

## 6 » 50 SQUADRON

LINCOLNSHIRE, 1942

Across the road the homesick Romans made,  
The ground-mist thickens to a milky shroud;  
Through flat, damp fields call sheep, mourning their dead  
In cracked and timeless voices, unutterably sad,  
Suffering for all the world, in Lincolnshire.

And I wonder how the Romans liked it here;  
Flat fields, no sun, the muddy misty dawn,  
And always, above all, the mad rain dripping down,  
Rusting sword and helmet, wetting the feet  
And soaking to the bone, down to the very heart . . .

Henry Treece, 'Lincolnshire Bomber Station'

### 1. Harris Conducts an Overture

1942 was the pivotal year for the Allies in almost every theatre of war. The tide turned at Stalingrad; the Japanese were defeated at Midway; the North African diversion was at last brought within sight of conclusion by the defeat of the Afrika Korps; the Atlantic lifelines were held open in the face of horrifying losses. At this critical time, when the Allies were not yet prepared to confront the Germans in Western Europe, the bomber offensive might have made a central contribution had it been ready to do so. But Bomber Command was still hesitantly gathering its strength. In June, its most effective month, only 6,485 tons of bombs were dropped

against the 15,271 that would fall in the same month of 1943 and the 57,267 tons of June 1944. Thirteen of the squadrons mustered and equipped with such exertions were detached to Coastal Command and the Middle East, leaving just thirty (with an establishment of sixteen aircraft each) in Harris's front line. He strained credibility when he claimed to the War Cabinet that he controlled only 11 per cent of the RAF and Fleet Air Arm's front line, for this ignored the vast resources needed to produce, support and operate heavy aircraft compared with fighters. But bomber production was lagging, Stirling and Halifax output had been delayed by repeated teething troubles, and the twin-engined Manchester was proving grossly underpowered. Only the Lancaster showed signs of fulfilling the hopes of the pre-war visionaries of heavy bombers.

Yet in 1942 the mould of the offensive was formed, the image in which Bomber Command would fight and send so many men to die and in which it would be etched into history. With hindsight, it is possible to see that there were two wars between 1939 and 1945. The first was the last war of a past generation. The second was emphatically the first of the new era. Technology was coming of age: radar and the atomic bomb, the jeep and the high-performance aircraft. Somehow even the faces in the photographs look different. A Bomber Command group from, say, Honington in 1939 merges imperceptibly into the sepia shades of Camels and 'Archie' and the old Royal Flying Corps. But then study the faces of the Lancaster crews of Harris's Bomber Command (ironically, for he himself was anything but a modern man): so many of the young faces are already those of the knowing, professional young technocrats of the post-war era, children who have lost their innocence thirty times over Germany, who will vote for the Welfare State in 1945, who are the most highly trained front-line fighters in the history of warfare.

By 1942 most of the pre-war generation of regular aircrew had been killed off, promoted to non-operational posts, or left languishing behind German barbed wire. Now, in the spirit of Kitchener's New Armies of 1915, the first flower of the volunteers of 1939

were reaching the squadrons. These were the romantic young idealists, almost to a man aspiring fighter pilots, many of them the colonials who would make such an enormous contribution to Bomber Command – New Zealanders, Australians, Canadians. They had trained all over the world for two years or more – some in America, others in Canada, Rhodesia, South Africa.<sup>1</sup> The pilots and navigators represented the highest skills – most of the latter had been eliminated from pilot training courses. Bomb-aiming had at last been recognized as a specialist trade for which men were specifically trained. Gunners, wireless operators and flight engineers were taught what they needed to know to use their equipment, and little more.

At the Operational Training Units they were brought together. There was no more arbitrary assembling of men for odd operations: it was clearly understood that the fate of Bomber Command hung on the integrity and mutual confidence of the operational crews, and every possible step was taken to allow like-minded souls to fit together. In the first few days at OTU, a milling herd of assorted aircrew was left to crew up by natural selection:

‘I hear you want a gunner? Can you fly a Wimpey without making me throw up?’

‘We’re looking for a wireless operator and you’re the only bloke here who doesn’t look as if he’s got DTs . . .’

‘Our driver flew into a hill this morning so we wondered if you might do us for a new one . . .’

The accident rate at OTUs was appalling.\* Some courses lost as many as 25 per cent of their trainees before graduation four or five months after arrival. Tour-expired aircrew posted to instruct rapidly learned that flying pupils in tired and often under-maintained bombers was anything but a rest-cure. But at least men were learning new tactical and technical skills at OTU that a year before they were compelled to teach themselves over Germany.

---

\* 5,327 officers and men were killed and a further 3,113 injured in RAF training accidents 1939–45.

At the end of their training, these rather bewildered but intensely willing young men went to their stations. Little huddles of blue-clad humanity clutching their gas-masks and kitbags stood on some East Anglian railway platform to be collected by a nonchalant MT driver in a three-quarter-ton truck. If they were destined for 5 Group, they fetched up at Newark or the old garrison town of Lincoln. If they were going to 50 Squadron early in 1942, they found themselves driving down the Fosse Way, the old Roman road south-west from Lincoln to Swinderby, the big pre-war station for which 50's ageing Hampdens took off for Germany. Here, amidst the flat, rich fields of East Anglia, something more than half of them would be making their final homes.

5 Group had always been considered – not least by 5 Group – Bomber Command's crack division. 50 was one of its outstanding squadrons. In 1941 its commanding officer was one of the legendary leaders of Bomber Command, Gus Walker. By early 1942 Walker had been succeeded by Wing-Commander 'Beetle' Oxley, a rather more pedestrian figure. The corpulent Oxley was an excellent and forceful administrator, but flew only a minimum of operations himself. At his briefings, crews would sometimes shout that half-serious, half-mocking taunt at groundlings: 'Get some in!' Oxley would say, 'Piece of cake tonight, chaps. Last time I was over Mannheim it was only defended by two men and a dog', which caused a good deal of derisive laughter, since everybody knew that he was harking back to some primeval date in 1940. But Oxley knew how to drive men, and he detested the enemy. Every new crew at 50 Squadron was given a CO's pep-talk on 'the need to work up Hun-hate'. Oxley's passionate dedication to the business of killing Germans had become a sort of legend in 5 Group, and not only there. A 50 Squadron gunner shot down early in 1942 was astonished by one of the first questions put to him by a fascinated German interrogator at Dulag Luft: 'Who is this man Oxley?'

50 Squadron in 1942 bred and trained a long succession of outstanding pilots and crews, including many who went to form the Dambusters a year later. Henry Maudslay, the quiet, gentle Old

Etonian son of a rich West Country family, was a former Coastal Command 'Kipper Fleet' pilot. Like his 50 Squadron colleague 'Hoppy' Hopgood, he would die over the Mohne Dam. Les Knight, a little Australian, completed his tour with 50 and burst the Eder dam before his luck ran out over the Dortmund-Ems canal one night in 1943. The rumbustious 'Trev' Trevor-Roper, with his Oxford accent and Billingsgate vocabulary, was a sergeant gunner at Swinderby before he was commissioned and became Guy Gibson's rear gunner.

Micky Martin, who with Gibson, Willie Tait and Leonard Cheshire would be regarded as the four great RAF bomber pilots of the war, transferred to 50 from the Australian 455 Squadron when 455 were posted to Coastal Command. The son of a well-established Australian medical family, Martin was sent to England early in 1939 to sow his wild oats before settling down to train as a doctor. Single-minded in anything he attempted, he managed to get through a thousand pre-war pounds in eight weeks, much of it on horses – he rode in amateur races himself. He then applied to join the RAF as a fighter pilot, and after some bureaucratic problems he was accepted and abandoned his flat in Mayfair for initial flying training. By early 1942 he had completed part of a tour of operations in 455 with his all-Australian crew. Foxlee and Simpson, his gunners, Bob Hay, his bomb-aimer, and Jack Leggo, his navigator, eventually became almost as famous as Martin himself. Aweing English colleagues with their reckless life-style on the ground, they made a reputation for brilliance and utter determination in the air. In 1942 Martin was one of a select band of like-minded spirits. By 1945 this wild man was a rare phenomenon. He lived.

Like every squadron in the RAF, 50 also had its private celebrities, known to every man on the station but few outside it, and mostly destined for unmarked graves in Germany. There was Charlie Stone, the tough, flippant former architectural student who was their tame cartoonist; Drew Wyness, cheerful and handsome, married to an enviably beautiful model; Jock Abercrombie, who once flew Ed Murrow to Berlin and brought him home a

shaken reporter; Paul Crampton, who suffered every possible mishap and near-disaster as he lurched through his tour; Flash Southgate; Micky Moores; Hughie Everitt, with his unnaturally flawless uniform and crisp salute; the three American gunners in Canadian uniforms who each earned more in a week than 'Beetle' Oxley – Swinderby knew them all intimately.

It is important to stress the extraordinarily high calibre of the human material that came to Bomber Command. The majority had matriculated and would have been at university or working in one of the professions, if they were not in the RAF. Their imaginations had recoiled from the prospect of trudging through the war in the infantry, and they had been captured by the vision of flying, the glamour that only faded from the blue uniform as they climbed into their lonely cockpits at dusk.

