

**PROCEEDINGS  
OF THE ROYAL AIR FORCE HISTORICAL SOCIETY**

**Issue No 6 – September 1989**

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## **FUTURE PROGRAMME**

**Monday 23 October, 1989.** Seminar: "The Origins and Development of the British Strategic Nuclear Deterrent Forces 1945 - 1960" at The Royal Air Force Museum, Hendon, London NW9.

The seminar will start at 1100 hrs and finish at approximately 1600 hrs, with coffee beforehand and a break for lunch. The Chairman will be Marshal of the Royal Air Force Sir Michael Beetham, and the speakers will include:

- |                                     |  |
|-------------------------------------|--|
| Mr Humphrey Wynn                    | - The Historical Background                          |
| Air Marshal Sir John Rowlands       | - The Development of the Atomic Bomb                 |
| Air Vice-Marshal W E Oulton         | - The 'Grapple' Weapons Trials                       |
| Sir Frank Cooper                    | - Air Staff Policy                                   |
| Air Chief Marshal Sir Kenneth Cross | - The Development and Deployment of the V-Force      |
| Air Cdre C B Brown                  | - A Station Commander's view                         |
| Professor Lawrence Freedman         | - Concluding Review – the significance of the force. |

Those planning to attend the seminar should complete the form enclosed with these Proceedings and return it to the Secretary AS SOON AS POSSIBLE.

**Tuesday 24 October, 1989. 1930 hrs.** Seminar: 'Leadership in War' to be held in the Whittle Hall at the RAF College, Cranwell, Lincs. This will be introduced by Mr Denis Richards and Air Commodore Henry Probert, who will speak along similar lines to those of their joint lecture of 13 March on 'Portal, Harris and the Bomber Offensive', thus leading into a discussion on both the bomber

offensive and the questions of leadership in wartime. The seminar will be attended by Cranwell staff and cadets and is open to members of the Society. Those members wishing to attend the seminar should check in initially with guardroom not later than 1900 hrs, and may if they wish make prior contact with the project officer, Squadron Leader Tony Gordon, on 0400 61201 ext 6312.

This will be the first occasion on which the Society has organised an event outside London, and the Committee hope that members in eastern England will endeavour to support it.

**Monday 5 March, 1990. 1800 hrs.** Royal Aeronautical Society, 4 Hamilton Place, London W1. Annual General Meeting. This will be followed by a lecture by Dr Philip Towle, Defence Lecturer at Cambridge University specialising in Air Power, on 'The RAF and Air Control between the Wars'.

**25 June, 1990.** All-day seminar on the Battle of Britain, to be held at the RAF Staff College, Bracknell, Berks, by courtesy of the Commandant. This event will also be attended by College staff and students.

The seminar will be chaired by Air Chief Marshal Sir Christopher Foxley-Norris, and the speakers will probably include Group Captain T P Gleave of the Battle of Britain Fighter Association; Mr Derek Wood, author of *The Narrow Margin*; Mr John Terraine, author of *The Right of the Line*; Dr Vincent Orange, biographer of Sir Keith Park; Mr Edward Thomas, author of sections of *British Intelligence in the Second World War*; and Dr Horst Boog of the West German Military Research Centre. A number of members of the Battle of Britain Fighter Association will also be present and there will be ample opportunity for questions and discussion. Full details will appear in the next Proceedings. Numbers may have to be limited, and to give the Committee some idea of the number likely to attend members are asked to indicate their intentions on the form for the October seminar elsewhere in these Proceedings.

**October 1990.** Discussions are in progress with the USAF Historical Foundation with a view to a joint seminar on RAF/ USAF co-operation. Further details will appear in the next Proceedings.

## EDITOR'S NOTES

May I thank all those who so kindly wrote or telephoned after *Proceedings 5* appeared. Most comments were kind and some were helpful – all were much appreciated.

A note from a reader in Germany indicates that the magazine *Flugsport*, originally published between 1908 and 1944, is to be reprinted. Further details may be had from: Herr Ing G Everwyn, Dachsteinstr 12a, D-8000 Munchen 82, W Germany.

139 (Jamaica) Squadron Association is holding a reunion on 30 September 89 at The RAF Club, Piccadilly, London. Details from: Alan Woolard, 4 Lord Close, Canford Heath, Poole, Dorset BH17 7QW.

A communication from the Royal Institute of Navigation is printed on p40. Any member interested is invited to write to the Institute, c/o The Royal Geographical Society, 1 Kensington Gore, London SW7 2AT.

Members in the South-West may be interested to know that the University of Bristol Department of Continuing Education is mounting a lecture series entitled *A Swift Agent of Government: The Royal Air Force between the wars*. The series starts on Thursday 5 October '89 and runs for another seven Thursdays thereafter. Each meeting starts at 10.00 and finishes at 11.45. The venue is the Avon Room, First Floor, Wills Memorial Building, (top of Park Street), University of Bristol. The fee for the series is £16. The tutor is your Editor.

## **PORTAL, HARRIS AND THE BOMBER OFFENSIVE**

**Air Cdre Probert:** Ladies and Gentlemen, our object this evening is to try to tie together two equally fascinating subjects – the Bomber Offensive, and leadership in war. We are going to look at two of the great commanders of World War II, men who had to deal very closely with each other, men of very different style and approach, and, at the same time, to look at a little of the controversy that surrounds that great offensive. To do that, Denis Richards, who is of course the biographer of Lord Portal, and also wrote what is still regarded as the definitive account of the RAF in World War II, is going to talk about the two personalities. I am then going to follow with a few remarks which will simply remind you of the main controversies that arose, and which still surround the bomber offensive. Then we will throw the floor open, I hope not just for questions, but for contributions from those who were involved. As Sir Freddie mentioned, we are particularly fortunate that Sir Hugh Constantine is here tonight – he commanded 5 Group in the closing months of the war – and Sidney Bufton, who was not only a group commander in the early part of the war, but Director of Bomber Ops in the Air Ministry for most of the rest of it. And there are, I'm sure, a number of other people who were actually involved, and I hope that you will give us a few of your recollections this evening. Without further ado, I will hand over to Denis Richards.

### **D Richards**

This is really a quick scamper through the careers of the two very impressive men with whom we are dealing tonight. Going to visit one of tonight's subjects in his very old age, I asked a butcher's boy in Goring-on-Thames the way to Ferry House. 'You want Sir Bomber 'arris?', he enquired brightly. This shows Harris and bombing have become synonymous in the public mind; but Portal and bombing? Well, nowadays, outside the limited circle of military enthusiasts, who has ever heard, regrettably, of Portal? Yet it was Portal who, with the War Cabinet's approval, initiated area bombing; Portal who persuaded the Chiefs of Staff to support the building-up of a great bombing force; and Portal who chose Harris for the grim task of laying waste industrial and administrative Germany. On that



same visit, I asked Harris what he thought was Portal's supreme achievement. Unhesitatingly, he replied, 'Without Portal, there'd have been no bombing offensive against Germany'. Well, it is my task this evening to say something of the experiences of these two men, of their personal relationships, leaving to Henry Probert and the general discussion the larger issues of our bombing policy or policies, and of its, or their, success.

So, beginning at the beginning, birth and family background. First, some similarities. They were more or less of an age, Harris born in 1892, Portal a year later. Both came from upper middle class families, Harris's father being an architect engineer in the Indian Civil Service, Portal's a qualified barrister with private means. Both were members of large families: Harris had three brothers and two sisters, Portal five brothers and step-brothers. Both went through the educational mill of their class: boarding school, prep' and public, from a very early age. Portal's family life, however, was very much 'richer' in every sense of the word, than Harris's. He came from steely Huguenot forebears, who had established themselves very well in their new homeland. Portal's grandfather having made a modest pile in the wine trade, there was enough money around for Portal's father to give up practising as a barrister when a young man, and to convert himself into a country gentleman, the owner of a large house in an estate of 400 acres near Hungerford, where he became a Master of Foxhounds, a Major in the Berkshire Yeomanry, a JP, and a general pillar of local society. Harris's father, by contrast, was a purely professional man, from a strongly military family, who spent most of his working life in India. Inevitably, this produced differences in the upbringing of the two boys, and probably in their characters. Harris, from the age of four or five, completely lacked family life. He was sent to a minor public school, All Hallows, Honiton, though his older brothers went to Eton and Sherborne. Separated from his parents, he learnt in his earliest years to be self-reliant, and, where necessary, combative, and very much his own man. At the age of 17, against his father's wishes, he insisted upon going out to Rhodesia to make his way in farming. Portal, always known in his family as Peter, from his shock-headed appearance at birth, was being educated at Winchester, like his father before him.

Unlike Dowding, he took Winchester in his stride. He was good at books, won his cricket boots, played against Eton, became fives champion of the College, and, a year after Harris went out to Rhodesia, Portal happily proceeded in his father's footsteps to Christ Church, Oxford, to study Law. In the holidays, he had the benefit of living among a family united not only in affection, but in tastes. The whole Portal tribe, including the mother, were mad on country sports. Peter soon became a fine shot, he had his first gun at the age of seven, he was a skilled angler, an ardent ferreter, and since, alone in the family, he had no passion for horses, he became a devoted practitioner of the ancient sport of falconry. Open air pastimes filled the lives of the Portals and the whole family atmosphere was one of intense masculinity, friendly rivalry and brotherly co-operation.

In the two or three years before World War I, Harris was trying to establish himself in Rhodesia. He worked, among other things, at gold mining, tobacco growing, livestock handling, shooting for meat, and running horse, mule and motor transport: all before finally getting a job as a farm manager. Meanwhile, Portal at Oxford was combining a leisurely study of the law with much strenuous beagling, falconry, and motor-cycle racing, in which he represented the University victoriously against Cambridge. Then, in August '14, came the call to arms. Both young men responded instantly. Harris sought service with the First Rhodesian Regiment – it had hardly any vacancies, but he got in as a bugler, an instrument which he could, in fact, play. Portal's translation to arms was even more swift. On vacation he heard there was a need for motor-cyclists; despatch riders. By the 6th August he was enrolled as one with the Royal Engineers. The war experiences of the two men were in some respects similar, in others, not. Harris began by marching enormous distances with his Regiment, in the process of expelling the Germans from South West Africa – the distances were so great that he vowed never, if he could help it, to walk a step again! When his African campaigns were over, he promptly volunteered for service in Europe, failed to find a place in the cavalry, or the artillery (he ruled out the infantry), but was told he might get into the RFC if he could learn to fly. A half-an-hour's lesson at Brooklands saw to that, and in November 1915 he received his commission as a Second Lieutenant.

Portal, meanwhile, had reached France within eight days of enrolling, and had spent a desperately dangerous time riding back and forth as the BEF advanced into Belgium, and then retreated from Mons to the Marne. He became so tired that on one occasion he fell asleep on his machine and rode into the back of Haig's staff car! His courage and enterprise were quickly noted, he was mentioned in one of French's early despatches, and within eight weeks he was commissioned and in charge of all First Corps' motor-cyclists. As soon as the Front stabilised, however, he found despatch riding less interesting, and he asked to be transferred to the RFC as an observer. His request being granted in July 1915, he joined No 3 Squadron. He had two days' training on the ground, and by the third day he was over the enemy lines observing, having never been in an aircraft before. Though both were now young lieutenants in the RFC, the two men spent the rest of the war in dissimilar roles. Harris became a fighter pilot, operating mainly in England against Zeppelins and later Gothas and Giants, but with two spells in-between in France. He rose to command squadrons, and finished the war as a major with an AFC. Portal, after six months as an observer, qualified as a pilot, served briefly with a fighter squadron, and then became an expert in artillery spotting and tactical reconnaissance. In the 11 months following the opening of the Somme offensive, he made more than 300 operational sorties, and received an immediate award of the MC. By mid-1917 he had risen to major, in command of No 16 Reconnaissance and Artillery Observation Squadron. It was at this stage that Portal, well in advance of Harris, first became concerned with bombing. His squadron, equipped with unhandy RE8s – not designed for any such role – was suddenly required to undertake night bombing. The order caused intense dismay among the pilots. Portal had two bombs slung under the wings of his aircraft, took off in the dark, landed with the bombs still on and repeated that performance twice over. RE8s, it seemed, could be flown safely with bombs on, and at night, and Portal continued to show his squadron how. On one night in January 1918, he made no fewer than five raids over enemy lines, and, on another occasion, he spent three and a quarter hours over enemy lines artillery-spotting by day, and during the following night carried out a bombing raid in blinding snow. He

finished the war at the age of 25 as a lieutenant-colonel, with a bar to his DSO, and having flown more than 900 operational sorties.

Thus far, four points are perhaps worth specially noting about this RFC period. One – Portal became a bombing enthusiast whilst Harris was still purely concerned with fighters. Two – Portal's war was spent in support of the Army, Harris's largely in independent air fighting. Three – both men became thoroughly attuned to operating by night and regarded the ability to do so as of major importance. Four – though both men did well, Portal's record was so outstanding that he quickly came to the notice of the percipient Trenchard, and was marked out for higher posts.

After the war, both men received commissions as squadron leaders. It was in 1923, when Harris was in charge of No 45 Squadron in Iraq during the Turkish incursion into Mosul, that he first made his mark as a proponent of bombing. He successfully adapted his troop-carrying Vernons for both day and night bombing, using a marking technique for the latter, and, moreover, showed a practical bent by inventing an electric truck for moving these cumbersome machines around on the ground. With this, two men could do a job which had previously taken sixteen. Back in England by 1925, he was then given command of a bomber squadron, No 58, on Virginias, based at Worthy Down. He insisted on intensive training by night, and later claimed that in his three years his Virginias did more night flying than all the rest of the world's air forces put together, and he soon had No 58 regarded as one of the crack squadrons in the Service. Harris's reputation at Worthy Down, however, was soon eclipsed by that of Portal, when he arrived on the same scene two years later. Since the Armistice, Portal had been successively Chief Flying Instructor at Cranwell, a student at the newly-founded RAF Staff College, and a squadron leader in Trenchard's air staff. In 1927 he was posted to Worthy Down to command No 7 Bomber Squadron on Virginias, a squadron which was then in a bad way. In next to no time he had it licked into shape.

In the very first summer it won the long distance bomber event, entitling it to lead the bomber fly-past at the Hendon Show, and in 1927 and again in 1928, an aircraft of No 7 won the Lawrence Minot Trophy for bombing accuracy. On each occasion the bomb aimer,

lying on his stomach, was the squadron CO, Portal. Like Harris, he revelled in night flying, and he once used his skill to score a notable victory over some Army colleagues during manoeuvres. They had insisted that tanks moving by night could not be spotted from the air. On an evening of bad visibility and blinding rain, Portal took up his Virginia, picked out a small armoured force with his Aldis lamp, and was still shadowing it nine hours later when dawn came. During the early 1920s, Harris served on the air staff in the Middle East, and commanded a flying boat squadron at home. It was perhaps from his maritime colleagues at this date that he acquired the most friendly of his numerous service nicknames – Bert, since in the Navy all Harris are, or were, ‘Bert’, just as all Clarks are ‘Nobby’.

Then from 1933 to 1937, he was on the Air Staff, mainly in charge of the Plans Deputy Directorate, where he succeeded Portal. Two of his enthusiasms here were significant to the future. He gave ardent support to the conception of the new ultra-heavy bombers specified in 1936, and he pleaded vigorously for the development of mines suitable for laying from the air. It was during this period that Harris, trying to disabuse his naval opposite number, Captain Tom Phillips, of the view that the fleet at sea had nothing to fear from air attack exclaimed in exasperation, ‘You’ll go on believing that until your own battleship is sunk beneath you.’ (That is, more or less, what happened to poor Phillips off Malaya in 1942!) From Plans, Portal had graduated to command at Aden, where he brilliantly demonstrated the success, or merits, of air control, in restraining recalcitrant tribes. Harris, who’d already had experience of this in Iraq, was to apply something similar with his ‘Air Pin’, as he called it, when he was AOC Palestine and South Jordan in 1938/39. It’s worth noticing that, in this post, Harris co-operated very harmoniously with the Army, as he was to do again in 1944.

Other positions with future significance held in the later 1930s included Harris’s command of No 4 Bomber Group, when Whitleys became designated as the main night bombing force; and Portal’s immensely productive spell at the Air Ministry as Director of Organisation, and subsequently Air Member for Personnel. Portal’s achievement there between 1937 and April 1940 was vital for the success of the RAF expansion, notably the part he played in the

creation of Maintenance Command, Balloon Command, initial training wings, OTUs, the RAFVR, the WAAF and the Commonwealth Air Training Scheme. And to this impressive list there is also to be added the acquisition, under his direction, of over thirty new main RAF stations at home and scores of satellites. With a seat on the Air Council as AMP by February 1939, Portal had more than maintained the professional lead over Harris that he had really enjoyed since 1919. By the time of his appointment to Bomber Command in April 1940, he was fast becoming, in Churchill's words, 'the accepted star of the Royal Air Force'. It was at this time that Harris, since the autumn of 1939 AOC of No 5 Bomber Group, on Hampdens, first came under Portal's direction. In the desperate summer of 1940, the Hampdens, for all their obvious weaknesses, did much good work in mine-laying and in anti-invasion bombing, and Portal was confirmed in his previous good opinion of Harris as a commander. Thereafter, he employed Harris consistently, until the end of the war. In November 1940, as soon as Portal became Chief of the Air Staff, he summoned Harris to the Air Ministry to become his Deputy Chief. Six months later, when Dowding proved a disastrous leader of our aircraft mission in the United States, and was recalled after representations by his colleagues. Portal sent Harris out to take his place. Harris got on well with the Americans, as he had done on an earlier purchasing visit, and as he was to do later and throughout the war, and he soon restored the effectiveness of the mission. Again in Portal's eyes, Harris had scored a success, and when a stronger hand than Peirse's was required at Bomber Command to launch a renewed and enhanced offensive, it was to Harris that Portal turned. As for the two men's conceptions of that offensive, I will only say that to begin with they were virtually identical. Both men knew well before Portal became Chief of Air Staff that unescorted daylight bombing was not on, and that if they were to hit Germany it would have to be by night. A few months of trying to bomb precise objectives soon convinced Portal that he would have to seek larger targets, hence area bombing, with which Harris enthusiastically concurred. I will leave Henry Probert to give details of any divergences that later arose, but one of the most obvious to my mind is that from Casablanca in January 1943 onwards, Portal saw the bomber offensive as part of the agreed

Allied strategy which would culminate in Overlord, whereas Harris went on hoping and believing that, with the co-operation of the US Army Air Force, the war could be more or less won by bombing alone. Another divergence, of course, is that Harris continued to pin his faith on area attack, after Portal had reached the conviction, in 1944, that a greater concentration on precise targets was becoming technically possible. A final word about their main personal relationships in 1942-45. As Chief of Air Staff, Portal was largely concerned with strategic and priority problems at Chiefs of Staff level, and he left supervision of the bomber offensive, and the issue of directives, to a DCAS, Bottomley, who was advised by the Directorate of Bomber Operations. Harris normally came up to see Portal once a week, but ceased to do so when control of the strategic air forces was vested in Eisenhower for the Overlord period. This period lasted from April to September 1944, but Harris did not resume his visits until January 1945, and in the interval the two men's thinking grew somewhat apart. On the whole, Portal tended to intervene personally only when points of disagreement occurred, such as the creation of the Pathfinder Force, Harris's delay in attacking Schweinfurt during 1943, the bombing policy to be adopted in the run-up to Overlord, and the amount of attention devoted to oil targets in the final stages. The last of these produced a record crop of correspondence in which each strove to convince the other with all the force of considered argument expressed in the written word. This period, during which Harris offered to resign, must have tried Portal's patience, and perhaps made him wonder again, as he had wondered during the Schweinfurt episode, whether he ought to replace Harris. But if he entertained this thought, he firmly put it aside. He was, in fact, convinced to the end that Harris, despite his objections to new Air Ministry policies, remained a loyal executant, and was the best man for the job. Portal certainly did not keep Harris in office because to dismiss him, as has been suggested, would have offended Churchill and upset Bomber Command. I once asked Dermot Boyle about this, Boyle having seen a great deal of Portal during the war. He replied: 'If Portal had thought that Harris was not doing well for the country, Harris would have been out in five minutes.' As for Harris, he never wavered in his belief that in Portal he had a superb chief. One of his favourite sayings, which he more

than once repeated to me, was ‘anything you could do, Portal could do better!’

