed against Cologne on 30 May, 1942, or against Essen, Bremen and other centres at later dates. The supreme achievement in the technique of concentrated attack was accomplished on 17 October, 1942, when 94 Lancasters raided the armament works at Le Creusot and dropped all their bombs within the space of seven minutes. That, however, was a daylight raid and no opposition was encountered near or over the target area.

The new and almost revolutionary development in these 'thousand-bomber-raids' was their brevity in relation to their mass. The whole attack was over before the defence had time to pull itself together. At Cologne the whole bombardment was over in an hour and a half. At Bremen it lasted only an hour and a quarter. These were massed raids but the same acceleration of the assault was to be seen in the raids in which smaller but still powerful forces were employed. On the night of 2 July the actual attack on Bremen was concentrated into half an hour, which, regard being had to the respective numbers of bombers engaged, compared favourably with the seventy minutes spent over the same target area in the great raid of 25 June.

Bremen was raided again by a powerful force on the night of 4 September, and again the attack was all over in half an hour. The perfection of timing needed to ensure that a thousand bombers, starting from forty or more aerodromes, take off and fly over varying distances and reach the target area at the correct E.T.A. (estimated time of arrival), so that the whole attack can be completed in the briefest time that is possible, calls for a supreme effort of organisation and co-ordination. How exactly the bombers were got into the air for the raid on Cologne and the others which followed on a similar scale, is a story which cannot as yet be told. To those who understood the difficulties it was a miracle, but a miracle which had science at the back of it—and a miracle which could be reproduced again and again.

‘The sky over Cologne was as busy as Piccadilly Circus’, said the air-bomber of a Halifax who took part in the raid of 30 May. ‘I could identify every type of bomber in our force by the light of the moon and the fires.’ Think of the night-sky filled with that great argosy of death-dealing machines. Think of the tremendous spectacle, and then of the preliminary labours that went to the staging of that extraordinary tattoo, of the immense amount of thought, care, slogging hard work, administrative, technical and operational, that led up to it. Think, too, of the skill, gallantry, self-devotion of the splendid young men who were the performers in the wonderful, grim pageant of the air.

The Significance of the Mass-raids

The massed raids are phenomenal. They mark the emergence of air power as at least a pre-decisive factor in war. Bombing aircraft may not by themselves be able to bring about the enemy’s defeat. What seems fairly certain is that a belligerent against whom they are used, as they are beginning now to be used by Britain and America, cannot win. Between ‘thousand-bomber’ raiding and the raiding which was all that we knew in 1940-41 there is a difference which is more than one of degree. The old raids were, on the whole, not very successful in achieving their purpose. Only by degrees was the lesson learned that, to be effective, a bombing offensive must be massive, that the foundation of it must be the mass-production of bombers, that the conduct of it must be such as to ensure mass-production of damage or dislocation. The attack must be a blanket one which leaves nothing untouched within a fairly wide perimeter. It must be concentrated and overwhelming. It must ‘saturate’ the defence. In the attack on Düsseldorf on the night of 31 July, 1942, when a very strong force of Lancaster and other bombers dropped 150 4,000-lb. bombs as well as a great weight of other high explosives and hundreds of thousands of incendiaries in

the space of 50 minutes, the defence was so 'saturated' that at the end the guns and searchlights had been overwhelmed. The naval base at Kiel had a similar experience on the night of 13 October, 1942. 'For an hour', said the Air Ministry News Service, 'the defences were battered until the searchlights were wavering in every direction and the gunfire became ineffective'. That is the only way in which powerful defences can be overcome. The bombers must do the job thoroughly. There is all the difference in the world between the result then and the result when something less than such a standard of execution is the aim.

The fact is that air power was not in action in 1940-41. It began to be in action in 1942. It will be unmistakably and convincingly in action in 1943. No lesson in regard to its effect can really be drawn from the bomber offensives of the earlier years. Those offensives were by no means futile or a waste of effort. They had their part and their value in a process of which we are now beginning to see the culmination. It has been a process in which Bomber Command of the Royal Air Force, often by empirical methods, seems at last to have arrived at the secret of success.

Lord Hankey's Warning

We must guard ourselves, however, from putting our hopes too high. Lord Hankey has had some wise words to say upon this subject, and no one speaks with more authority on questions of strategy than he. After referring to the massed raids on the Ruhr and Bremen he went on:

'This great experiment is watched by the whole world with breathless interest and carries with it the hopes and prayers of the Allied Nations. Nobody can foretell the result. As in all operations of war, however, it would be most unwise to count on early and decisive successes, such as an end to the war this year [1942]. Should great results follow, so much the better, but unfulfilled hopes bring only disillusionment. There are many uncertain factors in this new air campaign, such as the enemy's defences, weather, and competing demands for bomber co-operation.'[35]

Lord Hankey repeated his warning when he reverted to the subject a couple of months later. 'We must not expect too quick results', he said. 'Like all methods of attrition, bombing takes time. . . . We should press on with bombing to the utmost, since this is an indispensable preparation for future campaigns, but it would be premature to count on it to bring about an early decision'.[36]

[29] *Air Power and the Cities*, 1930, p. 225.

[30] *Daily Telegraph*, 7 March, 1942.

[31] Air Ministry Bulletin No. 6644, dated 7 April, 1942.

[32] *The Times*, 26 May, 1942.

[33] Letter to *Sunday Times*, 7 June, 1942.

[34] Article in *Daily Telegraph*, 9 July, 1942.

[35] Article by Lord Hankey on ‘British Air Power’ in *Sunday Times*, 12 July, 1942.

[36] Article on ‘The Length of the War’ in *Sunday Times*, 27 September, 1942.

CHAPTER VIII

THE COST OF DELIVERY

The Cost

Cost, yes, but not in pounds, shillings and pence. It is cost reckoned, first of all, in splendid young lives. We who look on, who hear or read that so many bombers are missing after a raid, are inclined sometimes to forget what it means in terms of casualties. Multiply the loss of aircraft by five or six, and you have a figure representing the price paid in human casualties for a night's operations. Not all perhaps are fatal casualties; some may have survived; but nearly all are dead. That is the tragedy of the great adventure which is known as a long-distance raid. It is a tragedy inevitable in war, and these raids are war—war of battle and sudden death. Yet they face it all gallantly and gaily, these wonderful young men who are the pilots, navigators, bomb-aimers, gunners and wireless operators of the bomber machines. We should think of them always when we think with pride of the 'lovely and famous' names of the British aircraft of which C. L. M. Brown has sung—we should think with him of 'the ready laughter of crews who swung them to battle, wing to wing'. They are worthy to be held in remembrance.

Will Raiders' Losses Become Prohibitive?

The smothering of all the industrial centres in Germany under loads of high explosive and incendiaries involves, of course, the transporting of the loads to the sky above those centres, and this, it is hardly necessary to say, is a perilous business which cannot be carried on without casualties. In a way, the operation is comparable to that of the convoying of supply vessels to a port which cannot be approached without coming in contact with the enemy's naval forces or air forces or both. The convoy may be passed through but not without losses, and the question for consideration is whether the rate of loss is such as to make a repetition of the operation militarily inadvisable. So in an air offensive a time might conceivably come when the rate of loss suffered was so great that it became prohibitive. Is that likely to happen when the intensified bombing campaign against Germany is in full swing?

Speaking at Chichester on 4 August, 1939, Air Vice-Marshal (now Air Chief Marshal Sir Sholto) Douglas stated that a casualty rate of 10 per cent.

would be a deterrent loss which, if continued, must bring raiding to an end. ‘That is a rate of casualties which no Air Force could stand’, he said. A similar rate was stated, or implied, to be prohibitive in a speech made by Sir Archibald Sinclair at the Dorchester Hotel on 3 September, 1941. He said that when the Germans broke off night-bombing in the preceding May their losses were more than 10 per cent. on some nights and the morale of their pilots was sagging.

The German Losses in May, 1941

On the night of 10 May, 1941, 33 German aircraft were destroyed over and round Great Britain. How many aircraft took part in the raid was not officially stated, but it was a heavy attack and there is reason to suppose that the number may have been between 300 and 400. The percentage of loss thus approached, if it did not indeed reach, the deterrent rate. It must have exceeded that rate on other nights in May if Sir Archibald Sinclair’s statement, quoted above, was correct, as it no doubt was. In May 156 German bombers were destroyed at night (as compared with 87 in April) and of these considerably more than half were accounted for by the first ten nights of the month. It is probable that the rate of loss was more than 10 per cent. on some of these nights. It was very considerably in excess of 10 per cent. of the small forces of German raiders sent over Britain on a good many nights in the summer of 1942; in one or two instances it was probably 20 per cent.