Ken Owen was a 50 Squadron navigator, one of almost half his sixth form at Pontypridd Grammar school who volunteered for the RAF at the outbreak of war: 'We tended to be the gilded youth of our generation: we belonged to the local tennis and cricket clubs, and our fathers knew the local bank manager . . .'<sup>2</sup> Owen had reached Swinderby after the usual tortuous paperchase through service bureaucracy. He left university at the end of his first year when he was summoned to attend an aircrew selection board at Penarth, outside Cardiff. There was a prolonged, searching medical examination which eliminated many of the queue on the first day as colour-blind, slightly deaf or slow-reflexed. The next day they sat an intelligence test which emphasized spatial judgement. In the afternoon they went before an interview board. A few days later, Owen was among the successful candidates who found themselves summoned by letter to St John's Wood reception centre in north London. Here, like so many RAF volunteers through the war, he spent a dreary fortnight among men falling asleep in rows at lectures on cricket and similar time-fillers until they were packed off to Elementary Flying Training school near Carlisle. Owen was washed out of pilot training within a fortnight, and posted to learn to be a navigator. At an OTU in Shropshire, he

joined a crew and graduated on the old Blenheim. They reached Swinderby bursting with enthusiasm to get into the air, and were deeply crestfallen when the flight commander said off-handedly: 'Oh, nobody's going to let you near an operational aircraft yet', and made them fly day and night training exercises for a fortnight before they took off on a trip to Germany.

They flew their first operation to Kassel in a curious daze, almost euphoric in the sense of unreality. It was bright moonlight and the flak was intense, but excitement somehow numbed apprehension. It was only afterwards, remembering, looking ahead to the next time and knowing what was to come, that fear began to seep in. Over the North Sea their feet froze while they sweated profusely under their arms. A few trips later, over the Dortmund-Ems canal, their rear gunner Jackie Smith suddenly shouted: 'Corkscrew port!' and the aircraft shook as the cannon shells hammered home from the German fighter. When they pulled out of the dive and found themselves alone, there was still silence from the rear gunner. Owen felt his way aft. Jackie Smith with his curly hair and big black eyes lay hunched over his guns, dead.

For the rest of the crew, there was no more excitement in flying operations, only the grim sense of a job to be done from which there was no honourable escape. The early weeks of 1942 passed in a round of mining sorties, blind groping over Germany in impossible weather, and the abortive efforts to find and sink the *Scharnhorst* and *Gneisenau* in the Channel on their break-out from Brest on 12 February. It was a routine of its own with no sense of the days of the week or any punctuation beyond the next leave or the end of the tour. To a post-war generation, the bomber offensive may conjure up images of terrified German women and children huddled in their shelters as distant British aircraft rained down death from above. To the crews of Bomber Command, Germany was not a place of innocent *gasthausen* and beer cellars where buxom girls smiled and drinkers stamped their feet to the accordion music, but a terrifyingly hostile environment where British airmen died in their hundreds every night. If they thought

at all about what lay far beneath them, they imagined the flak gunners and searchlight crews in their coalscuttle helmets pumping up 88 mm shells and those deadly beams of light that made a man feel 'as if reprovng fingers were pointing at him, as if he himself were a naughty boy suddenly discovered in the dark of a larder'. Even the most sensitive young Englishman found that 'he felt no guilt or dismay at dropping bombs, simply because his fear entirely submerged any more noble or humane emotion'.<sup>3</sup> A fascinating anonymous report in the Air Ministry files dated 21 June 1942 analysed aircrews' letters opened by the censors: 'They illustrate the effect of airmen's remoteness from their attacks on human beings. Expressions of satisfaction that the Germans are having to undergo the punishment they have hitherto meted out to others are found in almost all letters, but there is an absence of vindictiveness or fanaticism in the phrases used . . .'

Their own nation's propaganda had been perfectly effective in making them visualize the Germany below them as the arsenal of Nazi Europe, the cradle of the Gestapo and the Luftwaffe's pioneer *blitzkriegs*, of Hitler himself and his thousands of hysterical armaraising followers. The opening of Bomber Command's area offensive came at a moment when 30,000 people in Britain had already been killed by German bombing, when vast areas of the City of London, of Coventry and Southampton and a score of other towns lay in ruins. The crews of Bomber Command were very young, and sprung from a generation accustomed to defer to authority. They had been trained and ordered to fly to Germany and release their bombload at a given point. They were told that by doing so they were making a vital contribution to the war effort. With great fear in most of their hearts, they went out each night to do no more and no less than they were ordered. The notion of killing German civilians individually or in bulk troubled only a tiny handful.

\*

One of the first proposals to reach Sir Arthur Harris in the days after he took up his post at High Wycombe in February 1942 came

from the Foreign Office. It wished to revive the old idea of proscriptio: to name publicly, on the radio, twenty German towns that would be subjected to saturation attack by Bomber Command, and hope for panic among the population, a mass exodus of refugees, and a rising tide of terror across the Third Reich. But whatever Harris's long-term plans for Germany's cities, he understood that Bomber Command as yet possessed quite inadequate resources for the sort of wholesale destruction that the Foreign Office wanted. He needed time, and he had no intention of encouraging the Germans to concentrate their defences around a limited number of preordained targets. In the months to come, Bomber Command's most useful purpose would be to divert resources from Germany's offensive war effort to the defence of her own cities. To bring this about, Harris proposed to skirmish across the widest possible front.

But as Bomber Command fought off its critics, and most especially the demands of the Royal Navy for transfer of aircraft that would have caused its virtual dissolution, Harris also understood that his forces needed some spectacular successes. In his early months at High Wycombe, he stage-managed a succession of operations which, whatever their strategic shortcomings, were brilliantly successful public-relations efforts for the bomber offensive. On 9 March he sent 235 aircraft to hit the Renault works at Billancourt, which produced 14,000 trucks a year for the *Wehrmacht*. They attacked in a new pattern, led by a wave of flare-droppers, followed by a wave of bombers carrying maximum incendiary loads to fire the centre of the target, followed in turn by the main force with high-explosives. It was another step towards evolving a target-marking routine, shortly to be followed by a development codenamed *Shaker*, which exploited *Gee* as a blind-marking aid in the leading aircraft. 470 tons of bombs were dropped on Billancourt. When the photographs of the Renault works came in the next morning, they were hailed as a triumph. 'All aircraft bombed the primary,' exulted 50 Squadron record book. The concentration of bombs around the aiming-point was

judged exceptional. Immediate post-raid euphoria was dampened somewhat when the final damage assessments were in a few weeks later, suggesting that the plant had lost less than two months' production and that French civilian casualties had been high. But by then Harris's forces had moved on to greater things.

On 28 March, 234 aircraft attacked the old north German Hanse town of Lübeck. In the weeks following his arrival at High Wycombe, while Harris sent his aircraft to grope through the haze over Essen and other cities of the Ruhr in obedience to the February Air Ministry directive, he had been searching for an area target that they could find, strike and utterly destroy. 'I wanted my crews to be well "blooded", as they say in foxhunting, to have a taste of success for a change,'<sup>4</sup> he said. Lübeck was on the coast and thus a relatively simple navigation problem. It was lightly defended and had not even been incorporated in the major German civil defence schemes because it seemed an unimportant target. But it was on the Air Ministry's February list. Above all, as had been pointed out by Bomber Command's town-planning advisers, it was an old, closely-packed medieval town that would burn far better than the spacious avenues of any modern metropolis. Lübeck was built 'more like a fire-lighter than a human habitation', to quote Harris. 'The inclusion of such a relatively unimportant place as Lübeck, which happened to be especially inflammable, in the target lists', remark the official historians, 'showed the extent . . . to which a town might become a target mainly because it was operationally vulnerable.'<sup>5</sup> Lübeck, then, did not attract the attention of the bombers because it was important, but became important because it could be bombed.

The attack was led by ten Wellingtons equipped with *Gee*, who laid flares over the city. They were succeeded by a wave of forty fire-raising aircraft loaded with incendiaries. Then came the main force, armed with incendiaries and the huge 4,000-lb high-explosive 'cookies' that were to become the heavy weapons of the new generation of heavy bombers. They struck at very low level, in clear skies. The raid was an overwhelming success. The *Gee*

aircraft found the target, the incendiaries created huge fires, and the old town of Lübeck was no more. 1,425 houses were totally destroyed and 1,976 badly damaged. 312 people were killed. 12 aircraft were lost of 191 that claimed to have attacked. Of the six aircraft that took part from 50 Squadron, apart from one which returned early with technical trouble, the squadron record book noted almost unprecedentedly that 'all aircraft were successful in the task'. The Ministry of Economic Warfare in London estimated that Lübeck would take six or seven weeks to resume full industrial production. The bombers' achievement was hailed as a personal victory for the leadership of Sir Arthur Harris.

Bomber Command had begun to establish the emphasis on concentration that was to dominate the offensive – aircraft seeking to bomb within the shortest possible space of each other, saturating the German defences and fire-fighting system. Timing over the target had become vital. Routeing across the North Sea to surprise the night-fighters was developing into an art. The days of individual attack 'by guess and by God' were ending. But it was still difficult to assess the full potential of *Gee*, because the hundred or so crews who were now equipped with the device were taking time to learn to use it effectively. The navigator operated the set from a receiver mounted to the right of his table behind the pilot. By timing the radio pulses received from three English ground stations whose signals appeared as lines on a cathode ray tube, he could determine the aircraft's position on charts marked with special *Gee* grids. Accuracy depended heavily on individual proficiency and it was clear from the continuing attacks on the Ruhr that the device was not proving sufficiently precise to become a blind-bombing system. *Gee* was a vast improvement on Dead Reckoning, and added greatly to the confidence of the crews.