At the end of the war, in a letter of reply to Portal’s congratulations, Harris generously, and perhaps a little pathetically, wrote: ‘If we had differences of opinion, they were not personal, and in the outcome you were always right on the things that mattered. The burden which you have so well supported far exceeded mine, but I am of the lesser stature. I regret indeed the occasions on which I have been crotchety, and impatient. Thank you for all you did for us and the country. Yours ever, Bert.’

The two men, so similar in their courage, their ruthless determination and their powers of command, were poles apart in many characteristics. Portal was invariably cool and judicious in outlook, equable and either charming or reticent as he felt fit. Harris was a man of exaggeration and strong partisanship. Normally friendly, but not immune as the war dragged on and his health declined, to spells of grumpiness. But together, as begetter and ultimate superior in Portal’s case, and as executor in Harris’s, they made a truly formidable combination. More than any other two men, they were responsible for the final weight and success of the British side of the great Anglo-American bomber offensive; the offensive without which the liberation of Western Europe could never have been achieved in 1944, or for many a year after that.

### **Henry Probert**

First, I suppose, was the question of whether to conduct a bomber offensive at all. Despite the pride of place that the RAF had given to the doctrine of strategic bombing between the wars, there was great reluctance to start bombing land targets until May 1940, when the German bombing of Rotterdam persuaded the War Cabinet to lift the embargo. And it wasn’t until the end of August, after the initial German bombing of London, that Bomber Command was first sent to Berlin. Yet, at that stage, the Force was so weak and facing so many problems that there were many doubts about the wisdom of committing ourselves to the offensive at all. And there is little question in my mind that it was Portal, well aware of Bomber Command’s shortcomings from his time as Commander-in-Chief,



who played a major part in convincing Churchill that the only way of taking the war to the enemy lay in Bomber Command. It was Churchill who said at that time, 'The fighters are our salvation, but the bombers alone provide the means of victory.'

Now by this time a second great issue, a tactical one, had been largely resolved, namely that Bomber Command would have to operate at night. The disastrous losses which were sustained in the daylight attacks on German shipping in late 1939 had demonstrated that, contrary to the expectations of peace time, the unescorted bomber was highly vulnerable to the enemy fighter. Until late in the war Bomber Command had no choice but to operate at night, with all the attendant problems. We must not forget, however, that one of the first things Harris did when appointed Commander-in-Chief in 1942 was to order a precision daylight attack on Augsburg, as much as anything in order to see whether raids of this kind were feasible.

The answer was clear enough, but the attack showed that Harris's mind at that stage was not closed.

After that I rather feel that any further words from me will be superfluous, but perhaps I ought to remind you, just briefly, of a few of the controversies that actually surround the bomber offensive, in virtually all of which Portal and Harris featured, and which throw much light on the characters and qualities of these two remarkable men.

Another question had been resolved shortly before that. In the latter part of 1941, thanks partly to the findings of the Butt Report, it had become clear that Bomber Command was finding and hitting very few of its targets, and there was pressure in many quarters for the RAF's efforts to be switched to other roles, notably the Battle of the Atlantic and Army support. For a number of reasons, including the difficulties of switching resources from the bomber programme, the need to give visible support to the Soviet Union, and the desire to ensure that the Americans would commit themselves primarily to the European war, the pressure was resisted, and in this strategic debate Portal played a key role. Then, having won on the policy issue, he had to find a man to direct the campaign, and, as Denis mentioned to us, he chose Harris.

Now this led, of course, to a further great question – that of targeting policy – one that was to continue in one way or another for the rest of the war and would cause increasing divergence of view between Harris and Portal, with certain members of Portal's staff closely involved. To begin with, however, all were agreed that the only effective way of hitting Germany was by bombing large urban centres, since these were the only targets that Bomber Command had a reasonable chance of locating by night with the techniques then available. So area bombing was built into the official directives from early 1942 until mid-1943, and many successes were achieved, most notably Cologne in May '42 and Hamburg in July '43.

But as time went on, voices were heard urging greater concentration on targets thought to be critical to the German economy. The ball-bearing industry, largely concentrated in Schweinfurt, was an obvious example. The Ministry of Economic Warfare had a considerable hand in this, and the Air Staff too believed that such a policy would have its merits. But Harris was strongly opposed to what he termed 'panacea bombing'. Not only did he think it tactically unsound, but he simply did not believe that the German system was vulnerable in the way being suggested. For Harris, the most effective way to cripple Germany was by maintaining and increasing the all-out attack on her main cities, since these represented target systems, comprising such things as power, transport, industry, government and morale – all of them military objectives. Consequently, he opposed not only 'panacea bombing', but also the diversion of his bomber force to other targets outside Germany, notably warships and U-boat bases in France. For him, attacks like those represented a diversion of effort from the essential aim of the bomber offensive, and would merely prolong the war. For Portal, on the other hand – and we must remember that he had to be responsive to the views of the War Cabinet and the other Chiefs of Staff – Bomber Command possessed a flexibility that enabled it to be used in many different ways, as the changing war situation required. So Harris had to do what he was told, though he didn't much like it. Nor did he like being told to set up a separate Pathfinder Force. While he came to recognise the need for specialised units if his bombers were to find and hit their targets properly, he wanted them

to be set up within the existing organisation, whereas the Air Staff believed that the special skills needed could only be fully developed in a separate formation. It was Portal, again, who had to insist.

A further divergence of view emerged over Operation Overlord. Harris had remained convinced that, given total concentration of Bomber Command and the 8th and 15th United States Air Forces on the strategic offensive, bombing could still win the war on its own. On the 3rd November 1943, with the winter offensive against Berlin about to begin, he had written to Churchill: 'We can wreck Berlin from end to end, if the USAAF will come in on it. It will cost between 400 and 500 aircraft; it will cost Germany the war.' But by this time, the Western leaders had given up all thought, probably correctly, that bombing alone could win the war, and were totally committed to Overlord. So Portal had to tell Harris that his command would be required to switch its main effort to the direct support of the invasion and, from April to September 1944, Harris had to take his orders, through Tedder, from Eisenhower. Reluctant though he was to accept this arrangement, once the decision was made he threw himself wholeheartedly behind it, and Bomber Command made a superb contribution to the success of the campaign, earning the unstinted praise of the Supreme Commander.

I always think it is a pity for the reputation of Bomber Command that the war did not end then, for the closing months of the war saw a major dispute over its policy, and some of its operations – notably, but not only, Dresden – have been bitterly and often unfairly criticised. Bomber Command was now back under Portal's direction, and the directives now stipulated that the first priority for both the British and American bombers was to be oil targets, since all the evidence indicated that this was the Achilles heel of the whole German war effort. At the same time, it was accepted that other targets would have to be attacked from time to time, not least because of tactical considerations. So, over the winter months, while some of Bomber Command's effort was devoted to oil, a lot of it was spent on other types of objectives, including a substantial number of area targets. And while this went on, there was the long and sometimes acrimonious exchange of correspondence between Portal and Harris that Denis has mentioned. Portal clearly felt that Harris

was not laying sufficient emphasis on oil, and judged that this was because Harris did not believe in its over-riding importance as a target. Harris, while admitting that he was not personally convinced about oil – it was for him yet another panacea – argued that he was doing his best to obey his orders, but that operational factors such as weather, surprise and tactical routing made it essential to vary his targeting. Eventually, on 18th January, he concluded one of his letters as follows:

‘You intimate that I have been disloyal in the past, in carrying out to the best of my ability (within the limitations of my resources, the climate, and in the press of other calls from the many whom I now serve) policies which have been laid down. That I absolutely and flatly deny. True, indeed, I have had no faith in some of these policies, as I have none whatever in this present oil policy, or in any panacea. I have always made a point of speaking up my doubts on such occasions, as I do on this. I regard it as my prime duty, when doubt exists. But I have not failed in any worthwhile efforts to achieve even those things which I knew from the start to be impracticable, once they had been decided upon. In this decision on oil I was given no prior opportunity to represent my views. But I have in fact risked, luckily so far with success, weather conditions which I would not have faced in ordinary circumstances. I will not willingly again lay myself open to the charge that the lack of success of a policy, which I have declared at the outset, or when it first came to my knowledge, not to contain the seeds of success, is after the event due to my personal failure in not having really tried. That situation is simply one of ‘heads you win, tails I lose’ and it is an intolerable situation. I therefore ask you to consider whether it is best for the prosecution of the war and the success of our arms, which alone matters, that I should remain in this situation.’

Portal’s reply, dated 20th January, ended in this way:

‘I willingly accept your assurance that you will continue to do your utmost to ensure the successful execution of the policy laid down. I am very sorry that you do not believe in it but it is no use my craving for what is evidently unattainable. We must wait until after the end of the war before we can know for certain who was right and I

sincerely hope that until then you will continue in command of the force which has done so much towards defeating the enemy and has brought so much credit and renown to yourself and to the Air Force.’

So here we have the climax of the debate, and one is left to consider whether, as some critics such as Max Hastings have argued, the differences were so fundamental that Portal should have relieved Harris. Personally, I agree with Denis – I think that he was right not to do so, bearing in mind Harris’s status, his great achievements, and the war situation at that time. But rather than enlarge on this issue right now, I think it is about time we heard the views and recollections of our audience, on the various matters that Denis and I have outlined.

### **Air Vice-Marshal Bufton:**

There are a number of points which have arisen from these two very excellent summaries of what happened, and possibly the first is to deal with the Pathfinder Force. In the middle of 1940, pilots or crews went out as individuals, and flogged their way across to the Dutch islands, hoping to drop flares and get a pin-point, they would continue to the Rhine and then hope to do a DR run to the target: and they had about eight or twelve flares to do the job with. I started bombing in July 1940, when oil was the primary target system, and we went to the Ruhr quite often, and the general complaint about the Ruhr was that there was a lot of haze. So I asked about the flares, and I found that we just had one mechanical fuse, which opened the flare at 4,500 ft below the aeroplane and as we were bombing between 12 and 10,000 feet in possibly two runs, obviously the flare opened above all the haze, so it was bound to look hazy. The first thing to do, therefore, was to get a barometric fuse for the flare, and the second thing was to get a hooded flare, and all this was put into train and eventually came to fruition well before Bert Harris arrived as C-in-C Bomber Command: excuse me calling him Bert Harris, everybody did. When I got to the Air Ministry on 1st November 1941, the Directorate of Bombing Operations, after a lot of study on the results of the German bombing, particularly of Coventry and places like that, had come to the conclusion that incendiaries were ten or more times as effective as high explosive, especially the high

explosive we had then, which was primarily iron, old iron. So my deputy, Arthur Morley, went round various stations briefing people on the merits of incendiary attack and, with the help of the Home Office, Lubeck and Rostock were selected as experimental targets. When I arrived, the question was how you got the incendiaries in the right place, so I had written a paper on the mass use of flares, daylight bombing at night, and the two things were tied up into a target-finding force. We didn't know how many flares could be carried so we rang up Bomber Command and they said that by bundling the flares in threes, and by putting them on the bomb hooks, they could get 30 on to a Wellington and 100 onto a Stirling. So papers were written and sent to Bomber Command, suggesting that a force be set up to try all this out. That was before Bert Harris arrived, but the acting C-in-C said he'd better wait. So when Bert Harris arrived we started to try and persuade him. Within a few weeks (he arrived on 22nd February) he called a conference at Bomber Command at which all the group commanders and the SASOs were present, and DB Ops (John Baker) and myself were invited down. We had a talk with the C-in-C before lunch and he went through the *corps d'elite* arguments and so on, and said, amongst other things, that if you collected into a Pathfinder Force some of the best crews from various squadrons, they would lose their possible chance of promotion. This shook me, having two brothers who had been shot down and having been pretty well shot down myself, so I banged the table and said, 'Sir, you will never win the war like that, these people don't know if they will be alive tomorrow and they couldn't care less about promotion.' So he looked at his watch and said it was time for lunch, and off he went. We reassembled after lunch and Bert came in and said, 'I called this conference to discuss the very emotive subject of a target-finding force.' He said, 'I was almost assaulted in my office over this matter this morning, but nevertheless, I would like your opinions. I need hardly tell you that I am totally and fundamentally opposed to the idea, but I wouldn't mind hearing your views.' So when a vote was taken it was sort of 100% and we all went back to the Air Ministry with our tails between our legs.

The next morning I was about to go into King Charles Street when a Bentley pulled up in a screech of brakes, and Bert got out and I stood

back and saluted, and he said, 'Good morning, Bufton, what are you going to do to me today?' I said, 'Well, I didn't plan to do anything, Sir.' He said, 'Well, walk upstairs with me. I'm going to see the CAS.' And he said, 'Well, if you've got any ideas, write to me, please write to me.' Anyway this gave us a lead, and we very quickly ran downstairs and wrote him a three-page letter about the Pathfinder Force, and he kindly replied and there were about three or four of these letters. I was standing in for John Baker one Saturday morning, pondering the problem of the Pathfinder Force, when the door opened and Sir Wilfrid Freeman put his head around the door and said, 'Good morning, Bufton, any problems?' I said, 'No, Sir, not really, except we are not making a lot of progress with the Pathfinder Force.' He said, 'Have you got any correspondence on it?' and I said, 'Yes, Sir, I have a big folder.' He said, 'Could I borrow that?', so I said, 'Yes, Sir', and he said, 'Well, I'll go and read through it and give you a ring.' About an hour later, the telephone rang, and he said, 'This last letter, have you had a reply to that?' I said, 'No, Sir.' He said, 'Do you know why?' and I said, 'No, Sir', and he said, 'Because there isn't a reply. You've beaten Bert at his own game' (which was writing letters) and he said, 'CAS will be in on Monday, we've got to have a Pathfinder Force and I'll talk it over with him.' So on Monday the telephone rang, and I had to go and see the CAS, and he said he fully agreed, we had to have one and he had arranged for the C-in-C to go and see him on Tuesday, and could I please in the meantime let him have an order of battle for the Pathfinder Force, and who was to be in it and who was to command it. This duly appeared and he had it when the C-in-C arrived the next day. As a matter of interest, we had recommended Basil Embry as the Commander and Don Bennett as his SASO. I didn't know Don Bennett but everybody knew about him and his great feats across the Atlantic and when I got to Bomber Ops, they said that Don Bennett had been in and he was going off to a navigation school. So I immediately rang up 4 Group and said, 'Whatever you do, get hold of Don Bennett, because he would make an ideal Squadron Commander' and sure enough, in no time at all he was in 4 Group. The next day CAS asked to see me and he said that he had seen the C-in-C, who had said the Pathfinder Force would only be formed 'over my dead body'. So CAS said he had told him to go and sleep

on it and see him again tomorrow. He duly came and agreed to accept the Pathfinder Force. So that is the brief background. We went ahead with hooded flares, and bundling them to get flare illumination, and the first real Pathfinder operation was against the Renault factory at Billancourt, where mass flares were used on the target, which could be seen from the French coast, and the attack was really highly successful for those days.

Then, the next stage was to find a marker bomb, and there were all sorts of suggestions. Chitties used to arrive along the corridor with various letters that had been written to the Prime Minister and so on, but none of them seemed to work for various reasons, but on 8th/9th March the first Gee raid took place and the next morning we had the solution – a stick of incendiaries. A full stick of incendiaries was about 200 yards wide and just over half a mile long and, as everyone knows, you couldn't mistake it. It was a matter of scale, the marker bombs had to be big enough, they had to be aimable and we had to be able to colour them to avoid simulation. A quick visit to MAP led to the idea of putting incendiaries into 250lb bombs so that they could be dropped accurately, instead of being dropped like matchsticks. Moreover, since one couldn't colour incendiaries, pyrotechnic candles could be substituted for them. The next morning we got the staff working, and soon 32 cases were prepared and tested at Boscombe Down on 30th June; the results were simply fantastic. The whole of the requirements of the Pathfinder Force were then potentially available for the C-in-C long before the Pathfinder Force was formed, I think on 18th August. So that is briefly the story.

Don Bennett had his difficulties getting the personnel and so on, and there were many difficulties thereafter, but we had a direct SOS system of feeding the Pathfinder Force with any pyrotechnics which could be produced by the MAP, feeding them direct. Incidentally, we produced a new directive on 14th February 1942, which was before the C-in-C arrived, and that cleared up any question of the right of Bomber Command to bomb built-up areas. There had been times when you had to bring your bombs back, and so on. But this directive made it quite clear that area targets were admissible, but it also made it quite clear that the aim, when the Pathfinder Force developed, was to go for precise targets. The targets in this directive



were area targets within the range of Gee, specific targets within the range of Gee, and the same thing beyond the range of Gee, which was, I think, about 350 miles from Mildenhall. All the pre-war targets were precision targets, and we ended the war with exactly the same precision targets as we had started, that was oil and transportation. In between there was this long period when the C-in-C Bomber Command disregarded any specific targets and concentrated on area targets. The Eaker Plan, or the Pointblank Plan, for which we all sat down with the American analysts, MEW, and the American operators and DB Ops' people, was again for specific targets, with Bomber Command doing what it could to back up the specific targets which the Americans were going to attack by attacking those industrial areas which included the specific targets: ie aircraft targets, ball-bearings and so on. The trouble was that, in my opinion, and in everybody's opinion, I think, the C-in-C had no intention of going for specific targets. He didn't like panaceas because he had his own panacea, which was to attack built-up areas. The unfortunate thing was that it had no impact on the German war effort. When I say no impact, very little impact that one could quantify. Our worst hit target was Coventry and that was back in full production, judged by the power taken out of the national grid, in one month, and estimates for Hamburg, which was probably the worst hit Bomber Command target, were that it was back to 85% production in six weeks. So supposing the C-in-C could attack four area targets a month, it meant there were only two built-up areas out of action at any one time, assuming a straight line recovery. He therefore had no hope of winning the war by bombing area targets. He did say that if the Americans would come in we could end the war, but the Americans wouldn't come in because they wished to go for oil, and from what I can see from the US Bombing Survey, the greatest impact the Bomber Command made, for only a short period, was a reduction of 14% in Germany's gross national product, whereas it was necessary, according to MEW, to achieve over 30% for a long period. So that was the background to the area bombing programme, or situation, because it was never a programme. If it had been a target system with any merit, it would have been included in the Pointblank Directive, but it was never even considered because everyone knew it was not on. As to the relationship between the CAS

and C-in-C, there is not the slightest doubt in my mind that if the CAS had decided that Bert Harris had to go, he would have been out in the proverbial five minutes. Portal was a man of immense courage and integrity.

### **Group Captain Ken Batchelor:**

I would like to suggest to Air Marshal Bufton that, had the Pathfinders been formed in 1940-41, we would have been no better off. They had the benefit from 1942 onwards of the various aids such as Oboe and H2S. I don't want in any way to decry the efforts of the Pathfinder Force, they did a very effective and essential job (I did the whole of the Pathfinder course myself with a view to going to Italy, but that evaporated), but they were an expert marker force and I wouldn't say that in the early days they saved the day.