British Losses on 7-8 November, 1941

Such a rate of loss has very rarely been suffered, so far as one can judge from the information available, by British bombers in their raids against Germany. A well-informed aeronautical correspondent stated at the time: ‘The loss of 37 is undeniably severe, but it does not represent an excessively high proportion of the total sent out. . . . It is not the practice to mention the numbers of aircraft operating. An exception was made in reporting the raid made on the night of August 15-16, when it was stated officially that more than 300 aircraft were over Germany. On Friday [7th November] the total strength of the R.A.F. over Germany was considerably in excess of that figure.’[37]

British Losses in May-June, 1942

The practice of non-disclosure to which this aeronautical correspondent refers was departed from when the ‘thousand-bomber-raids’ began in 1942, and it is therefore possible to relate the losses to the numbers sent out in

these raids. The losses were *primâ facie* high—44 in the raid of 30 May, 1942, on Cologne, 35 in that of 1 June on Essen, 52 in that of 25 June on Bremen. The rate of loss, it will be seen, was in no case as much as 5 per cent. of the numbers of bombers which operated on these nights. It is a reasonable assumption also that on the nights when powerful forces, though smaller than in these mammoth raids, were in action, the losses, though fairly severe, were again not excessive in relation to the numbers involved.

The loss of 32 bombers in the raid on Hamburg on the night of 28 July, 1942, was stated by the aeronautical correspondent of *The Times* (30 July 1942) to have been 'almost certainly due to the freak conditions over the target area and to exceptionally bad weather along the whole route. Many of the bombers became iced up and all had to force their way through storms'.

Sir Archibald Sinclair stated in a reply to a question in the House of Commons on 7 October, 1942, that the number of British bombers reported lost over Germany and northern Europe during the nine months ended 30 September was 1,082. In reply to supplementary questions he stated that the British forces in their deep penetration into Germany in the face of powerful defences were suffering a lower rate of casualties than the German air forces in their attacks on Britain and that their losses were in fact 'extremely low'. The loss of more than a thousand machines must have involved the loss of perhaps 5,000 to 6,000 of their crews. Deplorable as was this cost in human life, it amounted to only a tiny fraction of the price which would have had to be paid for the infliction of comparable damage on the enemy's war machine by means of military action on the surface.

The Small Losses in 1940-41

The gradual increase in the numbers of bombers missing after raids was a fair index of the growing weight of the Royal Air Force's offensive. The losses were extraordinarily small at first. Indeed, on many nights in 1940 and 1941, the British bombers returned with their numbers intact, and these were not invariably nights in which the programme was a restricted one. On the night of 18 October, 1940, when Kiel, Hamburg, Lunen, Dortmund, Duisburg, Schwert and Osnabrück were raided, not a single machine was missing. None was missing again on the night of 8 November, 1940, when the famous raid on Munich was carried out and other places in Germany, as well as Turin and Milan, were visited also; or on the night of 21 December, when a number of places in both Germany and Italy were again raided. On one or two occasions the raiders even returned with a 'credit balance' to the account. They did so on the night of 10 October, 1940, when Leuna and a number of other places were the objectives, and again on the night of 17

March, 1941, when Bremen, Wilhelmshaven, Emden and Oldenburg were raided. On the former of these nights they shot down two enemy aircraft, on the latter three, and on neither occasion did they lose a single machine. (It was after the raid of 17 March that a good story was told by the Air Ministry News Service. It was that Hitler and Göring were on their way to England in an aeroplane, and Hitler looked down and said: 'Just look, my dear Hermann, how our men have smashed up London. It looks awful.' Göring put his fingers to his lips. 'Hush, Adolf,' he said, 'we are over Bremen.' The Air Ministry News Service added that the story did not exaggerate the truth about Bremen.)

A Stirling's Achievement

On a considerable number of nights the British bombers, while suffering losses themselves, shot down enemy night-fighters. The most notable achievement of this kind was that of a Stirling bomber in the raid of the night of 27 June, 1942, upon Bremen. Here is the description given by the Air Ministry News Service.

'The first attack was by two twin-engined fighters. The Stirling [on homeward flight] had just reached the Dutch frontier, when the fighters attacked in quick succession. The first was driven away by fire from the mid-upper and front gunners; the second was raked from tail to nose by fire from the mid-upper turret. Its tail was seen to come off, it dived and was seen to crash on the ground. During this fight, the starboard-inner engine of the Stirling was put out of action. A hole was made in the port wing, all the wireless and electrical equipment was destroyed, the rear gunner was killed and the wireless operator was wounded in the arm, the pilot kept on course.

'As they neared the Dutch coast, the navigator saw two Me.109's diving down on him. The front gunner was giving first-aid to the wireless operator at the time, so the navigator hurried to him—the inter-com. was useless. The front gunner dashed to his turret and while still only half in, and with the doors of his turret unclosed, he opened fire. The navigator held his legs to steady him.

'The first Messerschmitt flew into the cone of fire and dived steeply down out of control. The whole crew saw it go into the sea. The second Messerschmitt then came in from astern, and the mid-upper gunner gave it a long burst from 200 yards range. The Messerschmitt dived and exploded with three dull red flashes just before it hit the sea. The pilot had lost height while manœuvring and was now flying at only 8,000 feet. [*sic*—query 800?]

‘During their fight the Stirling had come so low that it was being hit by machine-gun bullets from flak ships on the sea. When he had time to do so, the mid-upper gunner fired several bursts at the flashes from the ships’ guns.

‘Once again the pilot flew on, and once again the Stirling was attacked. Another Me.109 dived down on their stern. The mid-upper gunner was again ready. He gave a long burst, and the Me. sheered off out of range and disappeared. But the Stirling had lost more height and was now temporarily out of control. While the pilot was pulling out of the dive, the tail hit the sea.

‘The Stirling eventually reached base—on three engines, but as it was circling before landing another engine, the starboard outer, caught fire. The flames were extinguished, but the engine was no longer running. The landing was difficult but the pilot made it.’[38]

British Losses in 1941

It is notable that only on one night in 1940 were as many as ten British bombers missing after a raid. This was the night of 14 November, 1940, when Berlin and Hamburg were raided. Ten were missing again on the night of 8 May, 1941, when the heaviest attack made up to that time was launched against Hamburg, Bremen, Berlin, Emden and some other centres. The toll was eleven on the night of 29 June, 1941, when Hamburg, Bremen, Bremerhaven and Emden were attacked, and again on the night of 12 October, when more than 300 bombers raided Nuremberg, Bremen and other centres in north-west Germany. It was twelve on each of the nights of 27 June and 14 August, 1941, when the objectives were in Bremen and some other towns in north-west Germany and in Hanover, Brunswick and Magdeburg, respectively. It went up to thirteen on 12 August, when Berlin, Stettin, Magdeburg and many other places were visited, and again on 16 August, when Cologne, Düsseldorf and Duisburg were raided. On two occasions in 1941 the loss was 20 bombers, viz.: on the nights of 7 September and 30 November. On the former night Berlin had its heaviest raid, Kiel and some other places being also bombed, and on 30 November a powerful force raided Lübeck and other centres. The loss of 33 bombers on the night of 7 November, 1941, has been referred to already.

The Significance of the Increased Losses

In 1942 the losses went up. That, paradoxically, was evidence of the success of the British air offensive. It pointed to an increase in the strength of the German defences, on the ground and in the air, and such an increase was an indication, in turn, that one of the objects of the British strategical plan had been achieved. That object was to assist the Soviet army and air

force by drawing away from Germany's eastern front important effectives that would have been available there if they had not been needed for home defence. The wider purpose of forcing Germany to devote to that defence a substantial proportion of her man-power and machine-power, and thus to limit the proportion available for offensive warfare in general, was also achieved. The increase in the losses of the raiding aircraft might conceivably have been due to an improvement in the technique of the defensive organisation not accompanied by an expansion in its establishments. The evidence all goes to show that there was an expansion, and a very substantial one. Further, since losses vary, broadly and on the average, with the size of the raiding force, their growth was in itself a proof that the British air offensive of 1942 was an altogether more formidable affair than that of 1940 or even 1941 had been.