At Swinderby that spring, however, enthusiasm for the delights of new navigational aid was qualified by dismay about exchanging their Hampdens for Manchesters. Initially, everybody was excited by the prospect of the new aircraft with its much more sophisticated equipment and seven-man crew – two pilots, navigator,

bomb-aimer, wireless-operator, mid-upper and rear gunners. Then the first reports seeped in of the unreliability and lack of power in the Vulture engines, the poor rate of climb and lack of ceiling. The Manchester could not, in fact, reach the Hampden's fully-loaded maximum height of 20,000 feet. Tolley Taylor, one of 50's sergeant pilots, took his new aircraft for a spin and came back to report that it was 'ideal for going out to lunch': very comfortable, properly heated at last after the icy Hampden, pleasant to fly. But apart from lack of performance, its weak undercarriage punished heavy landings by instant collapse. Under each engine nacelle ran a Y-shaped coolant pipe that proved lethally vulnerable to local shrapnel bursts. The squadron's aircraft serviceability rate fell dramatically. But until the new Lancaster reached them later in the year, the Manchester was all that there was. They set themselves to learn how to get the best out of it.

After the usual assortment of 'Gardening' operations and desultory raids on the Ruhr and some of the less dangerously defended German cities, towards the end of April they were committed to the second of Harris's devastating eradication attacks, on the north German coastal town of Rostock. The ingredients were the same as for Lübeck: a lightly defended tinderbox old city. It was a seven-hour round trip, well beyond *Gee* range. The force was divided, part being directed to attack the city itself, others the Heinkel aircraft factory beyond the southern suburbs.

This time the attack was continued over four nights. On the first two, 23 and 24 April, results were disappointing. But the third and fourth raids, by 128 and 107 aircraft respectively, were greeted at High Wycombe as triumphs to match the destruction of Lübeck. The centre of Rostock was left ablaze. 50 Squadron were among the contingent from 3 and 5 Groups briefed to attack the Heinkel works at low level. Oxley assured them at briefing that they were due for another walkover against negligible defences. In reality, the Germans had brought up every flak gun they could muster from the length of north Germany by the third night. The defences were fierce. But when the photographs were analysed the next day,

the crews were informed that they had staged one of the most accurate precision attacks of the war. Goebbels declared almost hysterically: 'Community life in Rostock is almost at an end.' The Ministry of Economic Warfare reported: 'It seems little exaggeration to say that Rostock has for the time being ceased to exist as a going concern.' Thousands of people had fled in panic from the blazing ruins, public buildings were levelled and the surrounding towns and villages became vast temporary refugee camps.

At 50 Squadron, there was another verse for the intelligence officer's long epic verse, set to the tune of Noel Coward's 'Mad Dogs and Englishmen':

*When the sirens moan to awake Cologne  
They shiver in their shoes;  
In the Berlin street they're white as sheets  
With a tinge of Prussian blues;  
In Rostock the Wardens knock and yell 'Put Out That Light'  
When Hampdens from Swinderby go out in the moonlight,  
out in the moonlight, out on a moonlight night.<sup>6</sup>*

'Thus, by the end of April 1942,' wrote the official historian, 'Bomber Command, under the vigorous leadership of Air Marshal Harris, had shown, not only to Britain's Allies, but also to her enemies the tremendous potential power of the long-range heavy bomber force.'<sup>7</sup>

But they add immediately, almost in contradiction, that Bomber Command 'had yet to win a major victory against a major target'. German production in both Lübeck and Rostock returned to normal with astonishing speed. Far from losing the six to seven weeks' output estimated by the Ministry of Economic Warfare, Lübeck was operating at between 80 and 90 per cent of normal within days, and even the severely damaged Heinkel factory made a miraculous recovery within weeks. If the destruction of the two Hanse towns had been a test of Bomber Command's technique for firing cities, it had also been a forewarning – albeit unknown in London or High Wycombe – of the extraordinary resistance of

industrial plant to bombardment. Only the medieval hearts of Lübeck and Rostock lay irrevocably dead and still, rotting in their own remains.

But Sir Arthur Harris exploited publicity brilliantly to further his policies. The attacks on Lübeck and Rostock had been blazoned across Britain. Now, in May 1942, Harris conceived a further, extraordinarily imaginative stroke: a force of one thousand British bombers, the greatest concentration of air power in the history of the world, would attack a single German city in a single night.

There was, of course, no military magic about the figure of a thousand aircraft. It was the potential effect on popular imagination, on the politicians and on the Americans and the Russians that fascinated Whitehall. Portal grasped the beauty of 'The 1,000 Plan' at once, and gave Harris his full support to muster this enormous force, double the strength of Bomber Command's front-line squadrons. The Prime Minister, with his great sense of theatre, was won over immediately. Only the Admiralty, in the midst of the Battle of the Atlantic, was exasperated by such gimmicky enterprises as it struggled to fight its convoys through. The First Sea Lord absolutely refused to allow Coastal Command aircraft to be diverted to the operation. Harris was compelled to raise his force almost entirely from his own squadrons at maximum effort, and from his Operational Training Units. It was a remarkable logistical achievement that, on the night of 30 May 1942, 1,046 Bomber Command aircraft took off for Cologne. They had been crowded on to the stations of eastern England, where ground crews worked to bring the OTU aircraft to operational standard and staff brief OTU pupils and instructors. Only at the last moment did the weather determine that Cologne rather than Hamburg was the target. At his headquarters at High Wycombe, Harris had listened to the forecast in silence. Then, with his unerring eye for drama, he gave his orders:

The C-in-C moved at last. Slowly he pulled an American cigarette carton from his pocket, and, flicking the bottom with his

thumb, selected the protruding Lucky Strike . . . He continued to stare at the charts and then slowly his forefinger moved across the continent of Europe and came to rest on a town in Germany . . . He turned to the SASO, his face still expressionless:

‘The 1,000 Plan tonight.’

His finger was pressing on Cologne.<sup>8</sup>

50 Squadron put up seventeen aircraft that night. At briefing, when the CO announced that there would be more than a thousand aircraft over the target, there was a moment of awed silence. They were alarmed by the prospect of collision, but they were told that Bomber Command’s operational research scientists had computed that statistically there should be no more than two aircraft colliding in the target area. Somebody piped up: ‘That’s fine – but do they know which two?’, and the gale of tense laughter passed into the legend of the bomber offensive. Then they walked out into the dusk of a beautiful summer evening, and took off through clear skies for Cologne.

They attacked in three waves, led by the Wellingtons of 3 Group. Almost uniquely, 3 Group’s AOC, Air Vice-Marshal ‘Jackie’ Baldwin, whom we last saw writing the post-mortem report on the Wilhelmshaven raid two and a half years earlier, flew in person as a passenger in one of his own aircraft. Senior officers were generally forbidden to fly on ‘ops’ for common-sense security reasons, although this dangerously increased their isolation from the realities of war over Germany. Behind 3 Group came the Stirlings, and last of all the Manchesters and Lancasters of 5 Group, for in these days the ‘heavies’ were usually left to bring up the rear on the theory that they were best able to withstand punishment over the thoroughly awakened defences. But on the night of 30 May, crews in the later waves crossed northern Germany, skirting the heavy flak around München-Gladbach, unable to accept the reality of the vast red glow in the sky ahead of them. Some crews thought that a great forest or heath must have caught fire, others that the

Germans had created an enormous dummy fire to draw the bombers. Only as they drew near did they perceive the incredible truth, that this was the city of Cologne, ablaze from end to end.

Micky Martin was due over target forty-five minutes after H-Hour. From miles away, he could see the huge fires lighting the sky ahead, dwarfing the pathetic flickers of flak and searchlights. Martin came in low at 4,000 feet, his crew gazing on the glowing red core of the city, broken by the silver thread of the Rhine, the shimmering white spangles of blazing incendiaries, the great silhouette of the cathedral, its twin towers still lingering amidst the miles of rubble around the Rhine bridge. Many of the flak batteries had run out of ammunition, for transport could no longer cross the city from the dumps to the guns. Searchlights were meandering wildly like drunken men. Some pilots felt as if their own aircraft were on fire with the city, as the red glow danced up and down on their wings. Three times Martin swung over Cologne awed, like so many airmen that night, by the devastation below. They had never seen anything remotely like it. Between 0047 and 0225 that morning, 3,330 houses were utterly destroyed, more than 2,000 badly damaged, more than 7,000 partly damaged. 12,000 fires raged among the breached water mains, severed power cables, exploded gas mains and wrecked telephone systems. 36 factories were totally destroyed, 70 more badly damaged, more than 200 partially damaged. The docks and railway system had been savaged. The tram system remained totally out of action for a week and dislocated for months to come. 85 soldiers and members of civil-defence teams had been killed along with 384 civilians. Almost 5,000 people required first aid. 45,000 people had lost their homes.

This was a mere token of the destruction Bomber Command would achieve in 1943 and 1944, and indeed the lasting damage to Cologne proved astonishingly slight in relation to the forces employed. But in 1942 it seemed to the airmen that Britain had achieved the power to unleash Armageddon. Micky Martin hesitated before deciding where it was still worth dropping bombs,

and finally let them fall across the battered railway station. The crew chattered excitedly on the intercom. They would see many such urban funeral pyres in the next three years, but no man who was there ever forgot this baptism at Cologne.

Tolley Taylor's was one of the few aircraft which had the ill luck to be hit that night. Running in to bomb at 12,000 feet, shrapnel struck the starboard engine, setting it on fire. He pressed the feathering button to shut off power, and after a frightening half-minute falling steeply through the sky, the fire went out and he regained control at around 9,000 feet. 'Stand by to bale out,' he ordered. The gunners slipped out of their turrets, the hatches plummeted away from the aircraft and a rush of air swept through the fuselage. As they turned out of the target, Taylor peered at his gauges. They were losing height and could cruise at barely 110 mph. But they were still flying. They might make it. He ordered the crew to free every ounce of spare weight. They began to hurl out guns, ammunition, armour plate, the Elsan portable toilet – anything movable whirled away into the slipstream as they staggered painfully across the Channel. After more than six hours in the air they force-landed at Tempsford, the base of the Special Duties squadrons which operated the cloak-and-dagger flights to occupied Europe. Taylor pushed his way into the debriefing room, full of unaccustomed cubicles and unfamiliar blackened faces. 'Terrific prang! Weren't the fires great?' he said eagerly to the pilot beside him. 'There weren't any fires where I've been,' said the other young man bleakly. Taylor and his crew flew home to Swinderby the next day in a Whitley, in time for the general celebrations.