### **Wing Commander Dowling:**

I am delighted to hear that GH has at last been mentioned. For all the stuff that one hears about normally in Bomber Command and all the marvellous jobs that were done, GH, which perhaps had one of the biggest effects on the accuracy of the bombing in the last year of the war, is never really mentioned, and I am beginning to wonder if it was a figment of my imagination due to the passage of time. The argument as to whether it worked, and to what extent it was accurate, scarcely need take place when you remember the awe in which we held the Pathfinders' groundmarkers, just as we did the crews – after all they were nearly all second tourists or more, and they spent their time footling about down below in the most dangerous possible exposure area between 10,000 and 5,000 feet dropping the markers for us to be able to hit the target. When GH appeared it was like magic. The conversion course was two days, and in my case I missed the first day because they forgot to tell me; one did eight runs with Ely Cathedral as a target, and another eight runs on an undisclosed site in a field somewhere, and converted to 20,000 feet. The average error you were permitted was 70 yards, and you didn't require any further training after that. You then had two yellow bars painted on the rudder of the Lanc and you were a GH leader. And a GH leader was given two non-GH aircraft to fly in the No 2 and 3 positions of the Vic and the whole stream was made up of these Vics of 3

aircraft. I am talking now about the daylight raids – you couldn't do it at night, at least not in the same way, because they'd all hit each other! The GH pulse was so accurate and so easily identified that an error of 11 yards was noted and an error of 100 yards during the run-in required a 2 degree alteration of course. Now the only way to work with a bunch of aircraft with that sort of accuracy and only one pulse, only one electronic pathway for them to travel on, was to put them in line astern. So the 3 Group formation consisted of as many aircraft as you had got, divided by three, and that was the number of Vics you had starting from 20,000 ft and stepped down to about 18,000, and then if you still had some more aircraft it started again at 20,000. Anybody who didn't find his right place in the formation, or for some reason or other was late, or lost, or his machinery wasn't working, then all he had to do was to find a Lancaster with two yellow bars on its tail, draw up alongside, and just watch him. When he opened his bomb doors, you opened your bomb doors, and you put the switch on immediate; the moment you saw the bombs start to fall you pressed the button and your bombs fell as well and everybody was happy. When the day finally came, when the almost legendary Pathfinder ground marker was made available to us, we weren't Pathfinder crews, we knew nothing about it really except that it was a ridiculous job for anybody to do, and we found that the Pathfinder bombs, the ground markers, were distributed amongst the aircraft of the squadron. I believe the other squadrons in the Group – I was with 115 at Witchford – were the same as us. So all of a sudden, this almost mystical, horrendous ground marker thing was distributed throughout the whole force, and ordinary run-of-the-mill bomber pilots like myself were suddenly GH. It was read out in the briefing; you were listed as a GH leader and you would carry one, two or three ground markers, and they would be spread out throughout the whole force. So that really was the end of the Pathfinders. The question that we often asked was, since our bombing was now clearly so accurate, why did we want the ground markers at all?

### **Sir Hugh Constantine:**

I spent six years in Bomber Command in about seven different appointments, finishing up as a Group Commander in the last year of

the war. The first thing I would like to say is about the two leaders. I only met Air Marshal Portal towards the end of the war, and I recall going to see him when he lived down near the south coast – he told me he had put in an application to put an extension on his house and the local council had turned it down. That is something for a great war leader, isn't it! Well, turning to Bert Harris, I think he was an extraordinary man, and it would have been a great mistake ever to have taken him away while he was in charge of Bomber Command. The morale of the Command would have sunk very, very low, because for an extraordinary reason, he was really loved in the Command. The first time I met him was when I was SASO of 1 Group in 1943, having been commanding a bomber station at Feltwell for a year and a half during the Wellington, Halifax, Lancaster stage, and my AOC said to me, 'The Commander-in-Chief is coming down'. He was doing one of his infrequent visits, coming down from 6 Group in the north, and then 4 Group, and then 1 Group. I was just a newly-promoted air commodore, and my AOC said, 'Well, the Commander-in-Chief is coming, will you go down and meet him? He is probably driving in his own Bentley and you will certainly know when he arrives because he drives very fast.' Well, sure enough, 12 o'clock, there was a rush of brakes and in through Bawtry Hall came this Bentley and its sump hit the thing sticking up holding the gates together, which was about three feet high, with a hell of a crack. He pulled up in front of me (I was at the salute as a young air commodore), and he said, 'Get that bloody thing removed before I leave or you have had it!' We took him up and he met us all for lunch, and I realised at the end of the lunch that he was certainly human, but that was my first experience of him. After a year at 1 Group, my AOC had me up and said, 'Commander-in-Chief wants you down at Bomber Command, he has expressly asked for you, and what's more, you're to go tomorrow.' So I went down there, and I thought, well this is very odd; I didn't even think he knew me, but I thought that as he had asked for me, he might have me in the office and welcome me. Well, a month later, he hadn't even seen me, and I thought that was a little bit odd – I'm only making these remarks because he was an extraordinary man. Anyhow, I spent a year at Bomber Command with him in 1944, with Saundby, Walmsley, Digger Kyle, Dennis Barnett and John Searby.

When you were on duty at night, as we were quite a lot, Bert never went to sleep until the last bomber got back, and I remember on the worst evening when we lost 90 Lancasters, I think it was Nuremberg, that at 3 or 4 o'clock in the morning the officer on duty had to report and give him the result. He was, in my opinion, a great war leader; he was really fighting a battle every night when the weather was fit. He came down into the office at 8.30 in the morning, sometimes with General Eaker, and he would listen to the weather, decide what the target was, and get his staff to send out the instructions to the Groups, etc. He seldom visited the Command; how could he? He was fighting his battle with Whitehall, writing endless letters to Portal, Churchill, and the rest of them. He didn't get a chance of coming down, and yet, the crews somehow understood him, and Station Commanders, Group Commanders, were right behind him. In my humble opinion he was the greatest war leader of the lot; maybe you think I am a bit biased because at the end of 1944, for a short stage, I worked directly with him when Saundby and Walmsley were away. I remember working for a pretty long time and getting home to a place I was living just near Bomber Command, and I had just got into my pyjamas and gone to bed, and my wife said, 'I think it's the telephone.' It was Bert Harris and it was snowing, Christmas 1944. He said, 'I want you to come and see me,' and I prevaricated a bit and said, 'I've just got to bed, Sir.' He replied, 'Did you hear what I said? Come and see me and bring your wife.' So I thought, it's not going to be a rocket, it must be something else. So I got dressed and drove to Springfield, and there was Bert in his green dinner jacket and Jill alongside him. Jill took my wife aside and I went into the office with Bert, and he said, 'I want you to take over 5 Group tomorrow.' Well, as a young air commodore, that was the last thing I expected! He said, 'Can you do it?' and I said, 'Well, it's a great honour, and thank you very much, Sir.' At that point he was just appointing younger commanders, and the Air Ministry had been trying to send more senior officers than I was, and Bert said he wouldn't have them. At that stage of the war he wanted to bring up young commanders who had been in the racket for the whole war, and there I was! So you can imagine, I was fairly pleased, and I went up to 5 Group, to take over from Cochrane. The Group was in marvellous form with its own marking force – and that was

something which, incidentally, did help the planning from Command – you had the Pathfinder Force under Don Bennett, and you had a separate force with 250 Lancasters and our own marking force. So he merely sent a target down, whatever the effort was, and we got on with it. And, incidentally, Dresden. Sam Elworthy was my Senior Air Staff Officer, and we simply got a signal ‘Dresden – Maximum Effort.’ Now to those of us who had been in the Command, the name Dresden was no different to Hamburg, the Ruhr, every other target we had had throughout the war. I remember not taking the slightest notice – we merely got on with it and put the whole force onto Dresden. War is a nasty business, always has been, and all kinds of people get killed, and when you get involved in it, at Group and station level, you merely get on with your job. We weren’t really involved very much in what Sidney Bufton has been talking about at the higher level at all.

**Anon:**

I have always been annoyed by the people who decried Bomber Command after the war. When Air Marshal Bufton started his tour of duty, I was already safely ensconced in the safety of Germany, so I saw the whole effect of the bombing of Germany from inside Germany. And from the end of 1940 up to the end of the war I was in regular communication with MI9 reporting on German morale. Now the Germans were scared stiff of Bomber Command, but they were a damn sight more scared of the SS and the Sicherheitsdienst. They were the ones that got the towns together again in 84 days, or whatever it was.

**Tomlinson:**

I was Sir Arthur Harris’s personal assistant briefly when he was AOC 5 Group and, because people are rather inclined to look upon him as a very severe man, I would like to quote one anecdote. I went up with him to Rose Brothers in Gainsborough, who were going to make – very unofficially, and not through the usual channels – a special gun mounting for the lower position of the rear gunner on the Hampden, and a gadget for cutting balloon cables. And while we were there we were shown an enormous machine which was designed to packet tea and was going to go somewhere on the

Continent, but it was held up because of the war. They demonstrated this with great pride, and they demonstrated it with sawdust because tea was rationed. The machine took in tea, silver paper and a beautiful label, and it all came out in packets. When the visit was over they handed Sir Arthur a ceremonial packet with tea in it. But Sir Arthur said could he have one with sawdust, and he was given one with sawdust; when we got home he presented it to Lady Harris and said it was something very, very special and should be kept for the Duchess of Gloucester's visit! She was naturally very grateful. I'm afraid I wasn't there at the tea party, though I would like to have known what happened.

**Sir Freddie Sowrey:**

Ladies and Gentlemen, I think that this evening, after the AGM, is what the RAF Historical Society is all about. Here you have had superb coverage of two of the greatest wartime leaders, done in an analytical but factual way to give us the advantage of the scholarship which has been applied to it, which would otherwise have gone unrecorded. May I thank, on your behalf, the two speakers, and particularly those who have taken the trouble to come in this audience tonight to give us the benefit of their recollections.

**Footnote from Henry Probert:**

Having listened with great interest to Air Marshal Bufton's contribution to the seminar and then read the transcript, I have since checked one particular statement that surprised me at the time, namely that within six weeks of the bombing of Hamburg in late July/early August 1943 production was back to 85% of normal. The historical evidence indicates that the effects were in fact considerably greater: Webster and Frankland, the official historians, state among other things that for the first month production was halved, and Martin Middlebrook, in his recent study of the Battle of Hamburg, quotes the general conclusion of the US and British Bombing Surveys that the bombing caused a loss of war production equivalent to the normal output of the entire city for 1.8 months of full production; output returned to 80% of normal within five months.

This conclusion is confirmed by the local German war historian, Dr Werner Johe, who summarises the physical effects of the bombing of

Hamburg as follows: 'War production was directly affected: evacuation and flight reduced the quantity of available manpower; destruction of communications and breakdown of the transport system prevented workers from getting to their factories and reduced considerably the *per capita* productivity. Destruction of industrial plants contributed to the same effect. Moreover, large parts of the available manpower had to be assigned to clearing and salvage work for weeks. In December 1943, 24% of the required manpower was still lacking, and productivity was down to 80%.'



## **THE BERLIN AIR LIFT 1948-1949**

### **Introduction: Sir Frederick Sowrey**

Today we are extremely fortunate to have, almost as joint Chairmen, John and Ann Tusa. He is, I am sure, well known to many of you by his face and his manner, if not in person. They both met at Cambridge where they read History: John has in fact followed a career in radio and television, ending with Newsnight, Timewatch, and is now Managing Director of the BBC World Service. Ann, apart from bringing up a family, guides her husband and is in the body of the hall, and is the principal author of last year's published book *The Berlin Blockade*, which was timed to coincide with the 40 years of the start of the operation. It is the operation which we are discussing today. We have a marvellous list of speakers who have participated and who have guided and are prepared to speak on the implications and the outcome. We have, I hope, in the audience those who in fact took part in a number of ways and it is your views and your anecdotes and your expressions of how it was from your particular angle which we would rather like to hear in the discussion period and afterwards in the question period. John Tusa will chair it all and there will be no interjections from me or any of the other Committee members.

### **John Tusa**

Thank you very much, Sir Freddie. It is a marvellous time to have this seminar so soon of course after the 40th Anniversary of the success of the airlift and the formal lifting of the blockade and this was very much sharpened in our minds by the experience of going to Berlin about a fortnight or so ago for the 40th Anniversary of the ending of the blockade, and two or three things stuck out from that. First of all, how much the event is still alive in the minds of many West Berliners; then, how much importance is attached to it at a diplomatic level because all three Western Ambassadors flew up from Bonn for the celebrations and made two speeches in the course of the day which were very carefully listened to, and there was no doubt at all about the continuing diplomatic and political significance of West Berlin and of course the process by which West Berlin's position today was first established. There was a very nice moment

of symbolism when the *Berlin Magistrat* gave a reception in the evening and it was in the grounds of the Ernst Reuter Power Station – just in case there is anybody here who doesn't pick that up, the fact was that it was that power station which was built as a result of the British achievement in the airlift and it was nice to see the good historical judgement in choosing that place as one of the sites for the celebrations. And what was extremely moving was to meet the widows of the British dead in the airlift and to meet two children who of course had never known their fathers, and it made a very graphic, and a very vivid, and a very moving occasion, which had both the political and the diplomatic and the personal dimension to it. There was a moment of irritation, I suppose; as you go into Templehof Airport, or Templehof Air Base as it now is, you will see a plaque to Lucius D Clay; nobody would want to downgrade the role or the personality of Lucius D, but he is described as the architect of the airlift, which is rather overstating the case and we did feel, driving around Berlin, that though there is a Clay Allee, there is no Robertson Allee, and that is a great shame. However, we felt at the end of all this that, although there is continuing British sensitivity about the respective roles of the British and the Americans in the airlift, it's perhaps as well to say this as a beginning, there really are no grounds for this sensitivity; the British contribution, after all, in terms of tonnage was at least in proportion to the size of the respective countries and rather above the proportion that you might have expected from Britain in relation to GNP. We did carry the awkward loads; we were responsible for the even more awkward and dangerous 'wet lift'; we did undertake the somewhat eccentric task of getting the private fliers organised as part of the airlift – and if there are any private fliers here or anybody who had to run them, I'm sure we would like to hear from them in the course of the discussion. I think, reading through the files, there is no doubt that this was one of the more aggravating parts of the entire airlift. Nevertheless, it did its job and of course the British carried the backlift, built and ran the forward airbases, seven out of ten of the airbases and, let us not forget, as I know that Frank Roberts will point out, the all-important matter of political will and the way in which that political will came from Ernie Bevin – and without that political will, would any of the rest of it have happened?

So today's seminar, concentrating as it inevitably will on the British effort, rightly will do so but, I know, without any overlooking of the scale of the American effort in sheer tonnage. This is not also, if I can suggest, an academic subject. It is very easy, especially with Gorbachev visiting West Germany at the moment, to think of another airlift, another blockade, as something which is so far beyond the realms of the politically possible that we can rule it out. I think, three or four months ago, nobody would have forecast what was going to happen in China and what has happened in China in the last five to six weeks (**PS** *This was a reference to the Chinese Government's brutal suppression of prolonged student demonstrations in Beijing's Tiananmen Square in June 1989. Ed 2007*) and I think it is terribly, terribly easy to assume that, especially with the spirit of *Detente* and *Glasnost* in Eastern Europe and the new atmosphere in Europe, that this is a straight line progression and it seems to me that, as in economics, so in politics, events do not move in straight lines, and China has shown this with a really brutal and terrifying reminder. So, Berlin remains exposed; Berlin remains an anomaly, and the discussions that we have here today of course have the historical significance, but who knows that they might not have a forward political significance as well?

I will end these introductory remarks by saying that the timetable which the airmen kept to during the airlift – and many of you here kept to that airlift and maintained the timetable – was strict and disciplined and to the minute, and if it wasn't, you weren't allowed to go round and have another go, you were sent back to base. I think it's reasonable that all our speakers, having been allotted tight but fairly generous times, should realise that when their time is up, they also will be expected to return to their base and will not be allowed to have a second go at their approach. So, as a small gesture of personal self-discipline to the fliers – it is 10 past 3, which is what I was allocated – I now am very happy to introduce Frank Roberts as our first speaker. Many of you will know Sir Frank as former British Ambassador in Bonn and Moscow; he was in the thick of events during the blockade and the airlift; he was Ernie Bevin's Private Secretary and he had the unique and extraordinary experience of

negotiating directly with Josef Stalin. So Frank Roberts will begin with the political background to the blockade and the airlift.

### **Sir Frank Roberts**

Well thank you very much, John; I do have the advantage that I do come back again later in the day, but again under strictly disciplined arrangements. I'm glad you explained that I was Private Secretary to Ernie Bevin because on the programme I might have been elevated to Parliamentary Private Secretary; that I certainly wasn't. It's not very grand in politics, but it's grander than being an official Private Secretary.

Just to set the background; I think it's very important to remember that for a year and a half after the war, and Ernie Bevin was Foreign Secretary throughout that time, with his great anti-Communist reputation, that both the Americans and the British did work hard at trying to work with the Russians. We didn't at once, the minute the war was over, say, 'the Russians are no good and we've got to work against them', and Bevin didn't do that because of the left-wing of the Labour Party – he paid very little attention to them, by and large – but because on the whole it was thought that this effort should be made to see whether, in peacetime, one could work with our rather difficult, but nevertheless extremely important, wartime allies. And Bevin took it even so far as – in the early summer of 1946 – to propose to the Russians a 50-years' alliance to take the place of our wartime alliance. And the Americans – Truman, but carrying on the Roosevelt policy – were even more strongly engaged on that tack. I say all this because there have been historians who have tried to suggest that the Cold War was entirely the invention of the West and that the poor Russians were the victims of it – not at all, we tried hard to work on Potsdam agreements in Germany. But by the autumn of 1946, it had become pretty clear both to the Americans and to ourselves that what was then the absolute priority in Germany and in Western Europe, which was to build up the economic position (which was extremely bad at that time), that we couldn't hope to do that in collaboration with the Russians. We had tried, but it hadn't worked. It wasn't entirely, I think, original sin on the part of the Russians – quite frankly, they interpreted things like democracy and

elections in an entirely different way – and they thought that Potsdam gave them certain things which we didn't think it had given them; they were very genuine – given the fact that Stalin was on one side and we on the other – very genuine disputes. But, anyway, by the autumn of '46, it was quite clear to Bevin, who was very interested in economic affairs, that one could not build up either Western Europe or the Western part of Germany on the basis of co-operation with the Russians. So we had to go – and the Americans reached the same conclusion at about the same time. And so it was decided that we had to build up our own zone – not completely destroying co-operation with the Russians, but more or less ignoring them for economic purposes. And of course we needed the Americans very much; we had the big industrial zone in the north-west and we needed the Americans. We were not strong enough economically to do it ourselves. So the Bi-zone was set up – the two of us together. The French were still, at that time, hoping they might reach agreements with the Russians on Versaals, and the Ruhr, and various other things, so they didn't come in, but they weren't playing then a very important part; they'd been brought in really by Churchill at Yalta and their role then was very different from their role in later years, or their role today. So the economic thing was the essential thing and of course it was about that time that we had the Harvard Speech and the Marshall Plan and the prospects of building up Western Europe, and it was considered essential that Western Germany should not become immensely powerful and important, but that it should play a part in all that. But that meant two things: first of all it meant the currency reform in Western Germany, which we owe to Erhardt, from which the German economic miracle started; and it meant doing something which, frankly, had not been done up to that time, which was setting up a German administration, first at local level, then in the *Länder*, and then at the centre. And were busily going ahead with this throughout 1947, and the Russians weren't liking it very much, very clearly, and the Russians of course were beginning to do all sorts of things worldwide which I've no time to talk about today, which made co-operation in general very difficult, apart from the problems in Germany itself. In the early days of '48 we'd even reached the stage when we summoned a conference in London to discuss the economic future of Western Germany, with

ourselves, the Americans, and the French, and Benelux, but – for the first time – without the Russians. This, I think, did cause profound irritation in Moscow – it had to be done – I mean, we had to work on what was to happen in the Ruhr and so on. So, by that time, Stalin was obviously saying, ‘Well, what do I do about this? How can I stop this?’, because I’m perfectly convinced from our talks with Stalin later on in Moscow, in July and August 1948, that what he was really worried about was the building up of what would become an independent West German administration. But of course he had to hand a Soviet position in Berlin. The trouble started with General Sokolovski, who was the Russian commander – the General Clay or the General Robertson of the Russians – walking out, not of the Berlin Commandatura, but of the Allied Control Commission for Germany, which was in Berlin – that was the first warning. Before very long, we discovered that the bridge over the Elbe had to be repaired and that interfered with, above all, rail, but also road communications. There was no question of laying down a blockade, nothing like that. And then there were problems on the canal barges and by about June we realised that there was in fact a surface blockade; that was the Russians’ reply to what we were having to do in West Germany.