The Contest of Morale

Against an enemy whose defence is powerfully organised an air offensive is a trial of morale—the morale of the attacked and the morale of the attackers. Conceivably the losses of the latter might increase to such a degree that their morale would be affected before that of the enemy. The cost of the offensive might become prohibitively high. It would be an unwarranted statement to make that such a development is beyond the bounds of possibility. It is safe to say, however, that it is not a probability and that German morale is much more likely to collapse than that of the air crews of the United Nations. Even if still higher losses were incurred by the latter it is a justifiable forecast to make that the air offensive against Germany would not be brought to a standstill. The British air striking force will be in 1942-43 the most powerful in the world. Behind it will stand the gathering might of the United States, whose military and naval air forces cannot be fully mobilised until, probably, 1943-44, and also that of Canada, whose Air Force is now a most powerful one. What these tremendous assemblages of air strength will be able to accomplish can only be dimly discerned from what the Royal Air Force, still not at its peak, has accomplished in the past. The aerodromes in the British Isles will serve as the battle-stations, both for the British and Canadian air striking forces, and also for the advanced air striking force of the United States. Even if the Royal Air Force and the Royal Canadian Air Force should find themselves unable to keep up the full tempo of their onslaught there will still be that huge mass of American machines and air crews waiting to take up the running.

That prospect can hardly be a comforting one for Hitler—or for the German workers when they become aware of it. It is a long vista, a frightening vista of shattering raids impending, of wrath to come, down which no German eye can travel with indifference. The immense production of Britain and Canada, topped now by the still more stupendous output which the harnessing of the American motor industry to the needs of the aircraft industry will make possible, will be something the significance and effect of which we cannot grasp as yet. The morale of no nation on earth could be left unshaken by the weight of the attack to which German industries and communications are likely to be subjected in 1943-44. Whatever happens elsewhere, however far the German armies smash their way in the east or the south, however badly we may fare in the Far East, the issue of the *German* war is certain on four conditions. The first is that the British islands are successfully defended against invasion; the second, that Britain and the United States go on grimly, whatever happens in Russia or elsewhere; the third, that the supply-line across the Atlantic is kept intact; the fourth, that the British and the American production of aircraft and training of air crews are maintained. If these conditions are fulfilled nothing on earth can save German morale from collapse.

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[37] *The Times*, 10 November, 1941, comment by the aeronautical correspondent on the raid of 7 November.

[38] Air Ministry Bulletin No. 7406, dated 28th June, 1942. All the six members of the Stirling's crew were decorated for their gallantry; they belonged to No. 214 squadron.

CHAPTER IX

THE WEST'S AWAKE

A Fateful Date

The most important date of the second world-war had passed into history just three hundred and nineteen years before it began. It was the 6 September, 1620. September seems to be an unlucky month for Hitler. He blundered into war with Britain, in whose championing of Poland's cause in arms he disbelieved, in September, 1939. His greatest air armada suffered a crushing defeat in September, 1940, above the harvest fields of southern England. In September, 1941, the stubborn defence of the approaches to Moscow, in September, 1942, that of Stalingrad, wrecked his Russian campaigns of those years. But it was that far earlier September day which was, for him, the most unfortunate of all. The little ship of 180 tons, with about a hundred passengers on board, which sailed westwards then from Plymouth was for him a ship of doom. It carried with it the destinies of two hemispheres.

They nearly starved, those early venturers, but they survived to found a mighty nation, destined three hundred years later to aid that older nation from which they sprang to change the course of history. From the land which they went out to possess there flowed back to Europe in time the food needed to relieve the hunger of many a people. But it was not food only which came out of the west. The new land was not a land of cornfields only; it was a land, too, of steel. That was why its voice was a clarion-call when, still later, there resounded in Europe a raucous challenge to human freedom, to all that Americans hold dear. The challenge was heard and accepted. From the west there poured the armaments which alone could withstand the onset of tyranny, and not armaments only but men whose fibre was as tough as the weapons which their giant presses forged.

The American Contribution

The American contribution to the fight for liberty began to be made before the United States became formally a belligerent. Long before December, 1941, there were hundreds of its citizens serving in the Royal Air Force and the Royal Canadian Air Force. Some squadrons of the former force were entirely manned by Americans. By the end of August, 1942, the pilots of one of these squadrons had shot down 41 enemy aircraft, those of

the second 18, and those of the third 14: a total of 73 enemy machines destroyed. The last squadron was particularly successful on the day of the combined operation against Dieppe on 19 August, 1942. It shot down six German aircraft, a figure surpassed only by the famous Warsaw squadron of the Royal Air Force. The Poles destroyed 16½ aircraft on that day, nine of these falling to the Warsaw squadron. Two American pilots who had already received awards won further honours for their work at Dieppe. Squadron Leader C. G. Petersen, a native of Idaho, who already held the D.F.C., was awarded the D.S.O., and Squadron Leader G. A. Daymond, a native of Montana, received a bar to the D.F.C. which he had won before.

That was one of the American pilots' last operations while they were serving in Fighter Command of the Royal Air Force. The three Eagle squadrons—Nos. 71, 121 and 133[39]—were transferred to the United States Army Air Corps in September, 1942. On the 29th of that month a ceremonial parade was held at which Major General Carl Spaatz took them over from Air Chief Marshal Sir Sholto Douglas, Air Officer Commanding-in-Chief, Fighter Command, who paid a tribute to their fine work for the British Air Force. 'We, of Fighter Command, deeply regret this parting', he said. 'In the past eighteen months we have seen the stuff of which you are made, and we could not ask for better companions with whom to see this fight to a finish.' The Royal Air Force's loss, he added, was the United States Army Air Corps' gain. 'The loss to the *Luftwaffe* will no doubt continue as before.' (It did—see later). 'Good hunting to you, Squadrons of the 8th United States Air Force!'

American Raiding Begins

There were American nationals also in the other Commands of the Royal Air Force and they, too, had rendered good service before the United States became an active belligerent. It was, appropriately, on Independence Day, 4 July, 1942, that the American Air Force, as such, first took part in a bombing offensive carried out from Great Britain. Of the twelve Boston bombers which attacked aerodromes in Holland and vessels off the coast on that day, six were manned by American crews. Two of the six, as well as one manned by a British crew, were lost. On 17 August, the 'heavies'—the Flying Fortresses (B.17E)—first went into action in Europe as a United States formation. On the afternoon of that day a force of them, led by Brigadier (later Major) General Ira C. Eaker, Commanding General, United States Army Air Force Bomber Command, and escorted by Royal Air Force, Dominion and Allied fighters, attacked the marshalling yards at Rouen, and all returned in safety. Air Chief Marshal Sir Arthur Harris, Air Officer

Commanding-in-Chief, Bomber Command, Royal Air Force, sent a congratulatory message to General Eaker. 'Yankee Doodle certainly went to town', he said, 'and can stick yet another well-deserved feather in his cap.'

Flying Fortresses in Action

A few days later, on 21 August, the Fortresses showed in a successful encounter with German fighters, what formidable machines they are in horizontal air warfare. Some 20 to 25 Focke-Wulf 190's attacked eleven Flying Fortresses and came off second-best. In a fight lasting twenty minutes the Fortresses claimed the destruction of three of the Focke-Wulfs and damaged nine others. Not a single Fortress was lost, nor was any lost on 24 and 27 August, when raids were made on the shipyards at Le Trait, near Rouen, and at Rotterdam, respectively. It is true that the Fortresses were escorted by Spitfires but that was not the sole reason for their immunity. They were escorted again on 7 September in another raid on the shipyards at Rotterdam and on the railway yards at Utrecht, but it was they and not the fighters which, it was announced, shot down twelve enemy fighters on that day. One of them was attacked by no less than twelve F.W. 190's on its return flight from Rotterdam. It fought them for fifteen minutes, shot down two and probably a third and beat off the rest. One of the Fortress's gunners was killed and three other members of the crew were injured, but the pilot, Captain A. B. Hughes, of Waco, Texas, was able to reach his home aerodrome and to land safely.

For a bomber formation to shoot down twelve of Germany's best fighters would be a remarkable achievement in any circumstances. It has to be borne in mind, however, that absolute confirmation of the losses claimed is not possible, in many instances. The Flying Fortresses operate at altitudes of over 20,000 feet, and at that height the crews cannot be certain that an enemy aircraft which they have damaged hits the ground. Only when the pilot of the enemy fighter is seen to bale out or the machine to disintegrate in the air can it be beyond question that a 'kill' has been achieved. This fact is well known both in the British and the American air forces, and it has to be remembered in connection with the claims made both in this case and in those referred to later in this chapter. Even if those claims were to be halved, the achievement of the American bomber crews would still be notable in the extreme.