'OVER 1,000 BOMBERS RAID COLOGNE,' proclaimed *The Times*. 'Biggest Air Attack Of the War. 2,000 Tons of Bombs in 40 Minutes.'

Bomber Command lost forty aircraft on the Cologne operation, an acceptable 3.8 per cent of those dispatched, all the more astonishing in view of the number of OTU crews involved. Two of 50 Squadron's Manchesters failed to return, one of them piloted by a quiet, diffident young man named Leslie Manser. His aircraft

was badly damaged over the target, and he faced a long, difficult struggle to bring it home. At last it became clear that he could no longer keep it in the air, and he ordered the crew to bale out, waving away the parachute his flight engineer offered him as he fought to hold the Manchester steady while they jumped. He was killed with the aircraft, but was awarded the Victoria Cross for his sacrifice, which was in no way diminished by the fact that it was so frequently required from the pilots of Bomber Command aircraft.

Harris staged two further massive raids, on Essen and Bremen, before it became necessary to dismantle his '1,000' force to avoid serious damage to the training and logistics of the Command. Neither was a significant success. The weather frustrated the Essen raid by 956 aircraft on 1 June – an experiment with the *Shaker* marking technique, German radio did not even recognize Essen as the target, and reported 'widespread raids over western Germany'. 31 aircraft, or 3.2 per cent, were lost. On 25 June 904 aircraft attacked Bremen, doing some damage to the Focke-Wulf plant at the cost of 44 aircraft, or 4.9 per cent, missing, and a further 65 more or less seriously damaged.

Bomber Command settled to spend the remainder of the summer pounding Germany on a wide front, at less spectacular intensity and with results that could not compare with the dramatic devastation of Cologne. But Harris could bide his time now. In four months as Commander-in-Chief, he had established his own reputation; delighted the Prime Minister whose sense of drama matched his own; and made an immense contribution to British propaganda at a time when the nation's fortunes in the Middle and Far East were at their lowest ebb. The British public and their politicians had been almost universally awed by the scale and vision of power presented by the '1,000' raids. The Prime Minister proclaimed after the bombing of Cologne: 'Proof of the growing power of the British bomber force is also the herald of what Germany will receive city by city from now on.' Harris said: 'We are going to scourge the Third Reich from end to end. We are

bombing Germany city by city and ever more terribly in order to make it impossible for her to go on with the war. That is our object; we shall pursue it relentlessly.'

Amidst the terrible scars of the Luftwaffe's blitz on Britain, there is no doubt that the nation derived deep satisfaction from Harris's words and deeds. Unlike some of his service and political masters, he was never a dissembler or a hypocrite. He gave unequivocal notice of his intentions. Whatever criticism may be made of the strategic substance of Harris's campaign, it is essential not to underestimate the power and value to England of his remarkable military showmanship at this, one of the grimmest phases of the war for the Grand Alliance.

## 2. Operations

In July 1942, to the relief of 50 Squadron the Manchesters were retired after their brief and alarming months in service. In their place came the four-engined Avro Lancaster, indisputably the great heavy night-bomber of the Second World War. Pilots have a saying about an aircraft: 'If it looks right, it is right.' The Lancaster looked superb, its cockpit towering more than nineteen feet above the tarmac, the sweep of its wings broken by the four Rolls-Royce Merlin engines with their throaty roar like a battery of gigantic lawnmowers. The green and brown earth shadings of the upper surfaces gave way to matt black flanks and undersides, the perspex blisters glittering from the ceaseless polishing of the ground crews. The pilot sat high in his great greenhouse of a cockpit, the flight engineer beside him – second pilots had been scrapped in the spring of 1942 to economize on aircrew. Beyond sat the navigator, bent over a curtained-off table in almost permanent purdah in flight, his work lit by a pinpoint anglepoise lamp. Behind him was the wireless operator, his back to the bulk of the main spar between the wings, a waist-high barrier in the midst of the fuelage. The space beyond, in the rear of the aircraft, was clear and roomy when the aircraft left the production line, but as the electronic

war intensified, the interior became more and more crowded with equipment: the big, squat case of the *Gee* equipment, linked to the receiver beside the navigator; the Distant Reading Compass, wired to a repeater on the pilot's windscreen; the Air Position Indicator gear; the flare chute; the rest bed for a wounded man; the 'tram-lines' carrying the long linked belts of machine-gun ammunition to the rear gunner's four Brownings and the two in the mid-upper turret; the Elsan toilet which most crews used with much caution after a 50 Squadron gunner left most of the skin of his backside attached to the frozen seat one icy night over Germany. Beneath the fuselage, the bomb bay lay long and narrow. In the nose, the bomb-aimer stretched behind the forward blister searching for pinpoints to assist the navigator until they approached the target, or occasionally manned the twin front guns to frighten the light flak gunners on low-level operations. Gunners trained the power-operated Brownings to the right and left with a twist of the grips to which their triggers were fitted. The British hydraulic turret was one of the outstanding design successes of the bomber war; although unfortunately it was fitted with the inadequate .303 machine-gun. The last hopes of equipping Bomber Command with .5s, as Harris had demanded for so long, vanished when America entered the war and her own needs eclipsed British hopes of .5 imports from American factories.

The Lancaster inspired affection unmatched by any other British heavy bomber. The Stirling was easier to fly, a gentleman's aircraft, according to Stirling pilots. But its lamentable ceiling made it the first target of every German gunner and night-fighter pilot, provoking the callous cheers of the more fortunate Lancaster crews when they heard at briefings that the clumsy, angular Stirlings would be beneath them. The Halifax was a workhorse of no breeding and alarming vices in the air. The British never took to the American Flying Fortress, although Bomber Command experimented with a handful in 1941 and 1942; its virtues only became apparent in the hands of the Americans with their lavish

supplies of aircraft and men, when the day-bombing offensive came into its own at the beginning of 1944.

But the Lancaster, cruising at 216 mph, intensely durable and resistant to punishment by the standards of the lightly armoured night-bombers, beautiful to the eye and carrying the bombload of two Flying Fortresses at a ceiling of 22,000 feet, ranks with the Mosquito and the Mustang among the great design successes of the war. 50 Squadron, like the rest of Bomber Command, took to it at once. Throughout 1942, while the numerical strength of Harris's forces expanded scarcely at all, the effectiveness of his aircraft and equipment was being steadily transformed. In May 1942 there were 214 Wellingtons, 62 Halifaxes and 29 Lancasters among the front line of 417 aircraft. By January 1943 there were only 128 Wellingtons left, and 104 Halifaxes and 178 Lancasters among the total of 515 first-line aircraft. In the interval the bomb-carrying capacity of the Command increased by more than a third.

The mood of this new Bomber Command was utterly different from that of 1939. Most squadrons were no longer billeted amidst the solid brick comforts of the pre-war airfields, but were learning to live with Nissen huts and chronic mud, to fly from hastily concreted strips now carpeting eastern England, as the island was transformed into a gigantic aircraft-carrier. The old spirit of the officers' mess as home, the idea of the squadron as a family, had been replaced by that of a human conveyor belt, a magic lantern show of changing faces. Bomber Command dickered briefly with committing crews to tours of 200 operational hours, but this stopped abruptly when it was found that some men flew home with their wheels down in order to prolong 'ops' to their limit. Now there was a thirty-trip standard before men were posted to notionally less dangerous instructing jobs. Operational aircrew might fly six or seven times a month, unless the weather was very bad. A first-class CO could create a squadron spirit, but the aircrew had become passing three- or four-month guests on their own stations, leading a parallel yet utterly different life from that of the

huge permanent ground-support staff, who remained at one base year after year, drinking in the same pubs and servicing aircraft in the same hangars.

The aircrew, as befitted men who were statistically not long for this world, spent their last months fattened with whatever comfort wartime England could provide for them, unheard-of luxuries such as extra milk, fruit juice, sugar and real eggs. They were warmed by sun-ray lamps in the medical quarters, dosed with halibut-oil capsules and protected from all but the most essential duties when not flying. The former pressure on non-commissioned aircrew had been lifted. Now they usually occupied their own mess separate from that of non-flying NCOs, and enjoyed much the same comforts and privileges as their commissioned counterparts. A crew drank, womanized, often even went on leave together as a close-knit entity, regardless of individual rank. A commissioned navigator called his sergeant-pilot 'Skipper' in the air without a hint of resentment. They were all too close to death to trouble about formalities over Germany now. Throughout 1942, the loss-rate, including fatal crashes in England, seldom fell much below 5 per cent, one aircraft in twenty on every operation. A crew faced thirty trips. It needed no wizard of odds to read the chances of their mortality, even if each man deep in his heart believed that it would be another's turn until the instant that he plunged headlong out of the night sky, the flames billowing from his aircraft.