And so, what was to be done about it? Well, of course, the only secure, legal rights we had were in the air; there were actually written agreements covering the air corridors and Allied rights to fly to Berlin; unfortunately that had been entirely overlooked – well, not overlooked, but in 1945 it had been taken for granted that when the Allies went into Berlin, they obviously had the right of access to Berlin. Somebody did say at the time (in fact, many people said at the time), ‘we ought to get it written down’, but I think it was the Americans who said no, because if we write it down we will be restricting our rights to what is written down whereas our rights are absolute. It was, as history showed, a considerable mistake. But those mistakes were made in ‘45. So there we were, with this blockade. About 2,000,000 Berliners in the Western sectors to be fed, quite sizeable Allied forces also to be maintained and fed. Well, the first American reaction – and you’ve have a little bit of that from John Tusa – was from General Clay in person and from Murphy, his

Diplomatic Adviser, ‘We don’t put up with this kind of thing, we push a land convoy through, and to hell with the Russians if they want to stop it.’ In Washington they didn’t like this very much, and certainly in London we didn’t, because obviously you didn’t want to be the first to fire and it was going to be so easy for the Russians. There was the bridge already which you couldn’t cross because they said you couldn’t, and they only had to put a tree trunk across the road and then what did one do, get out of one’s tank and say to the Russians, ‘Will you remove the tree and if you don’t, we’re going to fire on you?’ Anyway, if you had got your convoy through, it wouldn’t have been enough to supply the Allied Forces in Berlin and certainly not, even if you got a series of convoys going through, to supply the 2,000,000 Berliners. So Ernie Bevin, who was a very pragmatic and realistic chap, said, quite apart from the dangers in that particular technique, it wasn’t going to work. Where we were strong was in our rights in the air and from the beginning Ernie Bevin said it had to be done that way. Now the Americans, apart from Clay and Murphy, felt very strongly, as I remember talking to the Head of the American Air Force who came to see Ernie Bevin, that they needed to have aeroplanes worldwide at that time, and it was going to require a far bigger part of the American Air Force than, frankly, could be provided for a single operation. In any case they weren’t by any means sure it could be done at all. Nobody was absolutely sure. Ernie Bevin himself said we had got to do it, but there were difficulties. But still it was Ernie Bevin who I remember talking to the Head of the American Air Force, General Wedemeyer (**PS** *Wedemeyer was not actually the commander of the USAF; he was US Army Chief of Plans and Operations. Ed 2007*), while he explained to him all the difficulties – and Ernie, being Ernie, listened and when he’d finished, he said, ‘General, I am deeply disappointed. I never expected to hear the Head of the American Air Force explain that the American Air Force couldn’t do what the Royal Air Force is going to begin doing.’ And I took Wedemeyer out and he shook his head – rather like a Labrador, you know, coming out of a pond – and he said, ‘I suppose that means we’ve got to do it.’ I said, ‘That was the message.’ Well, I don’t suppose this was the only point, but it was a key point and it was Ernie’s influence, I think, more than anybody else’s, but with a lot of support in Washington, which

decided it should be the airlift.

The next stage, of course, was – did we just do the airlift or did we try and negotiate? Now here I've said Ernie was right and the Americans were wrong; I think on this second stage Ernie was wrong and the Americans were right. Ernie was against negotiating because he thought it showed weakness. The Americans said, if we're going to get involved in what is a pretty hazardous enterprise, we'll need public opinion behind us, in Berlin and, above all, in our own countries; it may go wrong; we do have to show that we have tried everything else. So Ernie came round to that view and it was agreed that we should try to negotiate. And Ernie I remember coming back from a Cabinet and saying, 'Frank, you're packing your bags to go to Moscow tomorrow.' And I said, 'When do we start – tomorrow?' and he said, 'Not we, you.' Because it was to be an Ambassadors' affair and our Ambassador happened to have just come home with a heart attack and he couldn't be flown back. And remembering that sad story in 1939 when, you may remember, we sent our military delegation by sea to negotiate with the Russians – it took eight days – I don't think it made any difference, but there was a lot of propaganda suggesting that that wasn't the way to do it, so we could hardly send our Ambassador back by rail. So I became the British representative with Bedell Smith and the French Ambassador; I'd known Bedell very well because we'd been in Moscow together, so we were able to work well together. Well, we had these negotiations, and of course they were, technically, about how we introduce the new West German currency into Berlin. Don't forget, there wasn't a Wall then, Berlin was all one place, so it was a difficult technical operation. On our side, of course, we were saying to the Russians that they had to withdraw the measures which amounted collectively to a blockade. But behind all this there was something, for Stalin, far more important, and we negotiated with Molotov – I think it was five meetings – and twice with Stalin, and at each of the meetings with Stalin, what came out very clearly was what he was concerned about: people think he wanted to throw us out of Berlin; no, he wasn't as ambitious as that (I mean, if we'd said we were going out, he'd have been very pleased, but he knew we weren't going to.) What he wanted to do was to frighten us into stopping the building-up of a



West German administration, later to become the West German Government. And even when, at the second meeting with Stalin, we finally did reach agreement on a formula for the currency and the removal of what he called ‘certain measures’ (I think the Russians never called them ‘blockade measures’), Stalin said, ‘But don’t forget, I’m not making this a condition, but I do attach great importance to your either stopping, as I would like it, or anyway slowing down the building-up of the West German administration’. We were not prepared to give way. I’d had lots of experience of negotiating in Moscow with Ministers coming all the time; this was the first negotiation where we knew exactly where we were; we were going to try and reach an agreement, basically on our terms; if we couldn’t, we were going to say ‘No’ and we were then going to leave it to the Royal Air Force and the American Air Force. And that’s what it came to because, plainly, we could not give way to Stalin on that.

So it was left at that moment to the Royal Air Force to get on with it, with no certainty – and Stalin of course was gambling (and he had a right to) on General Winter winning the battle for him.

### **John Tusa**

Frank, thank you very much for that masterly and personal insight into the political background and for leading so elegantly into the outline of the operation itself which will be covered by Paul Wood, who many of you will know is a long-standing member of the Air Historical Branch who has made a detailed study of the Berlin airlift operation.

### **Paul Wood**

The problem for the West at the end of June 1948 was how to improvise an operation virtually from scratch – not the full-scale airlift that emerged later, but a stopgap operation to hold the line while the diplomats explored Soviet intentions. That there had been no detailed planning for an operation which was to prove of such vital importance to the future of Western Europe need cause no surprise. Defence expenditure had been budget-capped only nine months before: RAF Transport Command in consequence was facing a period of severe contraction; and in any case, no one, including

those who mounted the initial airlift, believed that enough could be brought in by air to meet all the needs of the West Berlin people. All the same, action was needed urgently, as with only a month or so's supply of essentials in West Berlin, the Allied position there would begin to crumble within two or three weeks, were no supplies to be brought in by whatever means. So, plans for an emergency airlift, a joint Anglo-American operation, were put in train within two days of the blockade being imposed, if only to keep the West's options open and sustain morale in the Western sectors of the city.

There were in fact no alternatives to the airlanding of supplies, although some were suggested: to drive convoys through to Berlin, for example, or to use bombers to drop supplies, or to airlift the greater part of West Berlin's population out of the city and into the Western zones of Germany. There were valid objections to all of them. So airlanding it was to be, in a complex operation using the three air corridors across East Germany territory allowed under international agreement in 1945. In practice this meant that traffic from the British zone would use the northern corridor, leaving it at Fronnau some twenty miles out of Berlin. At this point it would come under local air traffic control, which would take it to Gatow, the terminal in the British sector of the city. Traffic from the American zone would use the southern corridor – entailing a flight about twice as long as that using the northern corridor – arriving at Tempelhof in the American sector. Aircraft returning to their despatching bases would use the central corridor – although a few would return by the northern corridor.

The first weeks of the airlift were inevitably a period of dislocation – in the British zone, for example, around a hundred RAF transport aircraft, Yorks and Dakotas, had arrived at Wunstorf within ten days or so of the blockade being imposed, along with some nine Sunderland flying-boats which were to operate from Finkenwerder to Havel Lake in Berlin. Their arrival coincided with several days of heavy rain which highlighted one immediate problem, the need for extensive development work, including hardstandings, to fit West German airfields for intensive air transport operations. Other problems crowded in: manpower shortages, aircrew rosters, the provision of aviation fuel, the allocation of domestic and office

accommodation, the establishment of an effective servicing system – the list seemed endless.

For all that, much was achieved in terms of tonnages delivered towards the target proposed by the joint staffs in London of some 4,000 to 5,000 tons a day. You can see the figures for average daily deliveries:

**Combined US/UK deliveries**

July 2,226 tons	August 3,839 tons	September 4,641 tons
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**RAF deliveries**

July 935 tons	August 1,340 tons	September 1,081 tons
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In addition, British civil aircraft had been brought into the airlift during August and in September delivered an average of 177 tons a day. For the rest, note particularly the average daily tonnage delivered by the RAF in August. Tonnages are given in short tons (2,000 lb to the ton), which were used by the United States Air Force throughout and by the RAF from late December onwards.

These tonnages have to be seen in the light of the 15,000 to 16,000 tons a day delivered by surface means before the blockade, underlining the point that in the last analysis the fate of the airlift depended on whether morale in West Berlin would survive a further period of deprivation.

The next few months, from October until early 1949, were marked by a very substantial expansion in the resources devoted to the airlift, in terms particularly of aircraft and bases. In the American contingent C-47s were phased out as C-54s arrived in Germany in growing numbers, bringing the total number of these ten-ton carriers in Western Germany to 226 by early 1949. On the RAF side, Hastings began arriving in the British zone in mid-November, but the Sunderland flying-boats – whose appearance over Berlin had proved a considerable boost to the morale of West Berliners – were withdrawn a month later. The British civil airlift had built up to an average monthly fleet of 41 aircraft by October, a level it maintained from January onwards. The largest part of the civil lift was wet fuel – it was in fact the sole provider of wet fuel – carried mainly in Lancastrian, Tudor and Halton tankers.

As for bases, there were three notable additions: Tegel, which became the third Berlin terminal, built from scratch in the French zone and opened in early December; and two bases in the British zone for American C-54s; Fassberg opened in August and Celle in December. Once the two despatching bases in the American zone, Wiesbaden and Rhein-Main, were full to capacity, the British zone was the obvious choice for new bases for American aircraft, as the northern corridor from it into Berlin was only half the length of the southern corridor into the city. In addition, three new despatching bases were opened in the British zone for British aircraft: Lübeck for RAF Dakotas in August, Fuhlsbüttel in October for the growing number of British civil aircraft, and Schleswigland in November for RAF Hastings and still more civil aircraft. Wunstorf remained the base for RAF Yorks, but also housed civil aircraft.

Expansion on this scale began to produce results:

**Combined US/UK deliveries (daily average in short tons)**

October 4,760 tons      November 3,786 tons      December 4,563 tons

November was the month when deliveries were affected by fog.

Increase in resources in either zone, however, was proving to have a downside, a practical limit under the air traffic control system prevailing in late 1948 to the number of sorties into West Berlin – in the case of traffic along the northern corridor this limit was some 350 a day for most of the last months of 1948, falling to about 300 a day in November. This limitation led to the fear that when the cold of a central European winter arrived and more coal was needed for space heating, the limited number of landing slots available would not be enough to bring in both the extra coal needed and the normal deliveries of food and other necessities. As a result stocks of essentials would fall to dangerously low levels by early 1949. As it happened, the weather between early December and the end of February was unseasonably mild, reducing the demand for coal for space heating. At the same time, other factors helped to turn the tide; improvements in air traffic control, the opening of Tegel, and the discovery during January and February of unlisted stocks of coal, together with a higher than expected standard of aircraft maintenance due to the milder weather, and the unscheduled arrival of thirty

additional C-54s.

All these factors combined over the early months of 1949 to produce a steadily rising daily tonnage:

**Combined US/UK deliveries (daily average in short tons)**

January 5,546 tons      March 6,327 tons      May 8,091 tons

The allocation of increased resources to the British zone, however, had worked to the detriment of the RAF. As more and more American C-54s and British civil aircraft moved in, the RAF's share of the 350 or so sorties achieved along the northern corridor fell from that of the freewheeling days of July to 69% in August and to as low as 37% in December. In addition, the RAF was being badly served by the mechanism introduced to regulate the complicated air traffic control situation brought about by the growing number of different aircraft types using the northern corridor – four main service types by November along with a miscellany of civil types – and operating from up to six despatching bases. This situation contrasted with the position along the southern corridor where there were few aircraft other than the C-54s and where only two despatching bases were being used.

To regulate this mixture of traffic along the northern corridor, a mechanism known as the time clock system was introduced under which each twenty-four hour period was divided into four-hour cycles with landing slots allocated to each despatching base according to the number of aircraft it had available. The four-hour cycle was ideal for the C-54 which, by carrying standard loads and operating from bases near to the northern corridor, could complete each round trip and be ready for the next comfortably in four hours. But RAF aircraft, often hampered by carrying awkward loads, backloading passengers and freight from Berlin to the British zone, and by being based at a distance from the northern corridor, generally took more than four hours to complete a round trip, and their utilisation fell in consequence.

There were other problems: the York, which carried eight to nine tons, rather less than the C-54, had been designed as a long-range airliner and was not best suited to short trips carrying heavy loads; the Hastings, also carrying somewhat less than the C-54, suffered

from cross-wind problems which could be fully cured only by introducing a tricycle undercarriage, a modification which would delay its entry into service by two or three years; and the Dakota, reliable but carrying only three and a half tons. There was also the problem of an impending aircrew shortage, over and above the fact that in Transport Command the ratio of aircrew to aircraft was only half that in the transport element of the United States Air Force. This was a problem which would have haunted the RAF had the blockade lasted into a second year.

All the same, the opening of Tegel, improvements in air traffic control and modifications in the time block system brought about a steady improvement in the tonnage delivered by the RAF, from the low point of between 600 and 700 tons a day in November and December to the following figures:

**RAF deliveries (daily average in short tons)**

January 758 tons                      March 864 tons                      May 1,152 tons

The blockade ended as suddenly as it had begun, on 12th May, by which time over 1.6 million tons had been delivered to Berlin. A further 713,000 tons had been added to that figure before the airlift officially ended in September, the intention being to build up a substantial stockpile of essentials and avoid the position of July 1948 when the Western Allies were only weeks away from disaster.

The detailed statistics of the airlift, including the total tonnage delivered – 2,326,000 tons – and the RAF contribution – 394,000 tons – were as follows:

Of the 2,326,000 tons airlifted into Berlin between July 1948 and September 1949, 1,613,000 tons were delivered before the blockade was lifted and 713,000 tons after.

Over the whole period of the airlift the RAF delivered 394,000 tons or 17% of the total and British civil aircraft 147,000 tons or some 6% of the total.

Tonnages lifted by RAF aircraft ranged from 233,000 tons by the Yorks and 101,000 tons by the Dakotas to 55,000 tons by the Hastings and 5,400 tons by the Sunderlands.

As for commodities, coal at 1,587,000 tons formed the greater part of

the lift with American aircraft carrying over 1,400,000 tons. The food lift totalled 538,000 tons, almost equally divided between British and American aircraft. The whole of the wet fuel lift at 92,000 tons was carried in British civil aircraft.

The RAF was responsible for almost all the backloading, primarily of mail and economic freight, carrying some 34,000 tons, and was also responsible for the greater part of the passenger lift into and out of Berlin, carrying some 36,000 passengers inbound and 131,000 passengers outbound, while the USAF carried 24,000 passengers inbound and 36,500 outbound.

The RAF made some 66,000 return sorties into and out of Berlin, the United States Air Force 190,000 and British civil aircraft 22,000.

### **John Tusa**

Thank you very much. From the broad picture, can we now move to the detailed perspective from Headquarters at BAFO and Sir Kenneth Cross is going to give that to us; everybody knows, I imagine, that he was the architect of the V-bomber force.

### **Sir Kenneth Cross**

I arrived at Headquarters BAFO in January 1947 to take up the post of Group Captain Operations from the first IDC Course after the war. During the war I'd served under Leigh-Mallory and Dowding, Tedder, and finally Portal, jointly or as a Commander and I saw a good deal of the way they conducted affairs and I thought I had learnt a trick or two. BAFO was formed in 1945 from 2nd TAF but it was a complete change because nobody in the BAFO Headquarters and very few of the Station Commanders or key people in the Command had been in 2nd TAF. It was completely new and the Headquarters was not an operational Headquarters; it had no Operations Room, it was the policy headquarters only. It was three years after the war, I would remind you, so our establishments had been cut to the bone and were not always filled. So we were in the worst possible state to take on an operation of which we knew nothing. We had two roles in BAFO; air co-operation with the Army, and the occupational role in which my AOC was responsible to the Military Governor, General Robertson. The Headquarters was at Bad

Eilsen in two hotels, not ideal places for a headquarters, but adequate. One thing which I must emphasise right from the beginning, which was a shock to us, was that when we started the war, the *Luftwaffe* appeared to us to be ahead of us in every single thing. In the fighters they had armour plates, self-sealing tanks, everything was well ahead of us, and it was a great surprise, therefore, when we got into Germany – certainly when I got there – to find that all their airfields were still grass; they had no runwayed airfields that I came across. And it was one of the significant factors in the airlift that the British straight away put down concrete runways on all the airfields that they were going to occupy. Perhaps it was because this was looked on as occupational costs and therefore was paid for out of the so-called German economy and not from the Air Ministry. We were working on a shoestring; we had one transport aircraft, the AOCinC's VIP Dakota. That was the total in the Command. And then away to the south of us were our rich cousins with their country untouched by war, their aircraft industry oriented towards air transport and, just on the side, they had a hundred spare C-47s in the Command. They had everything and we had nothing.

I'm going to say just a word or two about responsibilities because, as you military gents will know, there's nothing like responsibility to concentrate the mind in making policy and executing it. My AOC was responsible to the Military Governor for his occupational tasks and to the Air Ministry as an RAF Command and the same applied to the United States, to the Military Governor there, the fire-breathing General Clay, and to the Pentagon. And I'd like to say a word or two about these personalities before I go on because it has been apparent to me in reminding myself of all these events how much the personalities of the people who were responsible affected how things went. The CinC, when the airlift started, was Air Marshal Sanders, who was a brilliant staff officer; he'd been AOA at Bomber Command for most of the war and launching 800 aircraft every other night required a bit of knowledge in administration and he took over and was there when the airlift started. He was replaced by Air Marshal Williams, who had been commanding the tactical air forces in Burma and had at that stage done the biggest airlift we had had in the West – the supply for nearly a year and a half of the 14th Army.



So he knew a bit about transport and airlift. The United States had, as a start, General LeMay and if I might digress for a moment, Mr Chairman, when airmen as old as me sit down and talk sometimes, it's absolutely inevitable that we should be debating at some stage the various merits of the great commanders we had in the war; Dowding versus Harris, Coningham, Tedder – everybody has their own opinions. In the United States Air Force, when they have this discussion, they have no doubt whatsoever who was the greatest commander that they had in the United States Air Force, it was Curtis LeMay, and he showed this later of course when he was Commander-in-Chief and finally Commanding General of the United States Air force. Those are the people. LeMay was replaced by General Cannon, who fortunately was an Anglophile; he had been Deputy Commander to 'Mary' Coningham in North Africa in the North African Tactical Air Forces; he understood the British. He thought we acted in the most peculiar way but he understood the British and he was a friend of ours. And so we couldn't have really been luckier in the people who were going to direct this operation.

So, we come to the airlift, which started on the 24th June '48 and went on to the 12th May '49 – 11 months. Planning: In April, BAOR, who were responsible for feeding all the British in the zone, asked for a plan to feed the British Services in Berlin. This required 65 tons a day, requiring 16 Dakotas, two squadrons. The route was going to be Wunstorf-Gatow. The elegant name given to this operation was 'Knicker', and perhaps I should mention how that occurred. We thought this business was a hell of a bore; we were decent, Tactical Air Force chaps with fighter-bombers and here we were mixed up in an transport operation and we didn't go into this with any great enthusiasm. 'Splinters' Smallwood's not here today – he normally comes – but he was the wing commander who brought in the draft Operation Order for 'Knicker' and put it on my desk. We'd been all over it time after time and he said we had to have a codename for this; I said testily, 'Oh, next one on the list', and so, with his tongue in his cheek, he looked down there and the next one on the list was 'Knicker' and that's how we got this elegant name. It changed of course. Incidentally, the United States Air Force, with their hundred Dakotas, had no plan at all and incidentally, also, on

the airfield side, which I didn't mention earlier on, they didn't put down any concrete runways anywhere, they were on PSP at Wiesbaden and Rhein-Main and with the sort of wear that they were going to have with the airlifts, they didn't last five minutes. That's why they had to come to us since we had concrete runways and of course because the distance was shorter.