The Flying Fortresses improved upon their programme of 7 September within less than a month. On 2 October they destroyed thirteen enemy fighters, according to the official report issued on the same day. They were attacking the airframe factory at Meaulte, near Albert, and the fighter

aerodrome near St. Omer; other American bombers, Bostons, were raiding the docks at Le Havre at the same time. Many squadrons of fighter aircraft of the Royal Air Force, United States Army Air Force, Dominion and Allied air forces carried out diversionary sweeps and provided escorts. There were sustained attacks by the German fighters, but not a single bomber was lost. Of the fighters six were missing, with one pilot saved, but the Germans paid dearly for them; in addition to the thirteen claimed as destroyed by the bombers, five were shot down by the fighters, so that the total reported German loss was eighteen fighters. Four of the five which fell to the fighters were destroyed by the pilots of two of the Eagle squadrons which had just been transferred from the Royal Air Force. It was therefore essentially America's day.

Fortresses and Liberators in Action

A greater day was still to come. On 9 October the most powerful bombing force yet sent out from Britain in daylight was despatched to attack an important steel and locomotive factory at Lille. It consisted of 115 Fortress and Liberator bombers, the latter being also a four-engine machine with a rather less formidable armament. Nearly 500 fighters of the British, Dominion, American and Allied air forces escorted the bombers and carried out diversionary sweeps over a wide area of northern France at the same time. Large numbers of German fighters took off to intercept the raiders and there were many fierce air combats. The result was an outstanding triumph for the American bombers; an announcement on 10 October by the Headquarters of the Bomber Command, 8th Air Force, United States Army, stated that they destroyed 48 enemy aircraft, probably destroyed nearly 40 more and damaged about a score as well. Five further enemy fighters were destroyed by the British and other fighters without loss to themselves. Four of the American bombers were lost but the crew of one was saved; there were no casualties among the crews of the bombers which returned. One Fortress, attacked by nine Messerschmitt 109's, shot down four of them and drove off the rest; another destroyed three out of four Me 109's which attacked it. It may be added that the official announcement by Bomber Command of the 8th Air Force, United States Army, stated that more than a thousand members of the air crews has been interrogated and their reports cross-checked.

The Fortress's Armament

The Flying Fortresses used by the United States Army Air Force are of a later model than the Fortresses to whose operations under Bomber

Command reference has been made in Chapter VI. They are more powerfully armed. They carry no less than thirteen machine-guns, and all but one are of large calibre, .5 inch; that is, their bore is half as large again as that of the normal machine-gun (.303 inch). Their arcs of fire give protection against attack from all quarters. Their ceiling is higher than that of the British bombers and they are consequently less exposed to anti-aircraft fire. There is little to choose in the matter of speed. The secret Norden bomb-sight fitted in the Fortress gives it a very high degree of accuracy in its high-level bombing attacks. The normal crew is nine. The bomb-loads of the Fortresses now in use are substantially less than those of the British Stirlings and Lancasters. The new Model F, however, it has been stated in an American technical journal, 'will outstrip by a nice margin the bomb-carrying capacity of any known English bomber. Furthermore, its range, speed and high-altitude performance have been augmented'.[40]

If the Flying Fortresses can in fact continue as they have thus begun, and if they can push their forays ever deeper and deeper into Europe, they may well revolutionise aerial bombardment. Daylight bombing has hitherto been considered to be too costly wherever fighter escort cannot be provided. A long-range bomber, not of the darting Mosquito type but rather of the dimensions and power of Douhet's battleship of the clouds, a bomber bristling with guns, perhaps with cannons, and carrying a formidable load of bombs, will obviously change profoundly the situation in which the air offensive has had perforce to be confined mainly to the hours of darkness. It will be able to bomb with a degree of accuracy which, even with a lavish expenditure of flares, the night-bomber cannot attain. The loads dropped may perhaps be smaller than those which the night-bombers can carry, but that disadvantage should be compensated for by the greater precision of the attack. The United States daylight bombing is a new and increasingly important factor', said Mr. Churchill in his review of the war in the House of Commons on 8 September, 1942. 'There is no doubt that both in the accuracy of high-level aiming and in the mutual defensive power, new possibilities of air warfare are being opened by our American comrades and their Flying Fortresses.'

The Americans Move In

It was in the summer of 1942 that the American Army Air Corps gate-crashed into the British Isles, and the intrusion was a most welcome one. The new-comers were received with acclamation. By the beginning of August they were already in a position to start operations. A number of aerodromes had been taken over from the Royal Air Force and others were

built specially for the American squadrons. The stations were speedily transformed in a way which astonished visitors to them. They became, as it were, parts of America, planted here and there in the English countryside. A correspondent described them as being ‘as typically American as Randolph Field, Texas’.[41] The same correspondent pointed out how careful the American airmen were to impose no undue strain upon their hosts’ resources. They brought with them not only all their service equipment but everything demanded by their domestic needs. They had even American ‘garbage cans’—which sound ever so much more impressive than the British dust-bins.

They got down to the serious business of air warfare in a surprisingly short space of time. They had not, indeed, to go through one depressing phase which their comrades of the British air service had to endure. The ‘phoney war’ was long past when they arrived in Britain. That stage was really a continuation of the futile phase of appeasement. For many months after the war began the Royal Air Force was employed, in effect, as an instrument for carrying on the policy which had reached its peak at Munich. The belief was still prevalent in governmental circles in London that the Germans could be reasoned with and persuaded to abandon Hitlerism. There were good Germans and bad Germans, and the latter had led the former astray. All that was necessary was to lead them gently back into the right path. So the aircraft of Bomber Command were sent out nightly to plaster Germany not with bombs but with homilies. Similar methods were adopted to divide the good and the bad Italians when Mussolini threw in his lot with Hitler in 1940. Of course, persuasion failed; it was never in the least likely to succeed. Even still, however, the delusion lingers in some quarters in Britain that the two dictators have not their peoples behind them. How, in the circumstances, the war has lasted so long and been fought so bitterly by nations whose hearts are not in the struggle is a mystery which this school of thought has been unable to explain. Fortunately, it is a school which has never had many adherents in the United States, and that is largely why the American bomber crews have been spared a task which they would probably have relished as little as did their comrades of the British service in 1939-40.

Britain as Air Base

The fact that the British Isles are to serve as a base for the advanced air striking force of the United States is evidence that the American authorities do not share the doubts expressed upon this subject in some quarters. A policy of long-range bombing from bases in America itself, or at all events not so far east as Great Britain, has been advocated by more than one

military commentator. This would involve, in turn, the provision of bombers approximating to the type of the Douglas B. 19, which is not yet available in quantity. Mr. Hanson W. Baldwin has expressed the view that the primary needs of the United States are 'bombers of far longer range, greater carrying capacity, far more heavily armed than those of any other nation', and 'bases flung out as far as possible from our borders but not geographically emplaced as an exposed salient or in an untenable position'.[42] The United States, he says later, must have 'long-range bombers that can leap the seas and carry the war to the enemy'.[43]

Such a policy is advocated still more strongly by Major Alexander P. de Seversky in his book *Victory Through Air Power*. If air power is to be really effective, he holds that it 'must operate directly, non-stop, from primary or home bases possessing strategic supplies. It must strike at the enemy in the air, on land or at sea, without way stations. These way stations or intermediary bases are at best a makeshift substitute for range, destined to be eliminated when that range is built with the airplane itself. . . . Floating aerodromes, ship-borne aviation, are in a sense mobile intermediary stations [but] they are normally unable to survive when brought within the radius of land-based aviation. The same thing is true of fixed intermediary stations when they are within the radius of a power operating from primary bases'.[44]

'Today', he goes on, 'the British Isles can be considered, in a sense, the advanced base of the United Nations. But we know the difficulties of maintaining it, even with the help of the United States, and despite the fact that the islands do possess immense local resources in manufacturing facilities and man-power. The British Isles, being seriously dependent on outside supplies, are definitely at a disadvantage against a self-contained Continental power. . . . The entire logic of aerial warfare makes it certain that ultimately war in the skies will be conducted from the home grounds, with everything in between turned into a no-man's land. As soon as aviation exploits its full technical potentialities of fighting range, intermediary bases will be abandoned, one after the other, like so many obsolete outer fortifications'.[45]

De Seversky's Argument Criticised

The weakness in Major de Seversky's case is its too-easy dismissal of two factors which should be given serious consideration in any discussion of the policy of *ultra*-long-range bombing. One is the weather; the other is the relative performance of the short-range fighter, on the one hand, and of both the bomber and the long-range fighter on the other. The former factor is the more important. People who live in Britain have no need to be reminded of

the vagaries of the climate in that quarter of the world, and in the last few years they have learned how the weather over western and central Europe can play skittles with the best-laid plans of air strategists. The sudden changes, which the meteorological service is evidently unable fairly often to forecast, are particularly disconcerting to bomber crews. If the starting-point for raids were two thousand miles farther west the difficulties of this nature would be immensely increased. Nor can they be overcome by making bombers weather-proof, if that were possible; the difficulty of fog and *nil* visibility would still remain.