But unlike the days in France a generation earlier, when these men's fathers queued below the red lamps before they went over the top, brothels seldom flourished around the bomber stations. Many aircrew preferred to relax with drink and each other rather than with women. For those who craved female company, local girls, lonely soldiers' wives and station WAAFs found it difficult to refuse boys who were likely to be dead within a month. It was chiefly remarkable, in the almost frenzied celebrations that accompanied a 'stand-down' or a 'good prang' or the end of a crew's tour or somebody getting a 'gong', that so many aircrew went to their fate as innocent as they had emerged from the cradle. A nineteen-

year-old who was given his opportunity by a sentimental WAAF still blushes to recall that he turned her down because he had been warned by the medical officer to keep his strength up for operations. A survivor from the crew of a pilot who was awarded a posthumous Victoria Cross for his efforts to save his aircraft over France never forgot that on their last night together, the boy admitted sheepishly that he had never kissed a girl in his life.

By that summer of 1942 the strange inverted timetable of night-bomber operations had become a routine. The crews awoke in their huts as the Lincolnshire ground mists slowly cleared from the runways, and wandered across to the mess for a late breakfast in the patchy sunshine. By 11 am, they were playing cricket or lounging on the grass around the flight offices, waiting to hear if operations were 'On' for that night. Some days – the good days – they were at once 'stood down'. They dashed for a bus to Nottingham or piled into their cars, illicitly fuelled with 100-octane aviation spirit. Often – very often – they were ordered to prepare for an 'op' that was cancelled at five, six, seven o'clock after they had dressed and been briefed and their aircraft bombed-up. This they hated most of all, because by evening they had already been fighting the battle against fear and anticipation all day, and they had overcome the worst. 'Ops scrubbed' was only an illusory reprieve, because if they did not fly their first or fifth or twentieth trip that night, it would only be waiting for them tomorrow. More often than not, it was the prospect of bad weather over England in the early hours that caused cancellations, rather than cloud over Germany. There had already been some appalling nights when bombers crashed all over East Anglia in impossible visibility, and exhausted crews were compelled to abandon their aircraft and bale out over their own bases rather than risk descending to ground level.

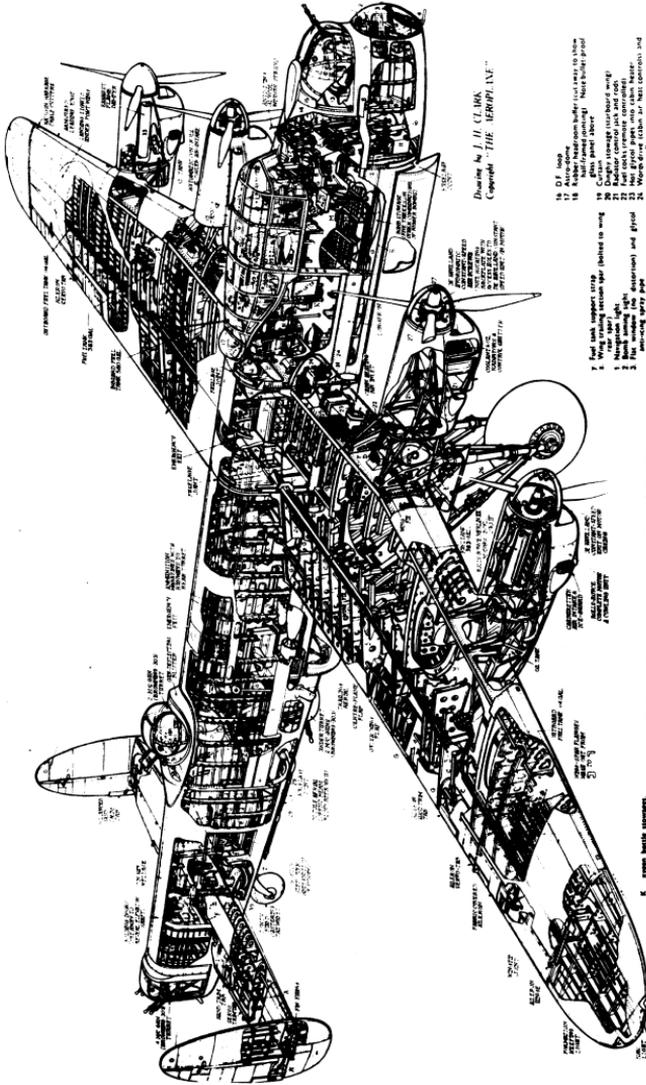
If 'ops' were 'on', the armourers began the long, painstaking routine of bombing-up the aircraft. Knowing their fuel and bombload in the morning, crews could quickly assess the rough distance and perhaps the nature of their target. That summer, Harris was

still unwilling to commit his force headlong against Berlin or the Ruhr amidst the stiffening German defences. As he waited for more aircraft and the new generation of navigation and bomb-aiming devices, he advanced with caution. 50 Squadron and the rest of Bomber Command made spasmodic trips to Duisburg, Düsseldorf and other Ruhr targets, but generally bombed less perilous and more easily located ones: Bremen, Osnabrück, Kassel, Nuremberg. They were burning thousands of houses and not a few factories, but Harris was biding his time for the punishing attacks on the industrial heart of Germany.

After taking their aircraft for a brief air test before lunch, gazing down at the chequer board of airfields visible in every direction around them in the naked light of day, some crews tried to sleep on the afternoon of an 'op'. Many never succeeded. It was these long hours of preparation and expectation that ate into men's courage and nerves as much as anything that was done to them in the air. Many felt that it was the contrast between the rural peace of afternoon England and the fiery horror of early morning Germany that imposed much greater strain on bomber crews than the even tenor of discomfort and fear on a warship or in a tank. They had time to remember vividly each earlier trip. They gazed around them at the familiar hangars; the 'erks' – the ground crews – pedalling their bicycles round the perimeter track to the dispersals; the fuel bowsers beside the distant aircraft, silhouetted against the flat horizon. The panorama took on a strange unreality. They were called upon to fly over Germany in the midnight hours when human enterprise and resistance is naturally at its lowest ebb. The very young, under twenty, and the older men over thirty, seemed to suffer most, although the latter were often invaluable ballast in a crew. Those in their early twenties proved able to summon up remarkable reserves of resilience.

After the traditional bacon and eggs in the mess, they went to briefing. The old informality of Hampden days, when a cluster of pilots and navigators assembled around the central table in the

# THE AVRO LANCASTER I (Four 1,280 h.p. Rolls-Royce Merlin XX Motors)



Designed by J. H. CLARK  
Copyright "THE MERIDIAN"

- A. Radiator and alternator drive
- B. Control column straps and seat fitting cam
- C. Thrust reverser
- D. Thrust reverser
- E. Radiator and alternator control rod
- F. Radiator control rod
- G. Radiator control rod
- H. Radiator control rod
- I. Radiator control rod
- J. Radiator control rod
- K. Radiator control rod
- L. Radiator control rod
- M. Radiator control rod
- N. Radiator control rod
- O. Radiator control rod
- P. Radiator control rod
- Q. Radiator control rod
- R. Radiator control rod
- S. Radiator control rod
- T. Radiator control rod
- U. Radiator control rod
- V. Radiator control rod
- W. Radiator control rod
- X. Radiator control rod
- Y. Radiator control rod
- Z. Radiator control rod

- 1. D.F. loop
- 2. Radiator control rod
- 3. Radiator control rod
- 4. Radiator control rod
- 5. Radiator control rod
- 6. Radiator control rod
- 7. Radiator control rod
- 8. Radiator control rod
- 9. Radiator control rod
- 10. Radiator control rod
- 11. Radiator control rod
- 12. Radiator control rod
- 13. Radiator control rod
- 14. Radiator control rod
- 15. Radiator control rod
- 16. Radiator control rod
- 17. Radiator control rod
- 18. Radiator control rod
- 19. Radiator control rod
- 20. Radiator control rod
- 21. Radiator control rod
- 22. Radiator control rod
- 23. Radiator control rod
- 24. Radiator control rod
- 25. Radiator control rod
- 26. Radiator control rod
- 27. Radiator control rod
- 28. Radiator control rod
- 29. Radiator control rod
- 30. Radiator control rod
- 31. Radiator control rod
- 32. Radiator control rod
- 33. Radiator control rod
- 34. Radiator control rod
- 35. Radiator control rod
- 36. Radiator control rod
- 37. Radiator control rod
- 38. Radiator control rod
- 39. Radiator control rod
- 40. Radiator control rod
- 41. Radiator control rod
- 42. Radiator control rod
- 43. Radiator control rod
- 44. Radiator control rod
- 45. Radiator control rod
- 46. Radiator control rod
- 47. Radiator control rod
- 48. Radiator control rod
- 49. Radiator control rod
- 50. Radiator control rod

- 1. Fuel tank support strap
- 2. Fuel tank support strap
- 3. Fuel tank support strap
- 4. Fuel tank support strap
- 5. Fuel tank support strap
- 6. Fuel tank support strap
- 7. Fuel tank support strap
- 8. Fuel tank support strap
- 9. Fuel tank support strap
- 10. Fuel tank support strap
- 11. Fuel tank support strap
- 12. Fuel tank support strap
- 13. Fuel tank support strap
- 14. Fuel tank support strap
- 15. Fuel tank support strap
- 16. Fuel tank support strap
- 17. Fuel tank support strap
- 18. Fuel tank support strap
- 19. Fuel tank support strap
- 20. Fuel tank support strap
- 21. Fuel tank support strap
- 22. Fuel tank support strap
- 23. Fuel tank support strap
- 24. Fuel tank support strap
- 25. Fuel tank support strap
- 26. Fuel tank support strap
- 27. Fuel tank support strap
- 28. Fuel tank support strap
- 29. Fuel tank support strap
- 30. Fuel tank support strap
- 31. Fuel tank support strap
- 32. Fuel tank support strap
- 33. Fuel tank support strap
- 34. Fuel tank support strap
- 35. Fuel tank support strap
- 36. Fuel tank support strap
- 37. Fuel tank support strap
- 38. Fuel tank support strap
- 39. Fuel tank support strap
- 40. Fuel tank support strap
- 41. Fuel tank support strap
- 42. Fuel tank support strap
- 43. Fuel tank support strap
- 44. Fuel tank support strap
- 45. Fuel tank support strap
- 46. Fuel tank support strap
- 47. Fuel tank support strap
- 48. Fuel tank support strap
- 49. Fuel tank support strap
- 50. Fuel tank support strap