The names of the operation changed as it went along: 'Carter-Paterson', 'Plainfare', were two of the names we gave for our part of it; 'Vittles' was what the USAF called theirs, and in round figures I made it that we had 101 RAF aircraft at the peak of the thing, plus 30 civil and 225 United States Air Force – 356 aircraft altogether. As for tonnages nobody had the faintest idea how much tonnage was imported into Berlin by surface means. They did come up, in the end, with a figure of 12,000 tons all told – this of course included nice German beer and all that, but that wasn't going to be included in any tonnage we were going to carry. We started off with the lift to feed the British Services in Berlin; that was 65 tons a day, 16 Dakotas, and the second target we had was 2,000 tons a day to feed the three Western sectors, then 4,374 tons a day to supply food, coal, oil and other essentials and, finally, when it was apparent that this thing was going to go on for a long time, the figure of 8,944 was the long-term requirement. We were operating with an awful mass of different types of aircraft, we were two nationalities, we used to go down to Wiesbaden, sit there all night with scrunpled paper, doughnuts and coffee, till three in the morning and we'd have the programme ready for the next day. This would then be turned down by the Commanders and we would start again for the next day and this was the way it went on. We had no computers, we didn't even have a calculator, and it was all done by navigators with strips of paper. The airfields totalled twelve altogether, seven in the British zone, two in the United States zone, and three in Berlin.

I just would like to say a word or two about our attitude to the Germans because I don't think it's as well known as it should be. We had heard of Auschwitz, Sachsenhausen, Dachau, Treblinka, Belsen: Belsen was in our zone. Many of the people in the Headquarters and in the BAFO Forces had visited these horrible places and I talked to some of them. So this coloured our attitude to the German

population. When I arrived there, incidentally, in '47, we had no fraternisation; you were not allowed to have contact with the Germans except for official business. The year before the trial at Hamburg, of the eighteen criminals who had murdered fifty RAF air crew from Stalag Luft III took place and many of us went there; as you know, seventeen of them were convicted and hanged, and old Pierrepoint came over in an RAF Dakota with his rope and he hanged seventeen of them five miles down the road at Hamelin. We hadn't got a great deal of affection for the German nation and it would be wrong really for anybody to have any views to the contrary. When it came to doing the airlift, it was a professional job and whether it had been Hindus or Germans, the air force would have done it.

When we started this operation, with no direction at all from the Chiefs of Staff, Robertson – I remember it as well as anything – rang up, 'Something must be done and something must be done at once.' And Operation 'Knicker' was the answer to that; we laid it on, they came the next day and they were operating that evening. So that was our reply to that one and, as the previous speaker said, Bevin, who was an inspiration even to us who never saw him, urged us to 'Do your best' was his thing. Well now, 'something at once' and 'do your best' is hardly the way to start a staff exercise, but that was the direction we had. Compared with war, it was simple – nice, flat German plain, one target only, exact weather reporting; not a chap poring over a chart, you could ring him up on the blower – old Bill was over Gatow – 'What's it like?' We had absolute perfect weather information all the time and of course the sorties were very short – 200 miles out, 200 miles back. So for an operation, it was simple. What had never happened before was the sort of intensity we had on this business. The aim – and it was achieved on a number of occasions for shortish periods – was one aircraft landing in Berlin every three minutes. I have to say that Royal Air Force navigation was precise – Eureka, Rebecca, we knew exactly where we were. The Americans, as you know, live on a radio compass and if the wind was wrong, well, you got a bit of concertina-ing going on. But we know that the number of accidents was remarkably small and when you think it went on like this, day and night, day and night, for

11 months, supplying 2.25 million Germans – they all stayed alive. I made it that the total tonnage we put in was 2,000,231 tons in 11 months.

And that really was the perspective from BAFO. The \$64,000 question surely must be, ‘How did the Russians miscalculate this one?’ Perhaps somebody can give me the answer to that.

### **John Tusa**

Thank you, Sir Kenneth, and thank you for not abusing your Mastermind privilege – you had begun, I thought it better not to stop you. Now can we pass on to the view from the Air Ministry – the Air Ministry always pulls rank on these occasions and has somehow been allotted five minutes longer than the people who are actually running it on the ground, but I am sure Air Commodore Freddie Rainsford will not abuse that. He was Deputy Director of Air Transport in the Air Ministry in 1948 and as you will hear, he was involved in the whole thrust of mounting the operation from scratch. I should mention for those of you who haven’t already seen it, he has just published his book *Memoirs of an Accidental Airman* and the copies which lie here and outside are not just for decoration.

### **Freddie Rainsford**

I’m very happy to follow on after Air Marshal Cross. In those days we were both group captains – he went rather higher than me. He was in Germany and I was in London and we worked quite closely together. Perhaps I should begin by explaining my own involvement with the airlift. I was posted to Air Ministry, which we used to rather rudely call ‘The House of Shame’, towards the end of 1947 – of course the Air Marshal was in Germany; I had previously been on the training staff of Transport Command and before that I commanded a Transport Training Unit, mostly converting bomber crews onto Dakotas. So I had some little experience with the transport world. Well now, the airlift was just one of the many tasks of our Directorate and for a long time it wasn’t the chief task at all. This is quite important because it did affect our reaction to the airlift and also our ability to help to support it. Transport Command was building up a military transport force at the end of the war; we were short of aeroplanes, because the big factories had been building

bombers and the war hadn't been over that long and we were short of money and short of crews. But the main occupation of the Transport Force was supporting and supplying the trunk route; what we called the trunk route was the route from England – Lyneham or Abingdon – to Singapore. It staged through Idris, or Malta – we used to call Idris Castel Benito when we bombed it – and then onto Habbaniya, Mauripur, Negombo, and then the fifth day we arrived, after quite a comfortable trip, at Singapore. Well that took up an enormous effort and practically the whole of the large aircraft transport force was involved in that. It involved staging posts all along the route, quite a lot of heavy equipment, a lot of maintenance personnel, and a great many of our aircraft. They were used to move primarily Service people but also quite a few diplomats and high-ranking civilians. So there was always a tremendous demand for those aircraft and when the airlift really got underway a lot of them were still at remote places and they all had to be brought back. In addition to that, we were also concerned with running – I think it was a twice-weekly service with Dakotas – to Warsaw for the Foreign Office and we ran aircraft to Rome, to Zurich and were just about to start a service to Gibraltar when the whole thing broke. Well now, in the Air Ministry, my boss was Sir David Atcherley, one of the famous Atcherley twin brothers, who was lost unfortunately afterwards, but the thing had hardly begun when he was posted to command the Central Fighter Establishment, so I then moved into his office and as he wasn't replaced, I was effectively the Director for the whole of the operation.

All kinds of problems arose, some of which should have been foreseen, and others perhaps were not. One of the obvious, early ones was the command of the operation itself. The CinC in Germany thought, understandably, that once the aircraft were operating in his theatre, he was in charge. Well now, Sir Brian Baker, with whom my own relations were very good in Transport Command, took a slightly different view; they were his aircraft, they were his crews, and those crews had gone to Germany for about a fortnight with equipment – they weren't geared up mentally or physically in any way for a long, indefinite tour of duty overseas. It hadn't been planned and there was this obvious business of whose were the aircraft, but it was fairly

basic and it was resolved quite easily by sending the whole of a transport group under John Mehrer and 46 Group went to Germany. Although it was nominally under the CinC Germany, it very soon was merged under the overall command of the American General Tunner, who was of course in overall charge. It was a bit like Eisenhower and Tedder in the war; John Mehrer had control of our own forces but his supremo was Tunner. That was one of the things that came to Air Ministry and it was resolved, I think, very sensibly, but there were quite a lot of other problems. There were never enough aircraft, or crews, available, and the Air Minister was always pressing for more. This was no doubt due largely to the fact that it became realised what the requirement was; the requirement seemed to become greater and greater and the resources were simply not sufficient to deal with it and I've no doubt that the Air Minister, Mr Arthur Henderson, was under a great deal of pressure from the Cabinet but he devoted most of his time and energy to this airlift and after a while he started sending for me. I would normally have expected him to have dealt with his own staff and on a much higher level than a mere acting group captain, which I was, but he realised that my Directorate were concerned and we probably got the messages from Germany, from Transport Command, before anybody else so he started sending for me, personally, and particularly when things were bad. He was pretty caustic about it and once when the lift had gone down quite a lot, probably for weather or unserviceability or something, he said to me, 'All training must cease; put everything we've got into the front line.' So I said, 'Yes, Sir, I'll report that.' But this was of course absolute nonsense. You can't keep a continuing operation going if you don't continue to train your crews. We got over that problem by keeping crews at home, when they flew their aircraft home for major maintenance, which throughout was done in Britain at the big bases – like Lyneham – but we got the crews when they brought their aircraft home to take some badly-needed leave because they were in the position of not knowing how long they were going to be overseas. Arising from that, their families began to get restive and although this was primarily a job for Transport Command, we in our Directorate got quite a few letters from wives and families saying, 'How long is my husband going to be overseas? We're not prepared for it; there are all kinds of

problems with our children and schooling and things, and how long is he going to be there?' Well, we didn't know and nobody knew and that was one of the sort of problems. Transport Command, I think, handled it very well and, as I say, when the crews came home for major maintenance with their aircraft, they did manage to live at home – a great many were married and that wasn't a major problem in the end, but certainly it was a headache fairly early on.

So, there were never enough aircraft and the decision was made to hire all the civil aircraft we could get hold of and this was another major job for my own Directorate. We looked round to see what civil aircraft there were available. Now in those days, three years after the war, there were a number of little charter companies, non-scheduled companies if you like, and some of them were quite big and some were very small. We had a contingent from BEA, which was very useful, we had the famous Freddie Laker, who made his name and fortune there, we had Don Bennett with his Tudors, the Pathfinder Bennett, and we had a lot of other people – Lancashire Aircraft, Bond, Westminster, all sorts of people – and the requirement was not only for more tonnage, but also for some specific loads. So Alan Cobham's aircraft were extraordinarily useful carrying liquid fuel into Berlin and when we found that salt was needed in large quantities – and of course normally aircraft can't carry salt, because it corrodes the metal – we used flying boats and I think there is a flying boat pilot here tonight who's going to talk about that. They landed in the Havelsee, or Havel Lake, in the middle of Berlin, and they were a very useful contribution indeed.

The Treasury, who were always getting in on the act, used to ring me and say, 'Will you please advise us on how much we should pay for a Halton, for a week or a day', or, 'What is the going rate for a Dakota?' I refused to have anything to do with this; my job was to try and get hold of the right aircraft and I had a splendid civil servant working alongside me, Michael Carey, who became PUS afterwards, who was tremendously helpful and he dealt with all that because there was no way I could have coped with it. But it was a fascinating time and the civil people, as we've heard earlier, did make a very useful contribution – I think up to about 400 tons a day – and they really did work extremely hard. There was one problem with them

particularly, as Sir Kenneth has mentioned; they didn't all have the same landing aids, and they didn't have the Eureka system that Transport Command had and somehow or other Transport Command managed to help a lot of these little civil companies – they got hold of the equipment, they trained them how to use it. A lot of them did have the Rebecca/BABS system in the end, but it was a real problem. Some of these charter companies only had two crews per aircraft or some perhaps even only one. Others had four or five. And they varied enormously; they were a motley bunch.

The other people who helped a lot – and we mustn't forget this – were our Dominion friends. The South Africans gave us an excellent squadron of Dakotas – South Africa was not of course a republic at that time – and the Australians gave us a squadron and the New Zealanders gave us half a squadron of Bristol Freighters or Wayfarers. So there was a lot of support from the Dominions and we scraped together just about every aircraft we could possibly find and they did a jolly good job. They all finally worked at Fuhlsbüttel under a BEA man – Mr Whitfield I think his name was – and he was extraordinarily helpful and co-ordinated them all.

There's an awful lot more one could say about this, but it was a fascinating operation to be involved with; it was a bad time for us in England because we had such a small Transport Force, although it was building up, and as you've just heard from the air marshal, it was a pretty bad time in Germany too. There was a lighter side to it – and this is slightly trespassing on the German end – there was one little story which I saw in a German magazine about a rather puzzled civilian trying to unwrap a very odd-looking parcel and when he got down to the instructions, it said, 'Contents/Directions: Dehydrated Baby, Soak in Warm Water for 28 minutes.' There were all kinds of things like that – with canned, dehydrated foods and dehydrated this and that, but the Germans do have a great sense of humour and it was fun; they really did rally round and work jolly hard and I've always felt it was an odd commentary on human nature that so many of us who had been in bomber squadrons were now working so desperately hard to supply a city that we ourselves had been bombing only a few years earlier; it really is worth thinking about that. But I do believe that the airlift possibly saved a third war. In his Foreword



to my own book, Lord Boothby wrote that historians of the future may well think that Hitler's attempt to overrun Europe and Stalin's attempt to do exactly the same thing at the time of the Berlin Airlift will be reckoned by the historians of the future as probably the two most important events of this century. He may well be right. Thank you, very much.

### **John Tusa**

Thank you very much indeed, Air Commodore Rainsford. We now come to the section where there are three briefer contributions from the viewpoint of aircrew and they come from Air Vice-Marshal Sir Brian Stanbridge, Group Captain Jack Holt and Wing Commander John Dowling.

**Brian Stanbridge:** We come to what I might call the sharp end now, having heard from the planners, who I must confess from the outset we aircrew thought had done a magnificent job. And you've heard from no less than two at that time group captains and you are now hearing from somebody who was at that time a flight lieutenant. I was Flight Commander on No 47 Squadron and we were the first squadron converted onto the (at that time) brand-new Hastings and we flew out to join the lift in November 1948, some four and a half months after it had started.

I was asked to talk, briefly, about the problems encountered by the aircrews in those days and I must confess I found it rather difficult and perhaps my memory is failing – I'm sure it is – to think up the problems we had, because we didn't have many, thanks to the people who were so excellent in planning it, and conducting the lift from the ground. I would at the same time say, that I didn't join 47 Squadron until about four and a half months after the start of the lift, so I would rely more on my friends and colleagues, Jack Holt and John Dowling, who I think were both in pretty near the beginning of it, to tell you more about the problems they may have encountered then. The main problems I remember were the necessity for strict timing which you've heard about before, and if we were – on occasions at least – landing at three-minute intervals, in pretty foul weather conditions at times, at the Berlin end, you can imagine that our timing had to be very strictly accurate. And of course, although we

were lucky enough to have Eureka beacons, we were – from Schleswigland where we were based – flying down the northern corridor and coming back up the same corridor on the right-hand side in both directions. We had a Eureka beacon up near Hamburg, on the Soviet zone border, and we had another Eureka beacon and a NDB just at the sort of pick-off point at the Berlin end, with nothing in-between. But this did present a certain amount of trouble because we did have problems with the Eureka at times; it wasn't 100% and certainly the equipment wasn't 100%. It sometimes used to break down but somehow or another we used to manage – and bless our navigators for guiding us so well.

I must speak of the tremendous admiration I had for the groundcrew who served us so well there, because they had to work in appalling weather conditions at times, and almost entirely in the open; there were few, if any, hangars out there, certainly none at Schleswig which could accommodate the Hastings, so they were working day and night in the open in snow, hail, thunder, come what may. And also to the German civilians who were responsible for loading and unloading the aircraft, because without them, of course, the things couldn't have existed, couldn't have gone on, and they did a magnificent job, there's no question.

A brief word about the landing aids. We had at Berlin of course GCA, thank goodness, and the GCA controllers were magnificent, because they used to guide us down at very close intervals, in almost any weather conditions and in fact we often landed well below our official minimums – and our official minimums were quite low in those days – but I can recall going in (and I'm not trying to shoot a line here) as low as 150 feet in half a mile on occasions and that wasn't unusual.

I think perhaps a brief word of humour, because there was a lot of humour involved in the lift, and to show as an illustration perhaps of the camaraderie that existed between the Allied pilots involved in the lift. I remember landing at Tegel in the Hastings on one occasion (and the Hastings was a very, very easy aeroplane to bounce down the runway); I bounced one down the runway very successfully and when I turned off at the end, an American called up over the RT – he

was waiting to take off at the far end – and he said, ‘Say, anybody get hurt in that landing?’ Well, I had no answer to that.

**Jack Holt:** History has a habit of overlooking important factors and our air historian has done it again today, I notice. I flew Sunderlands on the Berlin airlift and without being too unkind to Air Commodore Rainsford, we were on the Berlin Airlift for nearly two months before we flew one load of salt into Berlin and, quickly, the technicians of Coastal Command pointed out that the Sunderland hold was protected against salt on the outside, not on the inside. We did one sortie.

On Thursday 1st July 1948, I was circling a Royal Navy submarine off Northern Ireland and I was a flying officer at the time, in a Sunderland of 230 Squadron, Coastal Command, taking part in Flag Officer Sub- marine’s Summer War, but the afternoon of Sunday 4th July, I alighted – notice I didn’t say landed – on the River Elbe in Hamburg to participate in Operation ‘Plainfare’. The next evening, Monday 5th July, at approximately 17.45, I alighted on the Havelsee alongside Gatow with 10,000 lbs of freight for the beleaguered Berliners. It was the first Sunderland into Berlin on the airlift. In four days, the flying boats of 230 Squadron, from initial notification, had flown back to base at Calshot near Southampton, been stripped of all armament, and prepared for a freight-carrying role, had moved to a strange (very strange) operating base, and completed the first sortie into Berlin – no mean achievement.

How did we operate? All personnel were accommodated in the old Blohm and Voss Works, which was a factory on the bank of the Elbe alongside the main city of Hamburg, or what was left of it. To start with, before the arrival of waterborne refuellers, some weeks later, we refuelled from a jetty using lines rigged on temporary booms. Local German craft were used to bring freight from shore to aircraft and vice versa. We flew under the stack you heard about in daylight only at 1,500 feet in and out of Berlin, below cloud, in visual contact with the ground; as I recollect it, if cloud dropped below 1,500 feet, we ceased operations because of air traffic control difficulties at Gatow and, of course, lack of approach aids into the Havelsee. Each crew aimed to do three sorties a day, in and out of Berlin, staying on

board all the time and refuelling in Hamburg after two flights and at the end of the day. This was a long and tiring routine. Flying time alone for three sorties was about 6½ hours. I achieved the best turn-round time in Berlin: from touchdown on the Havelsee, unloading five tons of freight, and to take-off, took 11 minutes – average time was 15-20 minutes. In Hamburg, Alex Harkness, my Flight Commander, held the record: 22 minutes from touch-down to take-off, including the uplift of 700 gallons of fuel and five tons of freight.

Now for some reminiscences and happenings peculiar to the flying boat. I remember the morning we arrived on the jetty in Hamburg and found all our aircraft sitting on the mud; our mooring area was an inlet off the main River Elbe which had been used for bomb-damaged rubble dumping during the war and charts had not been modified. During the night there had been a unique coincidence of a very strong east wind and a very low tide, which had practically emptied the River Elbe. This same low water also revealed in our mooring area the remains of an American Flying Fortress and its crew, which had been shot down over Hamburg in World War II. On another occasion, I can remember being marooned in Hamburg in my aircraft on the buoy in thick fog at the end of a sortie – the sort of day I've already described to you – with the crew of the marine craft unable to locate us. It was one and a half hours before we got off the boat. In Berlin, trying to be too clever on touchdown, I carved through some bulrushes on the lake edge on alighting and got away with it, without dent or damage, apart from my pride. The oddest load-up I carried was a reverse load, out of Berlin, of Siemens electric light bulbs. The weight mattered not, but the bulk was tremendous; every square foot of the hold was completely taken up.

I could go on but time prevents me. From July to December 1948, the flying boats of 201 Squadron, first afloat, 230 Squadron, and the civilian Aquila Airways, operated out of Hamburg on Operation 'Plainfare'; they contributed greatly in the early days when it was essential to quickly build up the daily tonnage. I would say that they proved the flexibility of the flying boat and perhaps – and let me emphasise today – the part they played has never been completely appreciated. I still believe waterborne large aircraft were written off

too quickly, but that is another story. Certainly my part in the Berlin Airlift remains vivid to me and was the highlight of my Royal Air Force career.