The other weakness in Major de Seversky's case might seem *primâ facie* not to be a weakness in view of the successes claimed by the Flying Fortresses in their encounters with German fighters. It would be unsafe, however, to assume that the results of such encounters will always be favourable to the bombers. It is more probable that we shall witness a kind of see-saw in the exchanges and that the bombers will sometimes be on top and sometimes the fighters. Major de Seversky admits, indeed, that their relative positions cannot remain stabilised indefinitely, though he holds that the bomber should have the advantage. 'In general', he says, 'the bigger the plane, the thicker its armour, the greater the number and the larger the calibre of its guns; larger calibre, in turn, means longer range of effective fire. A large plane represents a more stable and more comfortable gun emplacement, as well as a platform for more elaborate and hence more accurate fire control. . . . After all, once aircraft are locked in combat, in an artillery duel, superior fire power decides the outcome'.[46]

There is here some failure apparent to allow sufficient weight to manœuvrability, climb and speed, in which the fighter is usually superior to the bomber. Fire power is not, in fact, everything. Major de Seversky foresees an increase in the size of the defending aircraft and the development of an arms race similar to that seen in sea power in the preceding military epoch. He does not really meet the objection that the long-range battle-planes which he envisages are unlikely to be a match, on the average, for the short-range interceptors, which they are certain to meet over the target areas. The former must necessarily make some sacrifice of armament and armour in favour of the heavier fuel-load which they will require to enable them to reach their objectives, whereas the interceptors are free to devote their main space to the means of defence and offence. There is no real justification which assumes increase of fire power and protection for the attacker only. It is a safer assumption that the specialised fighter which can operate close to its base will tend to have the whip-hand of anything it may meet in the air.

Mr. W. B. Ziff's Proposals

In another book which has also had a very large sale in America, *The Coming Battle of Germany*, by W. B. Ziff, the author, while holding as strongly as Major de Seversky that predominant air power is the secret of victory, differs from him in regard to the hemisphere from which it should operate. Mr. Ziff's contention is that the ability to use Britain as an advanced air base is a priceless advantage to the United States. From it he urges that an all-out bombing offensive should be launched against the Reich. All else should be subordinated to the single aim of creating an enormous air force at the earliest possible moment. Heavy bombers in great numbers should be built in America and flown to Britain, while Britain concentrates on the production of fighters and bombs. The ultimate aim should be the maintenance of a striking force of 5,000 operational super-bombers of 300 tons laden weight (i.e. ten times the weight of the Stirling) and of high speed.[47] The war-wastage of such a force might be as high as 2,500 aircraft a month, but the use of it would be absolutely decisive. All that would be left for an army to do would be to go in and occupy a Germany whose resistance had been crushed by the overwhelming assault from the air.

Just because the British Isles are for the American bombers a convenient re-fuelling and re-arming station they are likely to be America's advanced air base 'for the duration'. It would be to go to meet troubles half-way to dispense with such a base because there is a possibility that it might be rendered untenable by counter-bombing: a possibility that is far from being a probability. That is not to say that the de Seversky conception of the future war of the air is entirely Utopian. It is merely a long-range view (in several senses), and the practical strategist must discard it, however unwillingly, for one which looks not quite so far ahead. Even if a powerful air offensive directed against Great Britain by the main force of the *Luftwaffe* should make it desirable to shift some of the British and American air bases to areas less exposed to attack, the probability seems to be that Ulster would be chosen as a preferable alternative to bases beyond the Atlantic.

History Repeats Itself

There may well be a German air offensive which will test to the utmost the capacity of Great Britain to endure punishment. There is plenty of evidence at the time when these words are being written that Germany is alive to the menace to her own safety portended by the American preparations. History is repeating itself. In 1917 a great programme of aircraft construction was put in hand in the United States. It was begun too late to have much effect on the campaign of 1918, but it did have another

and not very desirable result—from the Allies' point of view. It inspired Germany on her side to initiate a production drive in her own factories surpassing any effort yet made, and it was that intensive programme which enabled the German air force to stand up to the gruelling ordeal which it had to face in the summer of 1918. This was the famous 'Amerikaprogramm' of which much was heard at that time. Today there seems to be in progress in Germany and her satellite States a new Amerikaprogramm, though it is not so called. It is designed, one cannot doubt, to meet the challenge which the mammoth plants at Willow Run and elsewhere in the United States have thrown down to the German constructors.

All over Germany there is an intensification of the effort to put the *Luftwaffe* on top in the grim struggle which is coming in 1943. The diplomatic correspondent of *The Times* drew attention towards the end of September to the evidence that was accumulating of the Germans' intentions. In the Reich itself four-engined bombers and high-altitude fighters were being given high priority in production. New factories were being established in Bohemia, Moravia, Austria and Hungary. The Stromovka permanent exhibition building in Prague had been converted into an aircraft factory. At Maribor in Slovenia two aircraft factories had been built to employ 12,000 workers. At Linz, Kuittelfeld and Wiener-Neustadt in Austria, other plants had been established or enlarged, 'The Germans', said the diplomatic correspondent, 'begin to recognise something of the Allied production in Britain, in the Urals and Siberia, and in America. The fact remains, however, that the present drive is perhaps the most energetic yet launched by the German leaders'.[48]

Allied and Axis Production

Göring claimed in his speech at the harvest thanksgiving on 4 October, 1942, that he still had a larger and better air force than Britain's. He said nothing—wisely—about America's air strength, nor about current production. We know from authoritative statements that in September, 1942, British production of aircraft was at least as large as Germany's and that America's was greater than that of all the Axis countries combined. The very substantial Soviet production is a clear addition to the United Nations' side. And British and, more especially, American production is mounting. The German air staff must be well aware of these disturbing facts. They are not fools. They have cool and calculating brains, and they have the industry of a continent at their call. It is absolutely certain that they are making and will continue to make frantic efforts to save themselves from being

overwhelmed in the air. It is for the United Nations to go on outbuilding them. It can be done.

In fact, more can be done. The German barometer of production can be made to move the wrong way. It should be the task of the British and American Bomber Commands to see that it does. They can throw Germany's war industry, including aircraft construction, into a state of chaos. The objection that you simply cannot bomb *all* the centres of production in Germany is not a valid one. The reply to it is that you need not do so. If you concentrate upon about thirty key centres you do all that is needful, and all those centres are within the radius of action of the Anglo-American bombers.[49] There is no doubt that massed air attacks upon them, in succession, on the scale of the attack on Cologne, or even heavier, would have a disastrous effect upon Germany's ability to maintain her new Amerikaprogramm.

There would be a price to be paid, of course. The raiding aircraft would have severe losses. The casualty lists of the British and American air forces would be long, indeed. The total would not be a tithe, however, of the casualties which major operations on land would entail upon the United Nations. They would not approach the number already incurred by our Russian allies in the heroic defence of Stalingrad.

German Retaliation

There would be other losses, too, for Britain. Her cities would suffer terribly from the German *riposte*. The real effect of the largest explosive bombs and of the newest fire bombs had not been established in 1940-41. We and the Germans have learned a lot since then. The Senior Regional Commissioner for London, Sir Ernest Gowers, warned the people on 9 October, 1942: 'We may have in front of us raiding of a type which will make you people in London look back upon the memory of 16 April, 1941, and 10 May, 1941, as though they were mere picnics'. Three days later Mr. Churchill, speaking in Edinburgh, expressed doubts whether the *Luftwaffe* could in fact hit back as hard as Sir Ernest Gower's statement implied, but that it would hit back in reply to the ever-increasing blows of the Royal Air Force his words gave his audience no reason to doubt. Wide areas may, indeed, be gutted or blasted. The grim game in which cities are the draughtsmen cannot be played without eliminations on both sides. It would be a horrible, a tragic business, but what alternative is there? None, if the German war machine is to be smashed, as smashed it must be. The loss of civilian life cannot but be heavy, however thorough the precautionary measures may be. Göring and Hitler have been raving about that already.