- A. Tailplane rib
- B. Tailplane rib
- C. Tailplane rib
- D. Tailplane rib
- E. Tailplane rib
- F. Tailplane rib
- G. Tailplane rib
- H. Tailplane rib
- I. Tailplane rib
- J. Tailplane rib
- K. Tailplane rib
- L. Tailplane rib
- M. Tailplane rib
- N. Tailplane rib
- O. Tailplane rib
- P. Tailplane rib
- Q. Tailplane rib
- R. Tailplane rib
- S. Tailplane rib
- T. Tailplane rib
- U. Tailplane rib
- V. Tailplane rib
- W. Tailplane rib
- X. Tailplane rib
- Y. Tailplane rib
- Z. Tailplane rib

- A. Upper chord beam
- B. Upper chord beam
- C. Upper chord beam
- D. Upper chord beam
- E. Upper chord beam
- F. Upper chord beam
- G. Upper chord beam
- H. Upper chord beam
- I. Upper chord beam
- J. Upper chord beam
- K. Upper chord beam
- L. Upper chord beam
- M. Upper chord beam
- N. Upper chord beam
- O. Upper chord beam
- P. Upper chord beam
- Q. Upper chord beam
- R. Upper chord beam
- S. Upper chord beam
- T. Upper chord beam
- U. Upper chord beam
- V. Upper chord beam
- W. Upper chord beam
- X. Upper chord beam
- Y. Upper chord beam
- Z. Upper chord beam

- A. Control column
- B. Control column
- C. Control column
- D. Control column
- E. Control column
- F. Control column
- G. Control column
- H. Control column
- I. Control column
- J. Control column
- K. Control column
- L. Control column
- M. Control column
- N. Control column
- O. Control column
- P. Control column
- Q. Control column
- R. Control column
- S. Control column
- T. Control column
- U. Control column
- V. Control column
- W. Control column
- X. Control column
- Y. Control column
- Z. Control column

- A. Radiator control rod
- B. Radiator control rod
- C. Radiator control rod
- D. Radiator control rod
- E. Radiator control rod
- F. Radiator control rod
- G. Radiator control rod
- H. Radiator control rod
- I. Radiator control rod
- J. Radiator control rod
- K. Radiator control rod
- L. Radiator control rod
- M. Radiator control rod
- N. Radiator control rod
- O. Radiator control rod
- P. Radiator control rod
- Q. Radiator control rod
- R. Radiator control rod
- S. Radiator control rod
- T. Radiator control rod
- U. Radiator control rod
- V. Radiator control rod
- W. Radiator control rod
- X. Radiator control rod
- Y. Radiator control rod
- Z. Radiator control rod

Ops Room, had vanished with the coming of the 'heavies'. Now each specialist was independently briefed by his respective squadron chief: signals leader, navigation leader and so on. Then they gathered together, more than a hundred young men, arrayed crew by crew on the bench seats of the Briefing Room facing the central stage, the map still hidden by a curtain until the heart-stopping moment when the CO walked forward and pulled it away to reveal the target. 'Funf', the Swinderby 'Met' man, talked to them about the weather. The Intelligence Officer briefed them about the importance of the target from notes sent down to him by High Wycombe. He gave them the latest information on the German defences. The 'Kammhuber line', named by the British after the German general who had created it, now the coastal breadth of Germany, Holland and Belgium. It was almost impossible for a British bomber to avoid. But within its network of interlocking radar-controlled night-fighter and searchlight zones, each 'box' could control only one fighter to one interception at a time. Bomber Command's constantly intensifying 'streaming' technique, pushing the British aircraft along a single course through the defences in the shortest possible time, sought to defeat this outer line of German defences by saturating them. Little was as yet known about the new *Lichtenstein* radar mounted in the fighters themselves, although Scientific Intelligence at the Air Ministry was working towards an astonishingly comprehensive picture.

The station commander stood up to wish them luck, and strode out trailing his attendant staff officers. The crews shuffled to their feet, chattering and gathering up maps and notes.

They were a queer conglomeration, these men – some educated and sensitive, some rough-haired and burly, and drawn from all parts of the Empire, Great Britain, Canada, New Zealand and Australia . . . Some of them were humming, some were singing, some were laughing, and others were standing serious and thoughtful. It looked like the dressing room where the jockeys sit waiting before a great steeplechase . . .<sup>9</sup>

They stripped themselves of personal possessions and gathered up parachutes, escape kits, mascots. Swinderby's station commander chatted easily to them as they prepared. Sam Patch was a popular 'station master', at his relaxed best talking to crews, never above stopping his car to offer a crowd of NCOs a lift as they walked back from the local pub on a stand-down night. Waiting for transport to the dispersals was one of the worst moments. Stan Gawler, one of the rear gunners, was always loaded down with dolls and charms with which he decorated his turret. One night he forgot them, and his crew endured a nightmare hour over Hamburg. Peggy Grizel, a young WAAF Intelligence Officer, never failed to be moved by the ways in which each man fought down his fear. Henry Mossop, a Lincolnshire farm boy, lay calmly on the grass looking out into the dusk, smoking his pipe. A young New Zealander sat down with anybody who would listen and talked about his home. Macfarlane, one of 'Beetle' Oxley's successors as CO, insisted on having 'The Shrine of St Cecilia' played on the mess gramophone, and after the record was broken one afternoon, dashed into Lincoln to buy another copy before operating that night.

At the dispersals, they lay smoking on the grass until the time came to swing themselves up into the fuselage. There was a familiar stink of kerosene, with which the erks washed out the dirt of every trip. As the sky darkened around them, the pilot and flight engineer ran up the great Merlins one by one. The pilot slid back his window and gave 'thumbs up' to the ground crew by the battery cart. Port-outer: Contact. He lifted the cover from the starter button and pressed it down, waiting for the puff of grey smoke shot with flame, the cough and roar as it fired. At last, with all four engines running, he checked the oil pressure and tested the throttles, checked revolutions and magneto drop. The navigator spread his maps. The gunners crammed themselves into the turrets they could not leave for the next six or seven hours.

The rear gunner faced the loneliest and coldest night of all. Gazing back all night into the darkness behind the aircraft, he

often felt that he inhabited another planet from the tight little cluster of aircrew so far forward in the cockpit. Even after electrically heated suits were introduced, they often broke down. Many gunners cut away their turret doors to dispel the nightmare of being trapped inside when the aircraft was hit – they were wedged impossibly tightly in their flying gear. It was difficult even to move freely enough to clear jammed guns with their rubber hammers. There was no chance of wearing a parachute – it was stowed beside them. Some carried a hatchet to give themselves a forlorn chance of hacking their way out of a wreck. The cold was intensified by the removal of a square of perspex to provide a central ‘clear view panel’ to the night sky, a refinement pioneered by Micky Martin’s gunner, Tammy Simpson, among others. Behind the cockpit a powerful heater system had been installed, but there was a perpetual war in most crews about the temperature at which this was maintained, the wireless operator by the hot-air outlet being permanently roasted, the bomb-aimer shivering amidst the draughts through the front gun vents.

At the dispersals, the flight-sergeant fitter handed his pilot Form 700 on his clipboard, to sign for the aircraft, then slipped away to the ground. The flight engineer reported: ‘Engineer to pilot. Rear hatch closed and secure. OK to taxi.’ The pilot signalled to the ground crew to slip the chocks, and closed his window. The wireless operator made a test signal to the airfield Watch Office. ‘Receiving you loud and clear. Strength Niner.’ All over the airfield in the dusk, the Lancasters broke into movement. Twenty tons of aircraft, perhaps five tons of fuel and five more of bombs, bumped slowly round the perimeter to the end of the runway for take-off.

The control officer flashed a green ray for a split second, which was the signal that this plane was designated for take-off [wrote an American spectator as he watched for the first time a Bomber Command take-off for Germany]. Its roaring grew louder and louder as it dragged its heavy tail towards the starting point like a slow, nearly helpless monster. About

twenty yards away we could just discern a vast dinosaurish shape; after a moment, as if stopping to make up its mind . . . it lumbered forward, raising its tail just as it passed us, and turning from something very heavy and clumsy into a lightly poised shape, rushing through the night like a pterodactyl. At this instant, a white light was flashed upon it and a Canadian boy from Vancouver who was standing beside me, put down its number and the moment of departure. It vanished from sight at once and we stood staring down the field, where in a few seconds a flashing green light announced that it had left the ground . . .