**John Dowling:** I flew Yorks during the Berlin Airlift from the start until just after the finish. It's rather interesting what one of the earlier speakers was saying about the ability of the crews to change their role as they went along, because a complete role-change was needed here. They were flying on the routes as Air Commodore Rainsford has said (we used to talk about 'going down the route'); if you asked what we were doing in Transport Command, we were running an airline; it's as simple as that. We had a standard route, with minor diversions off it as required; we went to Luqa, Habbaniya, Mauripur, Negombo, Singapore. We flew by day – that didn't mean we couldn't manage at night, but we didn't aim to do so (apart from anything else, the fatigue factor dictated it). By the time we got to Singapore anyway, on a five-day journey flying seven to eight hours each day, the passengers were just as wrecked as the crew. You had one day off and then did the same thing in reverse coming back. And all of a sudden, from above, comes the remark, 'Stop doing that, start doing this.' Now what we got instead was one-hour sorties, sorties lasting not longer than an hour, in Europe, and the sort of weather that we only expected to encounter when leaving our route or coming back on the route, and now we had it all the time, and it was a great tribute to the attitude of the RAF towards training and the efficiency of its crews that they all did it without a murmur and there were no difficulties.

We flew from Wunstorf to Gatow and the time taken when we started was 1 hour 40 a round trip, not including 15 minutes for unloading at Gatow – that's to say half a cigarette or one cup of coffee. The three-minute interval was mentioned: three minutes wasn't just a figure plucked out of the air, three minutes was the shortest time you could fit three aircraft onto the runway. If you have got the stream flying and they are separated by three minutes, and you start to land them, if they've caught up a bit, it doesn't matter you might think if the one behind is only two minutes separated by the time he gets there. That's no good, because between him and the one that's just turning off the runway there's another one that's got to

take off, so the three minutes is actually needed, regardless of any other consideration. Now the moment the weather got really nasty, and you had to reduce the rate to five minutes' separation, it took about an hour for the instruction to be actioned because, of course, if you think about it, you've got 20 aircraft from each stream airborne at the time, and another 20 returning and there are three air fields involved at the Berlin end, so they're all fully occupied, and everybody's at three-minute intervals, and they stay like that until they've either all been sent home or start again. We then rarely stopped altogether. I personally only stopped once, fog-bound at Gatow. Where we went to sleep, I have no idea. But it was an example of the difficulty likely to be encountered if you got really serious weather conditions; you really just have to cope and the fact that the standard operating procedure limits are being exceeded is neither here nor there, I'm afraid, when needs must. 150 feet? – yes, I can concur with previous speakers' assessment. We used to fly down to 150 feet cloud base on the BABS alone and we didn't really care terribly whether we had GCA or BABS, although GCA was held to be far superior. We were very good at BABS; we were very good at everything. That was a sort of modified version of Musical Chairs that might occur.

Eventually the pattern of operations settled down to two or three return sorties to Gatow followed by eight to twelve hours off-duty. Incidentally, there's a little story, if I might put one in. The BABS wagon was mounted in a small truck and it used to sit at the up-wind end of the runway and responded to aircraft coming in and all the gimmickry that went with it. Of course, elaborate arrangements had to be made to make sure that the BABS transmitter in this truck didn't fail and consequently it was given a servicing cycle which meant that every two or three hours the truck had to be collected and replaced by another one. But on one occasion the gentleman that was instructed to go and recover the van was not given instructions about switching on and off the equipment; and after three aircraft had attempted to make approaches onto the MT yard, air traffic realised that something was going wrong.

You reported to the Ops Room and you were given an aircraft, rather like booking a boat on a lake, and you went out and found it and you

clambered in and you had a sheet of paper that told you what time to start up and what time to taxi, and how long the slot was for your airfield; Wunstorf characteristically might be 20 aircraft, so you had a half-hour sortie 'gate', as it were, a slot, and there was no question of flexibility on this. The controller didn't have any flexibility because if, for some reason, there had been delay during the launch, and you found the last aircraft in the line didn't have the full three minutes, the controller couldn't say, 'That's all right, I'll accept that', because somebody else would have been feeding a stream in, starting immediately, and the three minutes' separation applied not only to your own aircraft, but also to the other ones from the other directions. So you lost it and you then had to go back and wait. It only happened to me once – and it wasn't my fault. You got eight to twelve hours off; there was no difference between day and night, of course, except that you tended, if possible, to get an extra four hours off duty during the hours of darkness rather than during the daytime.

The York was an excellent carrier, as a matter of fact; great big empty fuselage, low down on the ground, near the ground, and level, substantially level. You could just shovel the stuff in and shovel it straight out again; you didn't need to be at all clever. Where the loads required restraint, then it was done by the German loaders. The Germans did all the loading, supervised by RAF airmen. Well, mistakes were made, inevitably, in a situation like that. I don't know for certain, though I have it on good authority, that there was one aircraft that received a double load, that's to say that a load was sent out incorrectly to the aircraft, the loaders not having realised that it hadn't dropped the first load. The German loaders, seeing that somebody had delivered a load to be put in the aircraft, said 'It's got to go in there', so they loaded it. The aircraft flew successfully, at least it didn't crash. And that of course was a thing one learned; we all tended to be over-loaded, there was no way really of checking the load properly, as you can imagine in those circumstances. So you might come on the approach, round out at the correct speed over the threshold and wait for the short float before the aircraft sinks gently onto the runway; instead, the moment you close the throttle, bang! you're there with not even enough energy to bounce.

I'll end with one short joke. There was stress of course; stress with

the groundcrew. We never knew the groundcrew, we didn't even know what squadron they were on. I found in my log book that I was on three different squadrons during the airlift, but I never knew which one I was on. It didn't make a scrap of difference, you would just exchange crews, but there was friction with the groundcrew, who didn't think that the aircrew were sufficiently careful writing their comments in the Form 700 for minor rectification and, in one case, where the crews were definitely in the wrong, the pilot had written, 'Something loose in compartment H' (that's the back end of the aircraft). It just so happened that he went back into the Ops Room and half an hour later he was given another aircraft, and it was the same one, and he turned swiftly to the 700 to find out what they'd done and he'd written in the thing, 'Something tightened in compartment H'.

**John Tusa:** Thank you very much. I think as this stream of reminiscences from the aircrew is going, I would be very surprised and I would be very disappointed, if there aren't people here who have their reminiscences right at the tip of their tongues. So without keeping out the groundcrew, there must be other fliers here who want to tell us some of their stories.

**Anon:** I'd like to ask a question of Group Captain Holt: what was the chemical which was put on the bottom of the hulls of the flying boats to prevent the salt eroding the metal hull?

**Group Captain Holt:** It was the way the metal was treated in its manufacture and I'm just trying to think of the process, what it was called, it's a long time ago.

**Anon :** May I interject? While these distinguished gentlemen were flying, I was working as an aircraft apprentice in the factory and I was put into the processing department where we anodised the sheets for the Sunderland's hull.

**Anon:** Thank you very much; I was a flying boat pilot myself and I couldn't remember.

**Anon:** Mr Chairman, we have in the audience Brigadier Crowley, who was very much involved in the Army's support for the provision, delivery and unloading of the aircraft; perhaps he could



give us a few words on that part of the ground organisation.

**Brigadier Crowley:** It is with great diffidence I speak because we have a very distinguished audience here and I was lucky enough to be involved in the airlift from its inception. I was flown into Gatow at the very start and with Brian Yarde, who was the Station Commander, set the thing up. Now perhaps it might be just as well to say what the Army organisation was as I remember. But it was 40 years ago and I must ask you to bear with me if my memory is at fault. I was only asked to come three days ago when I was not at home and so I have really done no research, which I should have done.

Now the Army responsibility was to provide what was flown and to do this there was the combined Army/Air Transport organisation, I think at Lübeck, and there they were given the tonnage that could be flown out every day. It may have taken a little time to set up, as you said, Sir, it was a bit of a muddle to start with, but that was the theory and to do that we had what were called rear airfield supply organisations at Wunstorf, Celle and Fassberg. I was involved with the forward air supply organisation in Berlin to unload it. I had unlimited German labour and 10-ton lorries and of course the Germans were only too keen to get cracking because they were starving. And I believe that we never held up an aeroplane once because we were slow in unloading it. There was a standard load, and that would go to the standard off-loading point; if there was a difficult load, like a generator or something very large, then the Army was responsible of course for unloading it and directing the Germans how to do it. So that was the receiving end.

At the sending end, starting at Fassberg at the top, we had to build four railway sidings to accommodate four trains a day and we flew out 2,000 tons a day of coal, standard load; that was after the RAF pulled out and the Americans were there with General Tunner. That went on, 2,000 tons a day. Wunstorf supplied the foodstuffs and so on for Berlin; the General there would decide the proportions between food and even drink. General Herbert was absolutely adamant that the requirements should be met first in the way of food, and so on, but the last thing they put on was a case of gin, but we got

it in the end. But the detail required in this was a most tremendous operation 'backstairs' as you might say.

But I must emphasise one thing: that the Germans operated under the British Army personnel and they were trained by them and incidentally originally trained by the RAF because, as you will know, every aircraft has to be loaded individually according to its centre of gravity so there was a separate load for each individual.

**Anon:** What was the original source of all these massive stocks of food and coal and things at a time when they were heavily rationed in our own country?

**Brigadier Crowley:** The coalfields of West Germany. I wasn't involved with the food except to get it onto the aircraft. But we had four railway sidings especially for four loads of coal a day.

**Sir Kenneth Cross:** The Americans at one stage were importing flour through Bremen for this airlift. But they were on pretty strict rations in Berlin – there was nothing fancy.

**John Tusa:** If I could abuse my Chairman's right and invite my wife to speak about the sheer nastiness of the food which was delivered.

**Ann Tusa:** Dehydrated potato, first and foremost, that was the staff of life. Some of it had been lying around in Army warehouses since the start of the war and wasn't in very good nick. Some of it was specially manufactured and was highly adulterated. It stuck to the tonsils, it glued the teeth and was thoroughly unpleasant but it kept people alive. Our dehydrated vegetables, dehydrated because of weight and bulk, had to be manufactured largely in West Germany, occasionally in Eastern Europe. Nearly all of them were filthy, but they provided a little vitamin, to which vitamin pills could then be added to maintain health. There were dried soups, which turned out to be largely sand. There were strange dehydrated broths, which actually took more cooking than they saved weight – in other words, the amount of coal you consumed to cook up this disgusting broth, they might just as well have sent a cow in. There were all sorts of additives, 'cheerers-up', were tried; honey, but it was sent in barrels which then broke and oozed over aircraft and oozed over airfields. They tried fish – is there anyone here who flew fish in a Hastings and left the heat on? It caused a diplomatic incident at the Berlin end

when the pong was suddenly released. But, actually, lousy as the food was, the Berliners' average weight went up during the airlift – it tells you something about how they had been living since '45. Cases of TB dropped and towards the latter half of the airlift they tasted cheese for the first time since 1945.

**Cecil James:** I was one of the civil servants working with the Air Staff whom Air Commodore Rainsford was kind enough to refer to, taking Michael Carey's place round about October 1948. And following Michael Carey is never the easiest thing. It was an extraordinary time at the Whitehall end. The first thing I'd like to say concerns something which hasn't in fact been said or covered – here I look at Sir Frank to see if he can help. When you get into this kind of crisis – take Suez as an example – what you usually find is that the Cabinet sets up a special committee – the Suez Committee in that case. It's serviced by officials and senior officers, and is really the executive arm of Government for the purpose of that operation. Looking back on my time with the airlift, I can't for the life of me think of anything parallel that was set up specially to deal with the airlift in that kind of way, with political management. It may be because it was a very curious operation in that it was directed very simply towards the supply of Berlin and political aspects were not all that closely involved; there was a separate political dimension obviously but it was one which the Foreign Office would handle on diplomatic channels without there necessarily being a bridge between the military operation and the diplomatic operation. So my first point really is a question.

But going onto a bit of reminiscence. Early on, and I think it was you, Mr Chairman, who referred to sensitivity as between the American and the British loads that were carried into Berlin, I think I can say, and quite sure Air Commodore Rainsford would agree with me, that as far as the Air Ministry was concerned, certainly on the professional side, there was no sensitivity at all, for the object of the exercise was to get the maximum tonnages into Berlin by the most efficient logistical and transport methods. But because the media perhaps particularly begin to see these things in terms of sort of league tables – who's carried this much, and who's carried that much – clearly one had to point out that if we gave up Fassberg and Celle

to the USAF, then the RAF contribution at any rate for a time would be bound to go down, which indeed it did. Being, as one hoped, a reasonably far-sighted civil servant, I thought it appropriate to draw this consequence to the attention of the Chief of the Air Staff. All I can say is, the minute back from the Chief of the Air Staff was best handled with a pair of tongs because it was quite clear that as far as he was concerned, this particular aspect of the change of bases was of no importance whatsoever; it may have been of some importance to the Secretary of State for Air, who Air Commodore Rainsford had, so to speak, to service; I ask myself why it was Air Commodore Rainsford, why wasn't it the Chief of the Air Staff who, from time to time, went along to brief the Secretary of State for Air? Well, as I think I've said in another connection, relations between Sam Small and the Sergeant were those of blood brothers compared with those between the Chief of the Air Staff and the Secretary of State for Air. At what must have been a very early stage of the operation, and this particular episode never ceased to rankle with the Secretary of State for Air, there was a meeting in the Chief of the Air Staff's office at which the Foreign Office were present at which this decision whether to attempt the airlift was taken, at which the Secretary of State was not present; he felt very strongly as the Head of the Department he should have been.

Finally having spent nine months or so briefing people and writing reports and minutes and so on the airlift, as it was clearly coming to an end, with a wing commander whom Air Commodore Rainsford will know well – Reggie Cox – who was on his staff, we decided that we would go and see what had been happening at the other end. So off we went in a light aeroplane and got to Wunstorf and flew into Gatow and came back on a York, and then – and our timing could not have been better – we found that we were invited to the 46 Group party which was to mark the end of the airlift. I can't remember much about the party of course except – and this is a story which somebody else may like to tell – the appearance at that party of the wife of the Base Commander at Celle.

**John Tusa:** Could you, Sir Frank, take up that very challenging point which Sir Kenneth left us with, which was how did the Russians miscalculate?

**Sir Frank Roberts:** Well, the Russians made mistakes, like everybody else, but I think, looking back on it, Stalin did make a mistake, he made others – he made a great mistake in deciding Hitler wasn't going to attack him in 1941 and stopping his front line generals from doing anything about protecting themselves. But I think really in 1948, despite Ernie Bevin's confidence in the Royal Air Force, there was no certainty. It was perfectly possible to start it in the summer, but whether we'd be able to go on if we had to go through the winter, was very uncertain. I think from Stalin's point of view it was perfectly reasonable that he should put the odds on the failure of the airlift to do what it had to do, which was to feed the Berliners, at 50:50 at the best, so I don't think one can entirely say what an idiot Stalin was. You proved him wrong, but he didn't necessarily expect he was going to be wrong. And I have been told that it wasn't as bad a winter as it might have been – that could have made it more difficult. So, yes, he made a mistake, luckily, but he made others, which were bigger.

Might I ask a question which has always been on my mind? Of course the French were not in a position to help in the air at all, but I've always understood that during the airlift Tegel was brought into use. Was it really in use or was it just ready if the airlift had gone on longer? It was actually used, was it? Yes, so that was in a way a contribution from the French sector. It was run by the Americans? That's what I assumed. But my other point is that at a similar conference in Nottingham some time ago – and we didn't have so many experts there, by any manner of means – there was an American who seemed to remember that when the Americans were feeling they had to use the British airfields in our zone, for a time they were being shared and they got things from us and we got things from them. But what I gathered latterly was, they were just asked to take over Celle and the others. Were there periods when we were sharing them, or not?

**Anon:** Only at the start. They took over Fassberg and Celle and they were entirely American.

**John Tusa:** May I make one comment and raise one question about the role of the French. The comment is that surely the greatest

French contribution was that, having built Tegel, there was then a Soviet radio mast right at the end of the airfield which rather obstructed matters and the French general ordered his men to blow it up. The Russians simply couldn't believe it – the thing was blown up – there was a wonderful picture of it going down and the Russian Commander stormed in and said, 'How did you do it?' and the general uttered the immortal reply, 'With dynamite and French sappers.' That story is not just good, but true. The apocryphal one is that we were told that the French began the airlift with one aircraft – this aircraft was such a damned nuisance and the French made themselves such a damned nuisance on the strength of it that somebody was ordered to back a lorry into it at Gatow very heavily and disable it. This is certainly what happened and the French were then out of the British and the Americans' hair – and air – but does anybody know if this is true?

**Anon:** I believe this aircraft was used largely to supply luxuries for the French garrison.

**Sir Kenneth Cross:** If I might say a word about Tegel, and Sir Frank might remember as well; that airfield was constructed from scratch during the airlift and, if I remember rightly, there was a great deal of debate on whether it was worthwhile doing it. Was not the crucial point a political one, that the French wanted an airfield in their zone?

**Sir Frank Roberts:** I don't honestly know, because I went to Moscow for seven weeks and then got back and then the discussions were transferred to the United Nations Security Council, at that time meeting in Paris, so I had to go off to Paris for another two months or so. So from the end of July until well into the winter, I was not acting as Private Secretary in London. And I wasn't so well aware of what was going on at the centre. I was very well aware of these two negotiations with the Russians taking up all my time.

**John Tusa:** Thank you. We're going to press on with some more modern perspectives now and first of all Sir Frank Roberts is going to talk about the impact of the blockade and the airlift on the post-war world. Sir Frank.

**Sir Frank Roberts:** I'd like to put this under three main headings and the first is the Berliners themselves. We haven't mentioned them

very much yet because, obviously, however good an airlift we had, however magnificently we'd organised it, if we hadn't had the West Berlin population with us, it couldn't have worked. And the Russians were trying to seduce them, they were saying, 'If you come over to our zone, we'll give you rations', and things like that, and the relations between all the Allies and the Berliners, and indeed the Germans generally, were not good at that time. We've heard already we didn't think much of the Germans, they had no particular reason to love the occupying forces. Luckily, in Berlin of course they on the whole preferred us and the Americans to the Russians. But that's about as far as it went. So there was no certainty that this was going to work. And I think the most important day in one way on the ground in Berlin was when Reuter, the Mayor whom the Russians wouldn't allow to be called the Mayor, and the lady whose name I forget who was his Deputy and the Acting Mayor, came to see the Commandants and said, 'You're probably wondering whether the Berlin population are going to take what it needs to see this thing through; let me assure you, we are.' And they did. And as a result of that, of course, when it was all over, there was a very different attitude on the part of the Berliners towards the Allies who had protected them, but also I think on the part of the Allies towards the Berliners, who had shown – well, let's put it mildly – 'guts' throughout the whole operation. And, leaving aside also the Germans who helped with the loading of the planes and all that kind of thing. So that did create the beginnings of a new relationship between the Western Allies and the Germans and that spilled over of course into the West. At the time the Berlin Airlift was over, we had said we were not going to halt our measures for setting up a West German Government, and three very important things happened. There was the occupation statute, by which our occupation rights were limited to certain things, there was the basic law which the Germans have been celebrating the 40th Anniversary of today, which is the German Constitution, and the first West German Government under Adenauer. And of course the Germans celebrate this as the beginning of the Federal Republic. In fact, I think, technically, we the Allies signed the documents later on in '52 and it didn't enter into force until '55, but nevertheless West Germany was from then on no longer an occupied country in the West and was more and more part

of Western Europe. Without this, quite plainly, one would never have moved towards the kind of integrated Europe that we have today, and the Marshall Plan, the European Recovery Programme as it became in '49, and again I think Ernie Bevin played a great role in that, would never have succeeded really if we hadn't got a better West German economy integrated into that whole endeavour. And also at about that time there came the Coal And Steel Community which started Franco-German reconciliation. Now none of these things would have happened without the airlift.