They will have had more cause for raving a year hence—and again they will ignore the fact that the civilian victims will be mainly war-workers. Why, if they are such, should they be immune? They are a part of the war machine. It is by killing and injuring workmen—yes, and work-women, too—rather than soldiers that the Anglo-American air offensive will smash Germany. Shortage of man-power is the limiting factor in her drive for increased production. Even with the tens of thousands of foreign workers who have been conscripted there is still an inadequate labour supply in Germany. Area bombing by British and American aircraft will augment the stringency.

The Need for Concentration

Let us make no mistake about it. We must kill or be killed. In self-defence we must do in this war things which were not done in other modern wars. We are fighting a brutal, unscrupulous enemy who will stop at nothing. The *only* way in which we can save our own cities from appalling disasters is to strike ruthlessly and at once at the sources of Germany's power to harm us and, through us, America too. This truth was emphasised in a recent article, evidently written by an officer of the Royal Air Force. He urged strongly the utmost possible concentration of bombing attacks upon Germany. 'It is not merely that the possibility of victory itself arises from these attacks; the possibility of very grave injury to ourselves arises also if we allow the enemy to get ahead of us in the concentration of effort upon strategical bombing. . . . We should not believe for a moment the German story that they consider this form of attack obsolete. They are forced to depreciate the importance of strategical bombing today simply because they cannot undertake it, and will not be able to undertake it so long as the bulk of their resources are locked up upon the eastern battle front'.[50]

'We have just begun', he goes on, 'to receive the immense, and in the end inexhaustible, reinforcements of the United States Army Air Corps. No country will be able indefinitely to withstand the air offensive which the combined air forces of Britain and America will some day be able to launch. But this American reinforcement is only just beginning. For many months we must rely predominantly on our own resources. The task in hand may prove to be that of not merely inflicting grave injury on our enemy but also the task of keeping down and out-matching his efforts to inflict grave injury on us. To be adequate to that task we must set our faces like granite against avoidable diversions of effort'.[51]

The Rôle of the American Bombers

With the view thus expressed the present writer wishes to record his complete agreement. There has already been far too much lifting of the eye from the ball. We should make this job of smothering Germany's war potential at source our primary aim. We should tackle it the moment we have accomplished the easier task of knocking Italy out of the war. That task should be one of no great difficulty now that General Montgomery's army is closing in on Tripolitania from the east and General Eisenhower's from the west. Italy once eliminated, we and the Americans should set ourselves to batter Germany unmercifully from the air. It will be a long and costly business, but the presence in Britain of the splendid American bomber force is the guarantee that we can see it through. A time may come when a war-strained air force will not be sorry to hand over the running to another air force, a fresh and vigorous air force, and to resign the lead to it—but never to fall out of the race. The American bomber crews will finish what the British bomber crews began. No such relief will be at hand for the enemy. That is the tremendous significance of the coming to this island from which the little *Mayflower* sailed of the winged armada which is the 8th United States Army Air Force. Providence has sent it eastward in the fullness of time to complete the fight for freedom which that voyage to the west began.

There is no time to be lost. The sooner a prairie fire sweeps over the industrial centres of Germany the less is the danger that the flames of another will engulf those of Britain as well. The war of the incendiaries is only beginning. For the time America's centres of production are set above the tidal wave of flame. They may not always be so. Now, while they are immune, is the time to strike so that they shall continue to be safe. From them, so long as they are, there can flow an increasing torrent of giant bombers which no production in Europe can match. The preponderant strength which will thus accrue to America and Britain can be used by their air forces to take from Germany even that which she hath. The graph of democratic construction can be made to move steadily up and that of the Axis progressively down. Already the air raids on western Germany have helped to send the human birth-rate in the Reich tumbling down. They can have an influence as disastrous on the mechanical birth-rate. But if this well-and-bucket movement is to be begun the first thing needful is to grasp the fact that production of big bombers is rising in Germany. We can turn it into a falling production if only we keep on hammering it back, relentlessly.

Our Lead in the Heavy Class

We have the means to do so. We have better tools than Germany for the job. For the time—but the time may not be very long—we are well ahead of

her in the four-engined bomber class. She has nothing yet that can load an 8000 lb. bomb. She has good bombers in her Heinkel 111, Dornier 217 and Junkers 88, but they are not in the heavy class. Her Heinkel 177 is, but it is not available in numbers yet. She may have other heavies up her sleeve, too. Meanwhile, we and the Americans have them. In time the Americans will have bigger bombers still; the Douglas B.19 is reputed to have a bomb load of 36,000 lb. But already there are available bombers capable of smothering all the key plants in Germany. Let us get on with the job. To say that it cannot be done is nonsense. It has never been attempted—on the scale which is possible now. If we do not do it, the Germans will. It must be done before they, with their devilish aptitude for 'going one better', wreck our centres of production and, incidentally, the air bases of the United States forces in this island. So this is America's job as well as ours. Let us both go to it.

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[39] Their commanding officers were Majors (formerly Squadron Leaders) G. A. Daymond, D.F.C. and Bar, C. W. McColpin, D.F.C., and W. J. Dalby, D.F.C. The general officer commanding the Fighter Command of the 8th Air Force in which they were to serve was Brigadier General F. O'D. Hunter.

[40] *American Aviation*, 1 Sept. 1942. The journal adds that the British pilots were 'highly unsuccessful' in their attempts to operate with Flying Fortresses (of an earlier model) because they did not understand the large radial engines fitted to it.

[41] *The Times*, 17 August, 1942.

[42] H. W. Baldwin, *Defence of the Western World*, 1941, p. 160.

[43] *Ibid.*, p. 170.

[44] A. P. de Seversky, *Victory Through Air Power*, New York, 1942, pp. 137-8.

[45] A. P. de Seversky, *Victory Through Air Power*, New York, 1942, pp. 138-9.

[46] *Ibid.*, p. 316.

[47] Generals H. H. Arnold and Ira C. Eaker in their book, *Winged Warfare* (New York, 4th Edition, 1941), foresee as a probability the coming of the bomber of a weight of 100,000, perhaps 200,000 lb., within

three to five years; a machine of such a size will be necessary to give the range of 8,000 to 12,000 miles which, in their opinion, the United States will require (pp. 249-50).

[48] *The Times*, 26 September, 1942.

[49] In an article which was published in the American periodical *Time* and quoted in the *Daily Telegraph* of 7 September, 1942, the key centres of German production were stated to be 31 in number. They were: Western—Essen, Cologne, Düsseldorf, Frankfurt, Mannheim, Stuttgart, Saarbrücken and Friedrichshafen; Central—Bremen, Hanover, Kassel, Nuremberg, Augsburg, Munich, Rosenheim, Linz, Hamburg, Magdeburg, Dessau, Halle, Leipzig, Chemnitz and Pilsen; Eastern—Kiel, Rostock, Stettin, Berlin, Posen, Lodz, Liegnitz and Breslau. The destruction of the industrial areas of one-third of these cities, the article stated, would be a staggering blow for the German war effort, and the destruction of two-thirds would produce almost complete disorganisation throughout the Reich; destruction of the 31 would render inevitable the defeat of the German armies. The article urged that a joint 'task force' of 3000 long-range bombers should be assembled by the United States and Britain, so that (ten operating nights being assumed in each month) a total of 30,000 to 50,000 tons of bombs could be dropped on those centres monthly. The losses might be 600 bombers a month, and those of crews over a period of six months might be 25,000 men, but these would be less than the losses which a land-assault on Germany would entail on the United States and Britain.

[50] Article on 'The Bombing Offensive' by 'F.-Lt.' in *The Fortnightly*, October, 1942.

[51] Article on 'The Bombing Offensive' by 'F.-Lt.' in *The Fortnightly*, October, 1942.

CHAPTER X

THE FUTURE

The Hostile Volcanoes

In Chapter I, I spoke of the volcanoes in Britain and said little of those in the Reich and the territories occupied by Germany. I may have implied there that the creation of the latter was less significant than that of the insular volcanoes; that was true, for it was Britain which developed the long-range air offensive the more effectively, but it was not true if interpreted to mean that the continental volcanoes were of no importance, and could be ignored. Most certainly they could not. The people in Britain had reason to know this in 1940-41, and there is always the possibility that that experience may be theirs again. It is conceivable, for instance, that if the Germans were free of their present pre-occupation with the Soviet army and air force, they might mass the *Luftwaffe* in the west and try afresh to accomplish what they failed to achieve before. They will be met by a more powerful defence, at night, at least, than that which they then encountered. No absolute barrier is possible, however, and a proportion of the raiders must always reach their target areas. There may be heavy raids on British towns again before the war ends.