A great calm settled over the place as the last droning motors faded out in the distance and we all drove back to the control room where a staff hang onto the instruments on a long night vigil . . . I went to sleep thinking of the . . . youngsters I had seen, all now one hundred and fifty miles away, straining their eyes through a blackness relieved only by the star-spangled vault above them.<sup>10</sup>

A critical measure of a squadron's efficiency was its rate of 'Early Returns', aircraft which turned back over the North Sea with technical trouble. It was always a matter of nice judgement whether pressing on with a jammed turret or malfunctioning oxygen equipment represented courage or foolhardiness. Every crew could expect an Early Return once in a tour. To come home more often suggested accident-proneness or something worse. 50 Squadron had a tradition of pressing on: one night, for instance, an aircraft hit a servicing gantry on take-off. At Swinderby control, they waited for the pilot to request permission to land. Instead there was silence. He simply flew on to complete the trip. Some captains took a vote among the crew whether to turn back. Bill Russell, Oxley's successor as CO, had no patience with the hesitant. One night a sergeant pilot reported from dispersal that he was suffering magneto drop on one engine and could not take off. It was the man's third attack of 'mag drop' in a month. Russell ran down the control tower steps, drove furiously to the Lancaster, and

ordered the pilot out. He flew the aircraft to Cologne himself, in his shirtsleeves. The pilot was court-martialled and dismissed from the service.

Every night over the North Sea, after the gunners fired their test bursts and they had climbed slowly to cruising height and synchronized their engines, the crew would hear the immortal cliché of Bomber Command down the intercom: 'Enemy Coast Ahead.' The flight engineer checked the aircraft black-out. Henceforth, each man became only a shape in the darkness, each part of the aircraft only recognizable by feel or momentary flash of a penlight torch. The instruments glowed softly. The engines roared distantly through the helmet earpieces. Stale air pumped through the constricting oxygen masks. They watched the gunfire lacing the sky from the flakships off the Dutch coast, the brief flicker of explosions and the pencil cones of searchlights sweeping the darkness. From here to Germany, each pilot had his own conviction how best to survive. Some captains on 50, like Jock Abercrombie, flew straight and level all the way to the target. Some changed their throttle settings constantly or desynchronized their engines. Others, like Micky Martin, weaved or changed course repeatedly every moment that they were within range of the defences.

To fly a heavy bomber called for quite different skills from those of a fighter pilot. Airmen say that contrary to popular mystique, there was no special temperament that equipped one man to fly a Spitfire and another a Lancaster: the job made the man. Pilot trainees who showed outstanding virtuosity in handling an aircraft were generally sent to Fighter Command. Only a handful of men in Bomber Command could throw a four-engined bomber through the sky with absolute assurance, or indeed wished to. Most wartime pilots, even after two years' training, found it a strain coping with the technical problems of taking off, flying and landing a heavy aircraft in one piece, before they began to come to terms with the enemy. Handling a machine as big as a Lancaster required a good measure of brute physical strength. Hundreds of crews were lost in mishaps in which the enemy played no part:

freak weather, collision, bombs falling on friendly aircraft below, botched landings by tired young men. The first six trips accounted for a disproportionate share of casualties. Those who survived that long became statistically slightly more at risk again in mid-tour, when they began to think that they knew it all, and on their last trips when they had grown tired and stale.

To survive, brilliant flying was less important than an immense capacity for taking pains, avoiding unnecessary risks, and maintaining rigid discipline in the air. Canadians were highly regarded as individual fliers, but incurred intense criticism as complete crews, as squadrons, as (eventually) their own No. 6 Group, because they were thought to lack the vital sense of discipline. A 50 Squadron gunner who was sent one night as a replacement with an all-Canadian crew came home terrified after circling the target while they sang 'Happy Birthday To You' down the intercom to their 21-year-old pilot. Later in the war, 6 Group became notorious for indifference to radio-telephone instructions from the Master Bomber over the target.

A pilot such as Micky Martin was daring in the air, but also very careful. He and his crew checked every detail of their own aircraft before take-off, far more meticulously than routine demanded. Martin personally polished every inch of perspex on his cockpit canopy. At 20,000 feet over Germany at night, a fighter was no more than a smear at the corner of a man's eye until it fired. Martin studied the techniques for improving his own vision, moving his head backwards and forwards constantly, to distinguish between the reality and the optical illusion beyond the windscreen. He taxied the aircraft to the butts before each trip so that his gunners could realign their Brownings. Every man who survived Bomber Command agrees that luck was critical: however brilliant a flier, he was vulnerable to the Russian roulette of a predicted flak barrage. But a careful crew could increase their chance of survival a hundred per cent.

It was difficult for so many young men who flew perhaps a dozen trips without a glimpse of a fighter, without being struck by

flak, without becoming lost: operations began to take on the tedium of an eternal drive on a darkened motorway. Reflexes numbed, vigilance flagged, because this was human nature. Careful pilots banked gently every few moments to enable their gunners to search the sky beneath the aircraft. No good captain tolerated chatter on the intercom: it was sacred, reserved for the paralysing second when the rear gunner shouted: 'Fighter port! Corkscrew port – now!' Then they would heel into the mad, stomach-churning routine of fighter evasion, the gunner who could see the enemy directing the pilot who could not, the aircraft screaming in torment, the smell of vomit so often wafting up from a navigator or bomb-aimer overcome by fear and the violence of their movement, the fuselage shuddering as the gunners fired. The first seconds were vital: so often, if the fighter was observed he would break away to seek easier meat. A pilot's confidence in throwing his aircraft through the sky was critical. Some, in their fear of causing the bomber to break up, banked cautiously and died. Others – the ones who lived – recognized that the danger of a wing collapsing was nothing to that of a fighter's cannon. Steep bank to port, full left rudder, fall sideways for a thousand feet, wrench the aileron controls to starboard, soar into climbing turn to the right, then opposite aileron and dive again . . .

Anyone who had not done plenty of practice flying by instruments might well have been terrified by the result of all this. The speed varied between 200 and 90 mph, the altimeter lost and regained 1,000 feet, the rate of descent and ascent varied between 1,000 and 2,000 feet a minute, the horizon level just went mad and the rate of turn and skid needles varied from a maximum to port to a maximum to starboard every half minute. The physical exertion for each pull at the bottom of each dive was about equal to pulling on a pair of oars in a boat race.<sup>11</sup>

Micky Martin and other highly skilled pilots almost cart-wheeled their Lancasters, banking savagely on to one wingtip as

they raced the upper engines and cut the lower. They knew that the bomber's gunners had precious little chance of shooting down a well-armoured German fighter, that almost their only hope of survival lay in escape. Some crews believed that it was best not to fire their own guns until they were certain the fighter had seen them, lest they betray their position. The true value of the gunners was as look-outs. If they saw the German first, they could survive. If they did not, they were probably dead men. Gunners smeared lanolin on their necks to fight the aches and soreness of constantly scanning the sky. They were taught never to gaze into the flames of a target, which damaged their night vision. They took caffeine tablets to stay awake and faced instant dismissal from most crews if they were caught dozing. Yet boredom, monotony, the corrosion of cold and fatigue were deadly enemies. Again and again, a bomber was surprised.

One night in December 1942, 50 Squadron were out on a harassing raid over north Germany, part of a drive to force the Germans to spread their defences more thinly by launching pin-prick attacks on scores of small towns, an assignment which uncharacteristically troubled some crews. Norman Goldsmith's crew were armed to the teeth – the flight engineer was carrying a Thompson gun – because they had been ordered to go in low and beat up anything in sight. 'Mitch' Mitchell, the wireless operator, was enjoying himself playing the new game of 'Tinsel' – tuning to German night-fighter frequencies and then blasting the ether with engine noise from a microphone specially fitted in one of the Lancaster's nacelles. He was bent over his headphones listening to the rage of the German controller when he was hammered on the shoulder by the mid-upper gunner. He looked out of the astrodome to see the starboard wing on fire. A German fighter had slid up beneath the fuselage and fired one deadly burst, badly wounding the rear gunner and injuring the mid, mortally damaging the aircraft, 'Bale out,' ordered Goldsmith. Mitchell and Jim Farrell, the Australian navigator, were the only survivors who reached the sodden fields of north Holland alive.

As they cruised across Europe, most pilots worked to gain height, bouncing the aircraft upwards in precious thermals, winning every foot of sky they could put between themselves and the enemy, so often invisible far below the cloud layers. Martin was exceptional in that he preferred to go in low, skimming the waves so that his Lancaster came home coated in salt spray and dirt, running along roads and railway lines to dodge the enemy balloon barrage, although on one notable night on the way home from Kassell, he flew with a balloon cable streaming from his wing. Little Toby Foxlee blazed the front guns at German flak the moment the enemy opened fire; his belts were loaded with continuous tracer instead of the usual one in five, as a simple 'frightener' to throw the gunners' nerve. Martin liked to operate at around 4,000 feet, because this was just beyond the maximum height at which German light flak could be effective, and yet was low for the heavier 88 mm flak. He would climb to bomb, then slip back to deck level for the long run home. For most crews, however, height represented safety, and they valued every foot of it. They had learned that it was vital to stay in the stream. If they were a minute or two early approaching the target, they flew a dogleg to lose time. If they were late, they pushed up their revs as much as they dared. A lone aircraft was instantly vulnerable.

Every pilot responded differently to sudden crisis. Martin found that he became ice-cold. He and his crew had achieved an almost telepathic mutual understanding and instinct for danger. Others were less fortunate. Tolley Taylor had a flight engineer who became literally paralysed with fear on his first trip to Essen, and clung motionless to the window-catch from the enemy coast to touch-down, compelling Taylor to cope with the fuel system as well as flying the aircraft. Stewart Harris, a navigator, fought down his terror during a bad flak barrage over Wilhelmshaven by gobbling his flying rations; the following night he collapsed, in delayed reaction, at a pub in Lincoln, although he operated again the night after. 'Are you hurt, Phillips?' 'King' Cole asked his flight engineer,

as the man sat pale beside him after a near-miss. 'No, sir, but I'm very frightened . . .' Even some pilots were known to become numbed into momentary paralysis by a sudden night-fighter attack, unable to move the controls. Every good captain checked his crew every few minutes of every trip: 'Rear gunner OK?' 'Yes, skip.' 'Mid-upper OK?' 'OK, skipper', and so on. But there were many bad captains and bad crews, and they died still ignorant of the folly of omission that had killed them.