Another very important thing it did was it showed the world that the West was ready to stand up to Stalin in a place where all the local advantages seemed to be his and not only to stand up to him, but to win. There had been doubts about this, after all at that time the strongest armies on the Continent of Europe were in fact the Swedes, the Swiss and the Yugoslavs; I don't mean potentially the strongest but the actual strongest forces. And so this did of course change opinion and here one comes to NATO, because already in '47, at the Four-Power Conference in London, the last one we had with the Russians until '54, Ernie Bevin had had a talk with General Marshall and said, 'You know, General Marshall, the economic recovery programme is marvellous, but it's not enough, we have to give Europe confidence in order that they can push that thing forwards, and they haven't got it now, so we really do need a military security arrangement as well as the economic arrangement.' And Marshall said, 'Yes, I quite agree, but how am I to get this through Congress? It's a complete revolution in American thinking and you Europeans must do what you can before I can take this up.' And so there was the Dunkirk Treaty with France and the Brussels Treaty bringing in Benelux, and Monty went to start the Headquarters in Fontainebleau, and then Bevin with Bidault by the hand, said to Marshall, 'We have done all we could do and now it's up to you,' and the NATO negotiations started. But there were many countries at that time that were not at all sure that it was not a bit dangerous to get involved in this and it was the success of the Berlin Airlift that persuaded some of those countries – Scandinavia and others – that it was not only necessary because of the threat of the blockade following upon the Communist takeover in Prague, but also that it was safe and could be



done and the West was strong enough for them to join, but it was still necessary to join. So I think NATO itself might never have got off the ground without the Berlin Airlift. I think those are all pretty substantial achievements and we certainly shouldn't have had the Europe we see today if it hadn't been for that.

**John Tusa:** Thank you very much, Sir Frank, for saying so much in such a brief period, and reminding us just how much the world that we have benefited from turned on this extraordinary event that so many people here were responsible for. When I throw this forward even further to the question of whether it could be done today, the person who has that unenviable task of trying to answer it in the affirmative is Group Captain Keith Filbey. He is serving as Group Captain Air Transport and Air-to-Air Re-fuelling at Headquarters No 1 Group.

**Group Captain Filbey:** Mr Chairman, Ladies and Gentlemen, thank you. I am responsible for ops and training of all our air transport and air-to-air refuelling squadrons in No 1 Group.

Mr Chairman, I've noticed that you've struggled to keep some speakers to talk to time, but I'm sure you saw in 'Peterborough' about a fortnight ago that 'Flying Officer Parsons gave a talk about the Berlin airlift which went on for nearly a year.' In total contrast, I hope in slightly less than 15 minutes to give you my view of the capability to emulate the achievements of our predecessors, some of whom are sitting here. I'm going to tell you how we would expect to go about it.

Before attempting to answer the question, I have to make certain assumptions that I consider would be necessary before an operation of this magnitude could be contemplated. I intend to draw comparisons with the original Berlin airlift, taking note of any changed expectations of the Berliner, and compare airlift resources, facilities for ground handling and distribution, before finally discussing some problem areas.

First, I am sure you will agree that the political pressures for supporting Berlin remain the same as in 1948, but it may be even more important now, as Berlin is shown as a showpiece of Western democracy, freedom and the success of capitalism. The Berliner has

improved his quality of life beyond recognition. I believe that our political masters would wish us to continue; furthermore, they would wish us to support Berlin industry both in importing raw materials into Berlin and where possible exporting the finished products. Secondly, I believe that we anticipate the same level of co-operation between the original four powers – the United States, the United Kingdom, France and West Germany. I would also expect wide support from the rest of our NATO Allies and Commonwealth partners, as well as international support. We might even get a United Nations resolution, although quite what that would do in terms of airlift, I'm not sure. For my purposes today, I will assume just the four-power involvement as in 1948. The airlift would almost certainly be controlled under a multi-lateral leadership, which would be just as important now as it was 40 years ago. We would still be operating into the same number of airfields in Berlin, namely, Tegel, Tempelhof and Gatow, although of course they are much more modern now. Centralised command and control would be essential to ensure the success of the airlift. Thirdly, I would expect diplomatic and political initiatives to have largely failed before military intervention was contemplated. Even then, I do not consider a full-blooded airlift would be either the first or the only military response to a blockade of Berlin by the Soviets. However, it is beyond my brief to discuss any measures other than this airlift. Finally, I consider this airlift could only be considered in a permissive air environment, by which I mean we would only be expected to operate in conditions that stopped short of open, hostile, enemy action and I define that as a shoot-to-kill action by the Soviets. Harassment from the Soviets can be anticipated and will undoubtedly have become more sophisticated over the last 40 years.

So, given these assumptions, I will attempt to answer the question by outlining the resources that I believe are available now and draw comparisons with those pertaining in 1948 and the steps that would be necessary to set up an airlift today. Firstly, when investigating this, I was surprised to find that the population of Berlin is showing a steady decline, from approaching 2½ million 40 years ago in 1948 to around 1.8 million now, which of course means fewer mouths to feed. However, the most significant change I would expect in the

potential size of the fuel uplift required today is that in 1948 70% of the airlift was coal whereas there are now both large stockpiles in situ and alternative forms of power available. I would expect the fuel equation to have changed significantly in favour of wet fuel, ie petrol and diesel, and you will know that since the Falklands conflict, that airborne air-to-air refuelling has increased in importance within the Royal Air Force. So there is now ample capacity for moving wet fuel, for example the TriStar could carry in excess of 65 tons of fuel into Berlin. I would expect that the actual shopping list of daily and monthly requirements would be compiled initially by the Berliners and agreed by the Government of the Federal Republic. Clearly, this would also have to be agreed by the Allied powers, but I will assume that the daily requirement is going to be similar to that in 1948. This allows for the reduced fuel requirement which I've just told you about, but also accepts that their aspirations for a better quality of life will be difficult to assuage unless we provide them with some goodies.

We would of course need a warning period to set up the necessary organisation; I anticipate that our German colleagues would already have the infrastructure and the essential elements of the distribution system that could move supplies to the airfields in the Federal Republic ready for airlifting and a similar system for distribution within the city of Berlin. I accept that this is a simple statement and I appreciate that it is a sizeable and vital undertaking by the host nation, but we have several advantages. We've had to do this before; we've heard how we did it. We have the rail- and air-head infrastructure and we have the chance to prepare other infrastructure to do the task.

Turning now to the air movement resources, we would expect the supplies to arrive at the nominated air-heads in sufficient time to be palletised, if this had not already been done, onto standard freight, which are typically wooden pallets. These in turn would be loaded onto aircraft pallets and I hope you saw some of the photographs of pallets out in the foyer. The aircraft pallets can then be rolled onto the aircraft and you will appreciate that the time involved to onload and offload pallets, given the necessary ground handling equipment, including fork lift trucks, con-decks, transfer loaders etc, would

enable a considerably reduced turn-round time, which should ease congestion on the ground in Berlin and make better use of our resources.

Our airlift capacity has, as you would expect, considerably increased in the last 40 years. As a brief reminder, you will recall that at the start of the Berlin airlift, we used the Dakota, with a capacity of 3-to-3½ tons; this was joined later by the York, with 9 tons and the Sunderlands with a similar capacity. Regrettably, it is some time now since the Royal Air Force flew flying boats. Finally, straight from the production line, came the brand-new Hastings, with an 8½-to-9 ton payload capacity. I consider that we in the RAF could handle the UK element of the airlift ourselves, however I would not rule out turning to civil aviation, but there are very few freighters on the civil market. For now I'm going to concentrate solely on the Royal Air Force and the UK element of the airlift. Our current air transport fleet includes the fairly recently acquired TriStar – we're going to have nine TriStars of which four will be freighters. I was fortunate enough to command the first squadron of this very fine, wide-bodied strategic transport aircraft, which can airlift in excess of 65 tons, or 265 passengers, or a mixture of both. The VC10, as configured for the Royal Air Force, can carry either 23 tons of freight or 141 passengers, or again a combination of the two. And finally, the ubiquitous Hercules, still regarded by many as the most versatile military transport aircraft in the world. This slide shows the original C Mark 1 in front of a stretched C Mark 3, which increases the payload from 17 tons in the Mark 1 to 20 tons for the Mark 3. On this slide I have summarised the airlift capacity of our current aircraft, including, for interest, other major Allied aircraft that could be involved. You will see that the Boeing 747 freighter can lift 103 tons, which makes a telling comparison with the 3-ton lift of the Dakota. You will appreciate that ground handling, movement and distribution systems will have to be extremely well organised to shift the greatly increased load disgorged from a single aircraft. I have also included down the right hand side the number of aircraft pallets which each aircraft can take and each aircraft pallet can in turn accept four freight pallets.

In summary, we have greatly increased the airlift capacity and could

expect reduced turn-round times for all palletised loads. But I don't think we'll beat Jack Holt's 11 minutes.

Turning now to known problem areas. We cannot control the weather but have made major advances in the amount that it can control us. The winter of 1948/49 was, as you've heard, a mild one by mid-European standards, but we are now much better equipped to deal with the harsher weather conditions. Some of our aircraft today are fitted with auto-land systems that give us the hands-off, zero-zero landing capability, which means we can land with the cloud on the ground and no forward visibility. We can also take off with only 75 metres visibility, which is just enough to keep straight as you go down the runway. In addition, we have more modern ground and navigational aids, and we are better equipped to fly accurately without relying on external aids, our aircraft being progressively fitted with more advanced inertial navigation systems which do not depend on ground-based aids. We have a more sophisticated air traffic control system supported by radar. This enables us to guarantee the safe routing of aircraft through the Berlin corridors and ensure efficient flow control. I would not expect the same traffic density that you had 40 years ago, which is just as well as the modern wide-bodied aircraft causes significant wake turbulence. This necessitates a greater separation both in the air and on the ground. Typically, we need three minutes' separation before another aircraft can depart after a wide-bodied aircraft has taken off. We would expect more sophisticated electronic warfare, but we are now much better placed to combat electronic warfare with counter-measures, radar warning receivers and secure unjammable communications.

In summary, given the political go-ahead, we have the aircraft resources, if the host nation can provide the infrastructure and distribution system to mount a successful airlift. I would expect the RAF today to respond to the inevitable and perhaps unseen problems that will arise with the same resourcefulness and dedication as our predecessors did 40 years ago. Could we do it today? I believe we could. We would certainly do our best.

**John Tusa:** Thank you very much, Group Captain. While you're

there, there may well be some questions specifically for you.

**Rupert Crowdy:** I think in certain quarters what I'm going to say would be absolute heresy, but I do believe that at the higher echelons of command it would be much simpler if the loading and offloading of aircraft was not done by the Army but was done by the RAF, because you are then under one centralised control. The reasons I understand it has not been possible in the past is a question of distribution of manpower, it's as simple as that, but I'm sure it would make the higher command very much easier to control where the loading and offloading were entirely in the hands of the RAF.

**Group Captain Filbey:** We actually have a United Kingdom Mobile Air Movements Squadron at Lyneham; we do a lot of our own loading and offloading, but we haven't yet resolved it, you're absolutely right. We don't have the manpower to do all our unloading; we have a significant squadron that can do a lot of the unloading, but they certainly couldn't cope with something like the Berlin airlift.

**Anon:** Even your smallest load carrier, the Hercules can carry over double what the biggest one could carry in the previous airlift and it would seem to me that with your big aeroplane you could do the job with much less effort than we did. So some of the problems which we had, of cramming up together, wouldn't be necessary with what you've got there.

**Group Captain Filbey:** Yes, we certainly wouldn't need to use all our slot times – we would be able to build into the programme spare slot times, so that if somebody didn't get in, for whatever reason, we could make use of that spare slot time.

**Sir Frank Roberts:** I think that this kind of operation could obviously be conducted with the Germans this time. It would be a four-power thing, and they could presumably help enormously in the Federal Republic, but of course if we keep to the rules, as we always have done in rows with the Russians over Berlin, you can't have any *Luftwaffe* personnel in Berlin, so there we would have to rely on civilians or ourselves, but I should have thought in the Federal Republic you would have an enormous amount of support from *Luftwaffe*, *Lufthansa*, from everybody. But not even *Lufthansa* in

Berlin.

**Group Captain Filbey:** It would have to be Allied airlift doing the flying.

**Sir Frank Roberts:** Unless of course they changed it; the Germans would like to see it changed.

**Group Captain Filbey:** There is one interesting point that during the airlift that you went through, the labour was extremely cheap, if not voluntary; I think we would be pushed in the early stages of an airlift to find cheap or voluntary labour to help unload the aircraft.

**John Tusa:** Can I ask a technical question: could you just elaborate on the targets for tonnage that you said you were aiming at in another airlift, because they sounded, if I caught you right, rather on the low side.

**Group Captain Filbey:** I said that I thought we anticipated we would have a similar lift to the one we had 40 years ago, which was an average of roughly 4,000 tons a month.

**John Tusa:** It sounds terribly low, doesn't it?

**Ann Tusa:** 4,500 tons assumed a daily ration of 1,500 calories, which was 1,000 under the UN recommendation for average adult food, so it was Weight-Watchers diet. It assumed four hours of electricity a day, very low gas pressure and no extras at all – no consumer goods, no nothing. I wonder whether you could persuade 1980s people to live as Berliners who'd gone through the end of the war and the start of the occupation, whether you could persuade people now to live at that unimaginably dreadful level.

**Group Captain Filbey:** We couldn't possibly, but 70% of the airlift 40 years ago was fuel, was coal. If you take the coal away, you're talking about 4,500 tons a month.

**Ann Tusa:** 4,500, I think, was set before they decided that it was possible to fly in most of the coal; by the time they had to have an assumed winter ration of coal, it was 5,500. I still think that the extra that would be necessary would be way about 4,500. However, I hope I'm wrong.

**Group Captain Filbey:** Well, even if you're not – and I did say this

was a personal view rather than the official view – there is a lot of spare capacity to increase what we've got. Berlin Tegel, for example, now has two runways, so we don't have the problem of one landing before the other one takes off. One runway can be for take-off and the other one can be used for landing.

**John Tusa:** A political question for Sir Frank: given what you've said about the political unity of the West Berliners, and given the power of the Greens, and those who say there is an alternative role for Berlin and that it ought to be a united city, and forget all its ties with the Federal Republic, and so on and so forth, and its ties with the West, how worried are you about the sheer fragmentation of political opinion in Berlin, because in a sense it undercuts one of the ingredients which made the success of the airlift possible?

**Sir Frank Roberts:** If you look at the world situation as it now is, whilst it's a good thing to have plans for everything, I do not see another Berlin blockade or another Berlin airlift. I think even if Mr Gorbachev disappeared and somebody else took his place, they would not repeat it. Because, let's face it, Khrushchev didn't repeat it even in the second Berlin crisis; he didn't try that way of getting us out. And he really wanted us out, which was more than Stalin did. So I don't foresee this political situation arising, but if it does, I do think it would be far more difficult because, as has been said, the Berliners today are used to a very high standard of living. There are all these different bodies, the Greens and all that, you have got a different relationship with East Germany next door, so that altogether, politically, I think it would be a far more complicated affair. You may say the Foreign Office never foresees anything, but I don't foresee this happening again. Not in my lifetime, anyway.

**Denis Richards:** I come back to what to me is the \$64,000 question. How on earth was this situation not envisaged at the time of the conclusion of the original agreement? It seems quite extraordinary to have an enclave like this, in the middle of a hostile zone, and nothing apparently laid down precisely and cast-iron to ensure the Allies of their access. Sir Frank says that it was because of the Americans, who felt it would restrict our access, but it really does seem extraordinary; was it not a lack of provision by our diplomats in



1945/46 that produced this appalling situation?

**Sir Frank Roberts:** I'm afraid you've forced me to say something I would rather not say; it was in fact the military who didn't want it. But I'm glad to say it was mainly the American military. And the reason was the one I've given – I don't think it was actually General Clay at that time, but whoever it was, said, 'No, we obviously have every right to go into Berlin and if we start negotiating on how we go in, and where we go in, we are saying that we can't go in in any other way. We're not going to tie our hands in this way.' The diplomats, to do them justice, did say – both the Americans and the British – 'We think it would be better with the Russians to have something in writing', but at that time America listened to the military view and we had to listen to the Americans. You may say that this is ridiculous – of course it was, but let's forget about all that, because all that's been put right; we now do have written agreements which were made in 1971 and that is the great advantage of the four-power agreement on Berlin in 1971. I used to have to argue with the Russian Ambassador in East Berlin when he was complaining about this, that or other, that in England we have the common law. Well, I would far rather have said, 'Look up Chapter 3, Sub-section 5 of the document you have signed.' There is one and they have signed it. So whatever went wrong in '45 is irrelevant today.

**Sir Kenneth Cross:** I simply must come to the defence of our American military colleagues. What caused the trouble was the setting up of the zones with Berlin so deep inside the Soviet zone. Now in the conference which we had in London which was with Seely, Winant, Strange – the European Advisory Group – it was argued that we shouldn't have that sort of arrangement; we should have slices of cake with the points finishing at Berlin. It was the American, Winant, who said, 'That sounds as if we don't trust the Russians and I've got a great relationship with the Russian Ambassador' and therefore he wouldn't change it. So it's not all the fault of the American military.

**Air Commodore Rainsford:** This does raise a point about how precise and how imprecise one ought to be. The difficulties of flying aircraft above 10,000 feet into Berlin still held sway in the early

1970s because at that particular time we wanted to send the Red Arrows into Berlin – the Royal Air Force aerobatic team. We weren't able to do so because the height limitation had been laid down in the early days of piston-engined aircraft, with the transition to jet aircraft. Now perhaps not having an agreement is a mistake; having too precise an agreement is equally a mistake. Perhaps really what one wants is something like free and unfettered access by air, land and sea to Berlin, period, and then allow full interpretation within that blanket coverage.

**John Tusa:** I can add something to that, because I asked one of the British air traffic control people in Berlin about the height limit, for I think what we've now got is a somewhat messy mixture of the common law and what's been written down in agreements, and he said, 'Well, alas, the 10,000 feet is purely something which we agreed to, it's not written down and so that is why it is still there.' Apparently they are now suggesting that because of the Soviet desire to use the lower levels of air space for training, possibly the entire box may be moved – you know, 10,000 feet of air space may just be moved up. But 10,000 it will remain because the Russians in that case really do invoke common law. It's always been 10,000 feet and you shan't have any more, but nothing is written.

**Air Commodore Probert:** We haven't heard anything so far about accident rates or loss rates. I can't quite remember what the accident rates were, but I think they were surprisingly low and perhaps we could be reminded of precisely what they were. Then I would appreciate the thoughts, perhaps, of Sir Kenneth or Freddie Rainsford, on what they thought might happen in terms of accidents and loss rates. Were the rates in fact substantially lower than you had thought possible or likely and what sort of measures were taken? Then, connected with it, could I ask also what was your thinking about the possibility of Soviet intervention – what sort of measures, if any, were taken against the possibility that the Soviets might try to interfere with the air traffic into Berlin?

**John Tusa:** Can Paul Wood help us with the first one about the accident rates – at the end of the film it said 41 British dead, 31 Americans, 5 Germans; but a good number of those were ground

accidents.

**Paul Wood:** I don't think I've got very much to add to that; as far as I am aware there were five air crashes on the part of the RAF, which was a surprisingly low rate altogether.

**John Tusa:** Sir Kenneth, what was your expectation about accidents, including, above all, mid-air accidents?

**Sir Kenneth Cross:** Well, you must remember, it was only three years after the war and losses in accomplishing the task had become part of the accepted philosophy of the time, but I can't remember the question of accidents ever entering into the planning criteria and I have a fairly strong remembrance that the accident rate in the airlift was below that of the Royal Air Force as a whole. As regards the interference, this was a thing that did surprise us. Why the devil didn't they jam out every frequency we'd got? They never did. They could have jammed the lot and there was talk at one time of putting balloons in the corridor but it never occurred and it's in line with my \$64,000 question – why didn't they do these things? Why didn't they do the obvious things that we would have done?

**John Tusa:** Well, would we?

**Sir Kenneth Cross:** Certainly.

**John Tusa:** Sir Frank, do you have a final thought on that?

**Sir Frank Roberts:** Of course the whole operation was unique, and there were risks in it, but Bevin himself was quite confident that, provided we kept to the rules in Berlin and didn't start firing first or rush convoys through on the ground, that the Russians would not in fact take any military action which might have involved them in war with the United States. That was his view, that was certainly our view, certainly my view having spent three years in Moscow, and we were right. But you may say, we might have been wrong, but in fact we were not. Stalin was an exceptionally cautious operator, very unlike Krushchev, who took gambles. The one rule Stalin had was, 'Don't get involved with the United States, they're too strong.' And if it had only been us, he might have taken the risk, although I rather doubt it.