The question is whether they can ever again be as heavy as those of the autumn of 1940 and the following winter. Certainly they cannot be as heavy in comparison with the British raids as they were then. Unless all the available evidence is misleading Britain has now a more powerful air striking force than Germany, and behind Britain's there stands the very formidable bomber force of the United States Army in the European theatre of operations. Between them these two magnificent forces should be able to hit Germany harder than the *Luftwaffe* can ever again hit Britain; and the splendid advanced air striking contingent of the Royal Canadian Air Force will be there to see that any spots which they miss are well and truly belaboured.

In a broadcast message to the people of Germany on 28 July, 1942, Air Marshal Sir Arthur Harris, Air Officer Commanding-in-Chief, Bomber Command, warned them of the wrath to come. He contrasted the position in 1940, when British cities were being raided, and that of 1942. Then, only small forces could be sent into Germany; now, great and growing forces were available. 'In Cologne, on the Ruhr, or at Rostock, Lübeck or Emden, you may think that already our bombing amounts to something. But we do

not think so. In comparison with what it will be like as soon as our own production of bombers comes to a flood and as American production doubles and then re-doubles, all that has happened to you so far will seem very little. . . . Soon we shall be coming every night and every day, rain, blow or snow—we and the Americans. I have spent eight months in America, so I know exactly what is coming. We are going to scourge the Third Reich from end to end if you make it necessary for us to do so. You cannot stop it and you know it.'[52]

The Clash of Air Power

One might picture the clash of offensive air power as a kind of long-range artillery duel. Each side tries to beat down the enemy's fire. It does so, however, not so much by concentrating its own fire on the enemy's battery as by directing it to the sources of his armament and the communications by which those sources are connected with the war-stations. It tries to destroy the means by which the opposing batteries are kept in action. The volcanoes—to revert to that simile—do not seek to smother the hostile volcanoes directly; their object is rather to make the continued eruptions of the latter impossible by interrupting the stoking of them. There lies the difference between the natural and the synthetic volcano; the latter has to be maintained from sources which are themselves vulnerable, more vulnerable at times than the actual volcano.

Often, indeed, the bomber forces have other things to think of than the paralysing of their opposite numbers. While these words are being written, the battle of the Atlantic is at its height and the main and almost sole task of Bomber Command is, for the time, to destroy or disorganise the enemy's sources and services of supply for his submarine flotillas. For that purpose the air offensive is being concentrated upon the bases of the U-boats, the yards in which they are built, and the factories in which their engines or other components are made. The mining of enemy waters is another means by which Bomber as well as Coastal Command seek to hold the submarine menace in check. The time at which the full force of the onslaught by the British and American air forces upon the Reich can be reached may perhaps be deferred still further for another reason. This is that the building of large transport aircraft or the adaptation of bombers for that purpose may have to be given priority in order to ensure that supplies and munitions from America reach Britain, no matter how much the submarine warfare is intensified. It may be found necessary to transfer a substantial portion of the trans-Atlantic freight traffic from the surface of the sea into the air.

If and when the Atlantic life-line has been safeguarded, more attention will be devoted, one may expect, to the destruction or disorganization of the bases and sources of the enemy's air strength. Already much has been done to that end. Bomber Command has struck many an effective blow at Germany's aircraft factories. The night-fighters of Fighter Command have disposed of a substantial number of enemy bombers over the latter's bases in the territories occupied by Germany across the English Channel. As time goes on we are likely to see the campaign against German air power intensified. The air warfare has certainly not reached its climax in western Europe as yet.

The Test Match in the Air

The question which has to be settled by hard knocks is not whether bombing can decide a war. That does not matter here—thank goodness! It is whether in the specific matter of the air offensive, conducted by both sides, it is possible for one belligerent—A—to make his blows so powerful, to aim them so scientifically, and to keep them up so incessantly, that the other's—B's—are, by comparison, almost innocuous. It is further whether by degrees A can so wear down B that the latter is deprived in time of the capacity to deliver any effective blows at all. If that stage is reached, A has obviously won the match—in the air; it need *not* mean the winning of the *war*. In the winning of that limited contest A's fighter aircraft and anti-aircraft artillery may play an important part, if they are superior to B's; but what matters most of all is the volume and quality of A's offensive in comparison with B's.

For the sake of clarity the equation has been stated in terms of air power—offensive air power—only. Actually, it is a more complicated problem. It might well happen, for instance, that while B still disposed of great strength in the air, A, though hardly stronger, was able by his air offensive to cause a fracture in some other part of B's war machine, or perhaps a collapse of general morale. In that case A's air power would have triumphed without actually establishing ascendancy over B's air power. My desire is, however, to avoid all controversial issues here, and I refer to this aspect of the question only to make it clear that I have not overlooked it.

The Winning of Ascendancy

The point which I do wish to make and emphasize is that if A can launch and maintain an air offensive to which B can make no adequate reply, if he has all the better of the exchanges, if he can cause B far more hurt than B can cause him, and if his disparity is likely to increase as time goes on, one

of the common objections to long-distance bombing falls to the ground. This is the objection that cross-raiding is a stupid, crude, slogging match in which both the participants must suffer equally and which leads nowhere. On the contrary, B will suffer far more severely than A in the situation assumed—and reasonably assumed—and the result of the contest will have been definitely to establish A's ascendancy in offensive air warfare.

The point is one of great practical importance in its bearing not only upon the fortunes of the present war but also upon the future organization of international security. If Britain's, America's and Canada's bomber forces can batter Germany to an extent to which Germany's can never hope to batter Britain (or the United States or Canada), then at least one of the ways and means of enforcing peace in the world is made manifest. If air power were simply a boomerang it would be an unsatisfactory instrument of repression of aggression. If, on the contrary, it is an effective weapon which one side, taking thought and pains to that end, can sharpen and then handle so that it inflicts terrible, perhaps mortal, injury upon the other, whose *riposte* can cause no comparable hurt to the former, then air power is a suitable agency for the enforcement of 'sanctions'. Its being such depends, of course, upon the comparative air-war-potentials of the two sides. That that potential will always be higher on the Anglo-American than on the Germanic side there is little reason to doubt—after this lesson.

To what extent air action can replace action by land and sea forces, we shall be in a better position to form an opinion when the war comes to an end. Already it has replaced naval gunnery in certain circumstances. The naval actions of the Coral Sea (4-8 May, 1942) and of Midway Island (3-6 June) were fought without the opposing warships ever being within sight of one another. Practically the whole damage was caused by aircraft, though one American destroyer was sunk by a submarine's torpedoes. Perhaps we shall see aircraft replacing land artillery in the same way. One can conceive a situation in which powerful bomber and fighter-bomber forces will be able to work such havoc among advancing enemy columns, before these come within the range of their opponents' guns, that a land-battle may be almost decided before the two armies actually clash. Have we not been witnessing the beginnings of such a development in the Western Desert this last summer? The tremendous blows which General Auchinleck's air arm was able to strike before Rommel could mass his tanks for an attempted break-through at El Alamein undoubtedly helped to save the Nile Delta. Note, too, how air power, through its mobility contributed to the sorely needed reinforcement of the British and Dominion forces in the Middle East. It was possible to fly heavy bombers such as the Halifaxes right across Europe

from England to Egypt—a distance as great as from America to Britain—and that again was possible because the Axis had dragged Jugoslavia and Greece into the war. If these countries had still been neutral British aircraft would not have been at liberty to fly over their territories. Verily the ways of Providence are inscrutable, especially in war.