At the climax of every trip came the long run-up to bomb, through the dazzling web of lights, the flicker of flak, the curling, twisting pattern of tracer, the glow of fires and incendiaries in all the colours of the rainbow. The bomb-aimer lay in the nose over his Mark XIV bombsight, wired to the primitive grey computer box beside him. The navigator and wireless operator frequently abandoned their cubbyholes to join the gunners searching the sky for fighters at this most vulnerable moment of all. The whole crew held their breath as the bomb-aimer called off 'Left . . . left . . . right a bit . . . steady.' Then there was the sudden 'twang' from beneath them, and 'Bombs gone' from the nose. 'Was this fighting?' V. M. Yeates asked himself as he released his bombs over the German lines in France a quarter of a century before. 'There was no anger, no red lust, no struggle, no straining muscles and sobbing breath; only the slight movement of levers and the rattle of machine-guns . . .'<sup>12</sup> For a few seconds they held course until the photo-flash fell from the aircraft and exploded to light the sky for their aiming-point picture, without which the trip could not count towards their tour. Then they swung away from the glowing, splitting shambles below and thanked God once more, unless there had been some heart-stopping hang-up, the bomb-aimer had been dazzled at a critical moment, or they were compelled to bank sharply to avoid a converging aircraft. Then they would hear an unhappy voice announce: 'We're going round again.' With the exception of a few phenomena like Martin, no man circled a target more than once in 1942 unless from dire necessity. By that

summer, one crew in three was bombing within three miles of the aiming-point. It was not enough, yet it was a considerable improvement on 1941.

1942 was the year in which the dominant threat to a bomber over Germany became the night-fighter rather than the flak gun. The British computed that there were now 12,000 heavy anti-aircraft guns and 3,276 searchlights defending Germany. The Luftwaffe's flak units had almost doubled their strength from 255,000 men in 1940 to 439,000 in 1942. Flak damaged many aircraft and drove the bombers to fly high, but it destroyed few. Fighters, on the other hand, seldom sent a damaged victim home. The overwhelming majority of British bombers attacked were shot down. In 1942, German night-fighter strength rose from 162 to 349 aircraft, almost all Ju88s and Me110s. Over the target the bomber crews had learned to welcome heavy flak, for it indicated that the fighters were elsewhere. Creeping fear grew on the nights when the target was lit by scores of searchlights, yet the guns were silent. On these nights, the British knew that somewhere in the darkness fighters were searching the sky for a hapless Lancaster, or tuning their *Lichtenstein* radar sets to catch one in their electronic grasp.

Crews cherished some strange illusions about protecting themselves. One was that switching on their IFF – Identification Friend or Foe transmitter, controlled by a six-position dial above the wireless operator's head and designed to provide a recognition blip for British radar on the way home – somehow jammed the German searchlight control system if an aircraft was coned. Since late 1941, Dr R. V. Jones and his colleagues of Scientific Intelligence had been urging Bomber Command that not only was IFF profitless over Germany, but like all transmissions which could be monitored by the enemy, its use represented a positive threat to bombers' safety. Yet High Wycombe remained unconvinced for years to come, arguing that if pilots believed IFF benefited them, their illusions should be cherished for the sake of morale. 50 Squadron's signals leader was still teaching the technique in 1942, and most aircrew accepted it implicitly. It was the same with 'Scarecrows', the shells

the crews believed that the Germans fired to frighten them, resembling exploding bombers. There were no such projectiles as 'Scarecrows'. What the men saw were indeed exploding British aircraft. But to this day many aircrew will not accept this. The truth was sometimes too frightening.

The occupants of a stricken aircraft had a one-in-five chance of escaping alive. Fighting the G-forces of a diving or spiralling, uncontrollable descent, they had to ditch the hatches, reach their parachutes and somehow struggle clear before the bomber struck the ground. They tried desperately to avoid baling out in the immediate target area, for they had heard too many stories of bomber crews killed by enraged civilians or soldiers, a fate not unknown to Luftwaffe airmen in the London blitz. Luftwaffe men on the ground in Germany often showed astonishing fellow-feeling for baled-out RAF crews, saving them from mobs, treating them with real kindness. When Stewart Harris of 50 Squadron became a prisoner, he was forced to travel through Düsseldorf with the three men of his Luftwaffe escort. The city had suffered appallingly at the hands of Bomber Command. The mother of one of the escort came to meet them at the station. Her own home and the factory in which she worked had already been destroyed. Yet she brought four packed lunches.

It was not unknown for Bomber Command crews to take occasional passengers on operations. Some were authorized – station commanders or reporters. Others were quite illicit – members of ground crew and in extremely isolated cases, WAAFs. The Germans sought to make propaganda capital out of an episode early in 1942 when they claimed to have found a dead WAAF in a shot-down Stirling.<sup>13</sup> It was often far more frightening to be a passenger, without the pressure of duty to suppress fear, than to be a crew member. One night Micky Martin took Group-Captain Sam Patch, Swinderby's station commander, on a trip to the Ruhr. Patch stood behind Martin's seat. Crossing the Belgian coast, Martin scented night-fighters – the searchlights were wavering uncertainly, a sure sign that they were seeking to avoid their own

aircraft. He saw a line of tracer curving across the sky to port. 'If you turn round and look now, you'll probably see an aircraft blow up,' he said to Patch. Sure enough, on the German's third burst a few seconds later, a Wellington exploded. Every crew became hardened to seeing others go down, and felt that guilty surge of gratitude that it was another man's turn to die. Martin changed course to fly south of Liège and avoid the night-fighters. The diversion brought them late over the target, which was already burning fiercely. Martin circled three times at his customary 4,000 feet, terrifying yet fascinating Patch. When they came home, he said that he had never before understood how a crew could be frivolous, drunken, apparently irresponsible on the ground, yet utterly close-knit and professional in the air.

In those days, they still came home in their own way, by their own routes, instead of being locked into the stream all the way out and back, as they were a year later. Crews were tired now, aching and stiff and stale. They drank their coffee and ate their flying rations, but those who wished to remain alive did not relax in their cockpit or turrets. If the pilot could not resist the urge to urinate, he did so into the tin below his seat – he could never leave the controls. The wireless operator, in his shirtsleeves by the heater, might read a book or filter music from his radio down the intercom if the captain allowed, but the navigator was still checking fixes and peering into his *Gee* scope, which from August 1942 began to flicker with the green 'grass' of German jamming as soon as the aircraft crossed the enemy coast. The flight engineer juggled the fuel tanks, computing consumption constantly to check the notoriously inaccurate petrol gauges. Some captains allowed crews to smoke, puffing out of the edge of their oxygen masks: Tolley Taylor got through a steady forty cigarettes on every outward trip, twenty more coming home. Most pilots rigidly discouraged the practice, and rear gunners who dragged surreptitiously to ease their lonely vigil came home with their boots stuffed with fag-ends to conceal the evidence.

By now, approaching the Channel homewards, some pilots

were nursing damaged engines or flak-torn controls, losing height over France and struggling to get across the sea before forced landing at Manston or Woodbridge, the bombers' emergency landing strips. In some aircraft, in the darkness of the fuselage a bomb-aimer or wireless operator struggled over the body of a wounded gunner on the rest-bed, doing his pathetic best to repair terrible wounds made by shrapnel or cannon fire with morphia and sulphanilamide, in the feeble light of a torch. Others had thrown out everything movable, yet were still drifting helplessly downwards towards the North Sea or the Channel. They had a good chance of surviving ditching, a fair chance of being spotted if their navigator could still take a fix and their wireless operator still tap out a Ditching signal. But often a crew could not give their position, and lingered for hours or days in their dinghy before rescue or death overtook them.

The lucky crews, those whose aircraft were still unwounded, glimpsed other bombers going home, and thought about the girls or the wives with whom they might be drinking that night, at the Black Bull or the Baron of Beef. They droned on towards Lincolnshire, hoping that for once they would not be stacked waiting to land for half an hour or more, or diverted because a damaged aircraft had crashed on the runway. An aircraft that crashed in England was never included in Bomber Command's official casualty figures, however many of its crew were killed or wounded, and these added at least 15 per cent to the published loss figures for most of the war.

Their hearts rose at the red wink of the distant beacon. They heard the comforting thump as the undercarriage locked home, and prayed that no unseen joint in the aircraft's structure had been fatally damaged, to crumple as they landed. Then they were in the circuit, losing height and power as they slipped on to the runway, bumping heavily as their tired pilot let them down with a moment's imprecision, then idling along the black rubber-streaked concrete, switching open the bomb doors and gathering up their equipment. After an interminable night's flying to La Spezia and

back, Stewart Harris clambered out of the fuselage and opened his flybuttons with boundless gratitude above the tailwheel. 'God, this is good!' he exclaimed deeply to the shadowy figures beside him in the darkness.

'Nice to see you back, too, Harris,' chuckled Sam Patch, stepping aside to reveal the Group commander behind him. The trucks bore them to the headquarters building for debriefing. They climbed wearily out, inhaling the blessed fresh air, then walked into the brightly-lit room with the blinking, dazed look of men woken at the wrong moment of the morning. A young WAAF scribbled her industrious notes about the trip as they lit their cigarettes and drank their tea. A cluster of brass – the station commander, a handful of staff officers, the padre and the doctor – hovered in the background. A WAAF chalked their landing time on the long, wide crew blackboard on the wall of the Ops Room. They had survived. Tomorrow night, or perhaps the one after, they would do it all again.