The Organization of World Peace

If the events of the next year or so show that the Anglo-American bomber forces can deliver blows as powerful and damaging as we have every reason to hope that they can, they will have established the claim of air power to be regarded as one, at least, of the effective deterrents of aggression in the future. No aggressor is likely ever to be able to assemble such a formidable array of armed strength as Germany has at her disposal now. If the air component of that array can be held in check and if, incidentally, the German air offensive can be so mastered that it almost peters out, the precept will have been written and underlined that superior air power, organised in the service of peace, can be one of the buttresses of the international order. An aggressor must always rely in future to an increasing extent on his air arm, and if that arm is overborne his hopes of success must fade. It is the aggressor's swift, treacherous stroke in the air which has long been the nightmare of the framers of schemes of international security. Since Pearl Harbour, nay, since Poland's air strength was destroyed in a day more than two years earlier, their fears have been increased. They will be allayed if it becomes evident that, after all, the instrument which can shatter the peace of the world can preserve it as effectively, and that what is needed is the maintenance by the two great democracies of air armaments superior in strength to those of the war-monger nations—provided always that those air armaments are held in instant readiness to crush any disturber of the peace of the world. With the other requirements of the post-war situation, such as the disarming to the bone of Germany, Italy and Japan, I am not concerned in this book.

A Final Word

One last word; it is perhaps a depressing one, but it is a necessary one. Germany will hit back savagely at Britain as soon as her main bomber force can be relieved of its present tasks in Russia. Of course, she may have other preoccupations then. Great events are in the making in north Africa; that theatre of war has just blazed into life. From Egypt in the east to Morocco in the west there has been set in motion a mighty process of war which is likely to sweep Italy into final ruin and to leave Germany open to assault from new

quarters. Nevertheless it would not be beyond the power of the German High Command, however, to switch to the west a powerful striking force—perhaps one of 500 first-line bombers—in a desperate effort to reply to the British massed raids. That we know from Hitler's and Göring's speeches at the Sportpalast on 30 September and 4 October, 1942, is what the Nazis desire. On 27 September Ribbentrop had said: 'The time will come when we shall deal finally with this British aircraft carrier off Europe'. There was a sneer in the words, but there was a hint of mortal fear as well. Nothing would give the sadistic Nazis greater joy than to know that thousands of high explosive bombs and tens of thousands of incendiaries were again being rained on British towns. Larger German bombers will be brought into use. Already one or two Heinkel 177's, the four-engined bombers which represent the German reply to the British Stirlings, Lancasters and Halifaxes and the American Flying Fortresses and Liberators, have been seen over England. Many more of them and probably other big bombers, too, will be seen in due course. They will cause tremendous damage. Colonel Cortz, a spokesman of the German Air Force, said in a broadcast on 12 September, 1942:—'Extensive raids on an unprecedented scale will be launched against the British by new heavy bombers of the *Luftwaffe*. They will exceed anything experienced during the winter of 1940-41'. That threat, for all that it is part of the war of nerves, cannot be dismissed as mere hot air. The raids may well be worse than those of two years ago.

When they come people may be disposed to ask: 'Is this business of mutual city-wrecking really worth the candle? Is it not a silly game which cannot mean victory for either side?' Of course it is worth it—worth it a thousand times. It will hit us hard, but it will hit the Germans far harder, and we've *got* to sicken that swashbuckling nation of war for all time. We can do it now as we have never been able to do it before. Never again will such an appalling apparatus of hitting power be assembled on this planet as the American and British and Canadian air forces will have massed in these small islands, within easy range of Germany, in 1943. Are we going to let this magnificent opportunity slip because some of our own cities may go up in flames? Far more German cities will have suffered the same fate by then. We are and will remain on top in the air, and because of that we can teach those sword-rattlers a lesson that will last.

Of course we'll suffer ourselves. We must make up our minds to that. Others have suffered worse already. Think of the Russians and their dead and mangled troops and their scorched towns and villages. Think of the Serbs and the Greeks, of Lidice, of all the nameless horrors of which the Nazi brutes have to answer. Think, too, of what Malta has had to endure.

Think of the merchant vessels sunk by the U-boats or by air attack, of crews and passengers killed or left at the mercy of wind and wave in small boats far out in the Atlantic. We have a heavy debt to pay. We will pay it and our disbursing agents will be the bomber crews of the United States and the British Commonwealth. We will see this grim business through. We are going to grind Germany to powder. We cannot do that and escape hard blows ourselves. We can take them, from now to the end.

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[52] Lord Selborne, Minister of Economic Warfare, stated in the House of Lords on 4 August, 1942, that Sir Arthur Harris's broadcast was 'a statement made on behalf of the Government to Germany'.

ILLUSTRATIONS

Frontispiece. THE RENAULT WORKS

The picture shows a part of the Renault works at Billancourt, near Paris, as it was left by the British bombers after their raid on the night of 3 March, 1942.

I. ROTTERDAM A YEAR AFTER

This photograph of the centre of Rotterdam was taken a year after the merciless air attack—by daylight—of 14 May, 1940, when the Luftwaffe bombed the city at its good pleasure. About 30,000 people were killed and as many more injured. (Photograph by *The Times*)

II. DEVASTATION AT COLOGNE

The aerial photographs show the Köln-Nippes works before and after the ‘thousand-bomber-raid’ of the night of 30 May, 1942. Between a quarter and a third of Cologne was devastated.

III. A LÜBECK STREET SCENE

The picture shows Breite Strasse, Lübeck, after the British bombers had passed over it on the night of 28 March, 1942. 3,000 houses were destroyed.

IV. THE SOLITUDE THAT WAS A MART

Part of Mainz, shattered by raids on two successive nights, 11 and 12 August, 1942. The Germans admitted officially that widespread damage had been caused.

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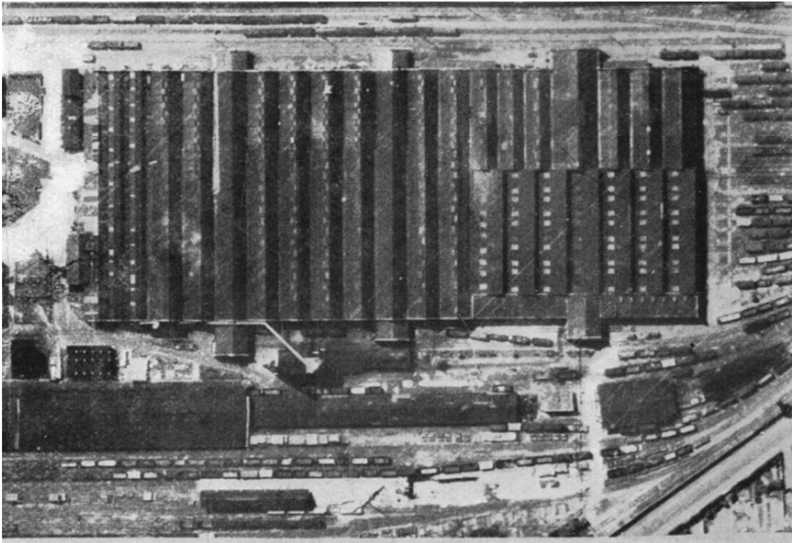
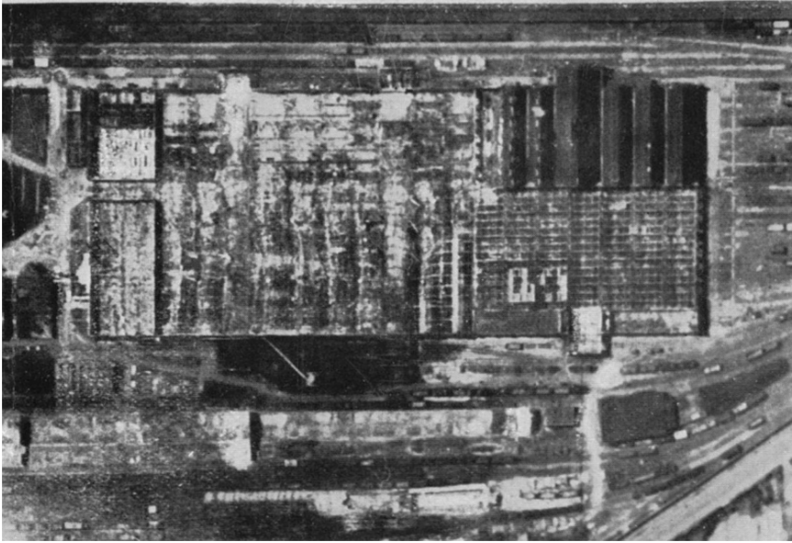
I. ROTTERDAM A YEAR AFTER





II. DEVASTATION AT COLOGNE

III. A LÜBECK STREET SCENE

IV. THE SOLITUDE THAT WAS A MART (MAINZ)

TRANSCRIBER NOTES

Misspelled words and printer errors have been corrected. Where multiple spellings occur, majority use has been employed.

Punctuation has been maintained except where obvious printer errors occur.

[The end of *Volcano Island* by James Molony Spaight]