**Air Commodore Rainsford:** On the question of accidents, I rather think our figures were a little less than given earlier, something like 41. I wonder if possibly the Viking that was brought down by a Russian fighter just before the airlift began – you may remember there was a Russian doing aerobatics and he ran into this BEA Viking and they were all killed – might possibly have been confused with the other figures, but that's not really important. But I think the reason that the accident rate was so low was because Transport Command training really was superb. It was due to two remarkable CinCs, I think. The first was Sir Ralph Cochrane, who had the phrase, 'An aeroplane is no use on earth', and he really did push training very hard indeed – I know this because I was on the staff. Brian Baker was the other. The training was absolutely first class and I'm sure that was the main reason there were so few accidents. And the other thing is slightly related, but many people may not know this, but the Berliners themselves set up a little fund in perpetuity to support the families of those who were killed and that fund is going to this day.

**John Tusa:** What about the question of Soviet intervention? Did you expect more Soviet intervention?

**Air Commodore Rainsford:** I wasn't really concerned with that side – I was very much on the Air Ministry side and I think that Air Marshal Cross is in a far better position to answer that for the politicians. That really wasn't in our field at all.

**Jack Holt:** There were certain attempts by the Russians to interfere with us flying in and out of Berlin; in fact we could see their MiGs – on grass airfields, I might add – just outside Berlin, and there were certain occasions when these would take off and fly through our corridors and out of our corridors, and though I wasn't really concerned with Air Staff matters at that time, I do believe that the incidents were taken up with the Russians and settled that way. They only did it, as far as I can recollect, when it was blue sky all round, they never tried it in bad weather when there was any sort of risk. They did it, I think, just to show that they thought they could interfere if they wished to.

**Ken Batchelor:** My experience of delivering the goods was mostly

confined to bombs up to 8 tons at a time in those days, but I'm staggered at the figures of the capacity we now have for airlift and the figures which were produced by Group Captain Filbey of 65 tons maximum, it's quite incredible. I was also involved in dropping containers to the Resistance; again, we used to be able to carry more than the receptions could receive and hide, but we had one hell of a problem, that was Bomber Command was turned over to feeding the Dutch in Operation 'Manna', when the Germans were still there about a fortnight after the war. And really we hadn't got the capacity to do it and what we had to do was improvise – we found that no more than 30 lbs of food could be put into a sack and there were usually two gunny sacks and bulk was a problem, not weight, and it was very successful. But it was tremendous effort to drop not really many hundreds of tons of foodstuff. How things have changed now is quite incredible.

**John Tusa:** Are there any other eye-witness moments which anybody would like to share just to round off this marvellous cross-section of views that we've had about this great event, or in fact any further questions that they would like to take up?

**Anon:** This is a rhetorical question: it's quite frequent that when people look back over a number of years, and remember things that happened 30, or 40, or 50 years ago, one thinks of them with the sun shining. If there's a psychiatrist in the audience, I would be very glad if he could explain to me why, when I look back over 40 years to the airlift, all I see is rain and low clouds.

**John Tusa:** Well, if nobody can explain that, I think I shall move on to what has been listed as the final item in the seminar, which as always is the worst moment for a Chairman, when the Chairman has to sum up, and to sum up a discussion like this, when people have been talking in the most intense way from their own first-hand experience, is difficult indeed for somebody who has only witnessed it academically. But what has stuck out in my mind from the contributions we have had is, first of all, on the political side, Sir Frank Roberts emphasising both Stalin's caution and the reasons which made him act, which were the over-riding desire to prevent the creation of the West German state, but that he would only go so far

to achieve this, and he would not run more than a certain number of risks to achieve this end. But I wonder if that isn't why the Russians did appear to set those limits which Sir Kenneth mentioned, it was as if they had sensed the rules of escalation long before they had been defined by the Americans in nuclear strategy. They would go thus far and no further and they probably thought that they could get what they wanted by going thus far and no further, but nevertheless it was very important that the limitations existed as they did, and I think that Sir Frank's summary of the extraordinary way in which both the experience of the airlift and the defeat of the blockade acted as this hinge on which the immediate post-war history turned into the post-war history that we have lived with for the past 40 years, and that the shape of post-war Europe and the Western political and defensive system were all born or were influenced by the crucible that was the airlift and the blockade. And I think that was a very important perception; it was not just as important as it was, not just a matter of flying, it was a matter of high politics as well. And what I think has also come out of the discussion is the triumph of pragmatism. Sir Kenneth asked the question at the very beginning, 'Was the thing under control? Did anybody have any idea?', I think implicitly suggesting that it probably wasn't. All sorts of important pieces of information simply weren't known. What was needed? And, as you said, nobody had the faintest idea of what West Berlin needed, there was no real direction from the Chiefs of Staff. Imagine now, being asked to run any operation where your commanding officer said, 'Something must be done', and where Bevin said, 'Do your best.' Unthinkable now. And perhaps one of the most memorable remarks of the afternoon, 'It was simple by comparison with war.' Well, it may have been, but it was a hell of an operation. And I think that the professionalism is the other thing which I take away from this afternoon, and in a way this is the wrong audience to appreciate what you all did, and it came out in everything that Brian Stanbridge, Jack Holt and John Dowling said. 'We were very good at everything', said John Dowling. Certainly all the air crew that we've talked to obviously were damned good and the navigation, above all the sheer pride of the York navigators, who could fly spot-on from place to place with amazing accuracy. This is something which was obviously an underpinning element of the entire airlift and in the

question of professionalism, to have aircrew saying that they approved of what the planners did, and they admired the planners, must be one of the very, very few occasions when people who are working at an operation are not cursing and swearing at those who are planning it; and as somebody in the upper echelons of the BBC now, I know of what I talk!

So those are some of the impressions, but I'm left with a question, and the question again has been – and you put your finger on it, John Dowling – I think that some of the realism is missing, and it's understandable, it was a much tougher business than anyone has really hinted at today, and it was a much closer-run thing than anybody has perhaps hinted at today – the lousy weather in July, the very, very slow build-up of the tonnage, the documents are filled with papers from the Scientific Department doing the figures on a weekly basis, saying, 'It's not enough, you're not going to do it', and it's a constant theme for the first four or five months. They must have been terrible memos to receive, because they were so depressing, and of course they were right. If it had only been a question of tonnage, and if the question of the morale and the political determination of the Berliners had not been a crucial part of the equation, there was then the exhaustion of the aircrews. You clearly don't remember it, but there were doctors' reports talking about the fatigue, drinking too much coffee, not enough food, too many hamburgers, too many doughnuts, and how this had to be got a grip of because the crews were just falling asleep on the job sometimes. I think actually, Brian, you told us a story – in fact I'm sure it was you who fell asleep, then woke up when you found the plane was in a dive. The sheer difficulty of organising the wet lift, again we haven't had anybody from the civilian side here but Edwin Whitfield – Edwin Whitfield, the BEA Manager, must have been had most superhuman patience, and when you read between the lines of the BEA report, there isn't a tenth of the really dreadful time he had with the wet lift, admirable as a lot of the people were. Nevertheless, it was a nightmare and that wasn't really got going till January of 1949. And then of course the difficulty of meshing in the practical side of the airlift with the negotiations and appalling political pressure on the ground that there was, which was exerted by the

Russians, by the East Germans and others, on West Berliners politically. So it was much harder than perhaps we've admitted today, but that really doesn't matter at all, because, after all, it worked, it worked triumphantly and it worked because of that mixture of the pragmatism of the politicians, the professionalism of the airmen, and I think the passion of the people of Berlin. And that is why it is such an extraordinary event and why I think this afternoon has shed such a fascinating light on that, and if I may say so, I am grateful to the Royal Air Force Historical Society for deciding to air some of these things and bringing them out into the open.

**John Greenhill:** Thank you, Mr Chairman. Ladies and Gentlemen, I have been asked to round this off. I hope you found, as I have, that it's been a quite fascinating day. I'm not going to ape the Chairman in trying to copy his masterly summing-up, other than to say that I'm sure that if he was in Transport Command, his precision and objectivity would no doubt have got him an A1 Category straight away.

There are many others whose contributions we would have liked to have included, but time did not allow that; if anyone here felt that the groundcrew, the air traffickers, the fire services, everybody else who gets involved in such an operation, didn't get their fair share of it, I can assure you it was not through want of trying or any forgetfulness on our part. I'm not a transporter by background. We've had many lucid accounts today of this operation; I can only add one personal note, I was involved very briefly, I was one of Sir Kenneth's fighter-bomber boys, who was in BAFO at the time, and things that carried cargoes other than bombs and guns were quite strange animals to me. I found myself at Gatow the first two or three months. Later on in my career I found myself involved in another airlift, in Zambia; an equally impossible operation on the face of it but one which was mounted and sustained that country in the face of Ian Smith's UDI. So here we have, in my view, two prize examples. Today we've heard a very full account of the first one, of tremendous instances of the use of air power in the pursuit of political wills in circumstances which objectively we should never have got into in the first place. But we did, and we succeeded, and given your remarks at the



beginning of the day about the events in China, I don't put a great faith in crystal balls, and I think we've got to keep some sort of capability like this going, just in case. But there we are, it's been a grand day, I hope you will agree.

## DR BOOG'S LECTURE

Having read our report of the Question Time that followed his lecture on 20 June 1988 (Proceedings 4, pages 56-63), Dr Boog has written to amplify certain of his answers. Readers may be interested to see the points he makes:

(a) Reply to Sidney Goldberg (p 56). 'When Udet realised that Germany could not win the war and that he himself could not cope with the demands of his position as Director General of Air Armament, he committed suicide.'

(b) Reply to Tony Bennell (p 57). Add after Hitler (line 1): 'and wanted to retain these matters under his own direction'. For lines 8-12, substitute: 'and then in 1942, when they noticed that the British were far ahead, they recalled the electronics specialists from the front and put them into the laboratories. But it was too late to bridge the gap. Here also you have the offensive principle at work. Germany at first concentrated, not on radar (a more defensive device), but on developing navigational aids, bomb-aiming devices, etc for bombing raids, because the *Luftwaffe* doctrine was offensive. To come back to the question: under Speer nothing new was developed. Whatever became operational in his time, like the jet planes Me 262 and Ar 234, were older projects. Speer's time in charge of aircraft production was too short and his influence was waning.'

(c) Reply to Graham Hall (p 57). For lines 3 and 4, substitute: 'Since Hitler made the time for his attack on France in 1940 dependent on favourable weather and postponed the attack several times because of unsatisfactory weather forecasts, Goering got rather nervous and sent somebody to an astrologer to ask what the weather would be.'

(d) Reply to Denis Richards (pp 57/58). Substitute: 'At the beginning of the war there were only about two squadrons of operational transport aircraft of the Ju 52 type. They were intended to transport airborne troops and parachutists. The several hundred other aircraft of this type were primarily training planes, so there was no air transport fleet organisationally. Whenever air transport operations became necessary, the Ju 52 planes were taken away from the blind flying schools and assembled *ad hoc* in transport groups. In order to facilitate such measures the heads of the blind flying schools and of

the air transport operations were identical in the first war years. The frequent depletion of the schools of their Ju 52 planes caused serious delays in bomber pilot training. When finally in 1943 an Air Transport Corps was established, it was too late to be effective, since most transport planes had been lost in the air supply operations for Stalingrad and North Africa.'

(e) Reply to Christina Goulter (p 59). Substitute: 'As the war developed we did not have enough aircraft to continue attacks on ships. Goering withdrew all the planes tactically assigned to the Navy and restored them to the 'operative' *Luftwaffe* by 1941. At the same time one wing (KG26) was equipped with aerial torpedo-carrying planes to attack Allied shipping. These attacks were not very effective because of the small number of torpedo planes and because Germany had neglected the development of an aerial torpedo for too long. As to the air-sea war in support of the U-boats, it was mainly the unsuitable, and originally civilian, FW 200 that was used for reconnaissance purposes. The German submarines could not be supported by air. In fact, Hitler was very conscious of the danger of Allied air attacks on German shipping from northern Norway to Germany, especially in the last year of the war, when the importance of Norway as a base for the new U-boats, and of the iron ore transports, had greatly increased. But the flying units transferred to Norway in 1944/45 remained insignificant, and the bomber units remained grounded for lack of fuel. The main success of German land-based bombers against Allied shipping was in northern Norway in the summer of 1942 against Convoy PQ17.'

(f) Second reply to Chairman (p 61). Substitute for lines 3-5: 'Yes of course air defence was a success for a long time. But our active air defence was built up too late and was, after all, not strong enough as far as the numbers of fighters and the technical standard of our radar equipment were concerned. Furthermore, if we take this so-called Kammhuber Line, the number of attacking bombers became too large for it, since only one or two fighters could be engaged within one night fighting box at the same time'.

## **BOOK REVIEWS**

### **FLYING START: A FIGHTER PILOT'S WAR YEARS**

**By Hugh Dundas**

**Stanley Paul, 1989, £12.95**

**ISBN 0-09-173732-X**

### **MY PART OF THE SKY: A FIGHTER PILOT'S FIRST-HAND EXPERIENCES 1939-1945**

**By Roland Beamont**

**Patrick Stephens Ltd, 1989, £10.95**

**ISBN 1-85260-079-9**

These wartime autobiographies by two outstanding fighter pilots record some remarkable similarities: flying skill, survivability, decorations and – not surprisingly – appointment as Wing Leaders. By 1944, each had five squadrons under his command; ‘Cocky’ Dundas leading Spitfires in Italy and ‘Bee’ Beamont Tempests in Holland. In November of that year, aged 24, Dundas was promoted to group captain; Beamont might have been similarly promoted had he not had the misfortune to force-land beyond Allied lines in October and been made PoW. Both men did enough in the air in the Second World War to be honoured and respected for the rest of their lives, quite apart from what each achieved in their distinguished post-war careers.

Their books are full of interest as first-person studies of the tough RAF wartime fighter pilot world, in which both of them succeeded. Their paths crossed only once, in the Duxford Wing of Typhoons in 1942: ‘Cocky’ was commanding No 56 Sqn and ‘Bee’ was a Flight Commander on No 609 (West Riding) Sqn, AAF. Later that year, ‘Cocky’ formed and led the first Typhoon fighter-bomber wing, but when posted to Tunisia early in 1943, went back on to Spitfires – which he had flown in the Battle of Britain and on sweeps with the Tangmere Wing – for the rest of the war. ‘Bee’ did all his operations on Hawker aircraft: Hurricanes in the Battles of France and Britain, Typhoons on night intruder sorties and Tempests on V1 interceptions (632 destroyed by his Newchurch Wing) and in Operation Overlord and the advance across Europe.

If proof were needed of the quality of pilots brought into the RAF by

the Auxiliary Air Force, ‘Cocky’ Dundas’s autobiography supplies it; yet he writes with conspicuous modesty about an operational career which began with No 616 (South Yorkshire) Sqn and looks back on his war years with a sense of historical perspective, commenting on the characters of the leaders he served under – for example, Bader, Lees, Cross, Broadhurst and Dickson – and relating his war experiences to what seems to have been a remarkably close family background, saddened by the loss of his brother John in No 609 (West Riding) AAF Sqn in November 1940. ‘Cocky’s’ own fighting career ended on VE-Day at Treviso, north of Venice, after the Desert Air Force had helped the 8th Army to fight its way up through Italy.

‘Bee’ Beamont had an exceptional succession of operational experiences, which he recounts with extraordinary vividness and directness: the chaos which existed in France in 1940 when he was with No 87 Sqn, and its subsequent roles in the Battle of Britain and night-fighting in 1941; intruder operations by Typhoon – an aircraft in which he had an unswerving faith, despite its early engine and airframe disasters – when commanding No 609 Sqn, and command of the first wing of Tempest Vs, operating in support of the Normandy landings, against the V1s and across Europe with 2nd TAF. His descriptions recreate the tensions, fears and excitements of those days; and he recalls a visit to his wing during the V1 counter-offensive by Mr Duncan Sandys, who commented that, ‘we were wasting our time in this flying business – in a few years all this sort of thing would be done by rockets.’ To a fighter pilot, like ‘Bee’, these words must have sounded odd; but they were to recur 13 years later as Government policy.

Humphrey Wynn

## **ANGEL VISITS – FROM BIPLANE TO JET**

**By Frank Griffiths**

**Thomas Harmsworth, £9.95**

**ISBN 0-948807-02-4**

Group Captain Griffiths’ earlier book, *Winged Hours*, related much of his operational activity during the war. This volume covers mainly what may be termed ‘Active Service’ flying in the RAF during the

period 1936 to 1977, together with some civilian flying. The text is crisp, interlaced with much humour and the atmosphere engendered by the related incidents will evoke a sympathetic nostalgia in those who served during this period. The reviewer was reluctant to put down the book until the last page had been read.

Pre-war long-distance navigation is featured, as is the fact that Service pilots in the Far East were restricted to only three hours' flying per month. Later, the activities of a number of wartime research establishments are discussed, including Airborne Radar, Blind Landing and Naval Co-operation. A number of less well known types of aircraft are featured, such as the Virginia, Fox Moth, Moth Minor, Sea Otter, Warwick and Boeing 247D, while interesting incidents concerning many others abound. In one case an ACH/GD was able to establish why a Walrus would not fly when many technical advisers had failed to locate the trouble.

Altogether a most enjoyable record of flying activities. It is a pity that the title and the illustration on the front of the dust jacket give, at first sight, the impression of a children's book, since aircraft enthusiasts may well overlook it on a bookseller's shelf.

Peter Montgomery

## **BOOKS RECEIVED**

### **FROM A CAT'S WHISKER BEGINNING**

**by W/Cdr Norman Cordingly OBE**

**Published by Merlin Books, £5.95.**

Memoirs of close involvement with airborne radar night fighters.

### **THE POLISH AIR FORCE IN LINCOLNSHIRE**

**by M J Ingham**

**Published by Becksides Design, £3.45.**

A very informative little book that covers a lot more ground than the title suggests.

A Richardson, January 1989

## HISTORY OF AIR NAVIGATION

The Royal Institute of Navigation discovered a year or two ago that there appeared to be no comprehensive history of the development of aerial navigation. There were a number of isolated accounts of various specialist areas but nothing all-embracing. Navigators, as a whole, do not appear to have been a particularly voluble species (compared with pilots!) and there are not many written accounts of the problems faced by both military and civil navigators.

Since it seemed that such navigation in the future might be increasingly done remotely by computer, and those who were expert in its practice were becoming fewer each year, we thought we should make an effort to bring together and record formally whatever material was available, with a view eventually to publication in some form. Accordingly, we formed a 'Historical Study Group', which has had several meetings and obtained active assistance from the USA, Germany, France and Italy, with others to come. We have already obtained valuable material that has, as far as we know, never been published. The Group members have apportioned out work amongst themselves, my own task being that of 'Radio Hyperbolic Systems'. For a sample of the type of work we are doing, see 'Air Navigation Systems – Chapter 1, Astronomical Navigation in the Air, 1919-1969' in 'The Journal of Navigation', Vol 41, No 3, p.375.

The parallel with the RAF Historical Society is obvious, our interest being not only with mechanics but with the forces that led to the development of the different systems. As an example, the rather belated recognition in 1940 by the Royal Air Force of its inability to navigate accurately under adverse conditions led to an in-credible proliferation of radio nav aids by 1945.

We already have the assistance of several members, but we believe there may be others who are not aware of us and may wish to help. We are specially interested in first-hand accounts of nav aid development and use, particularly in the views of those who were not specialists but simply had to get on and navigate with whatever was available.

The Institute would appreciate it if you could put a short note about this in the next issue of the *Proceedings*. Possibly, even, one of your

future meetings might be concerned with the effects on strategy of the availability (or not) of accurate navigation, in the preparation of which we would be pleased to assist you if desired.

Walter F Blanchard FRIN



**Group Captain Leonard Cheshire's Tribute  
at the Memorial Service for  
Air Marshal Sir Harold Martin KCB DSO DFC  
held at St Clement Danes Church  
on 4th January 1989**

It is my great privilege to be paying the tribute on your behalf to Mick. So many of those who knew him have said that he made working with him fun – I just hope that the giving of this tribute will prove to be an enjoyable occasion both for you and for me.

I find it impossible to talk about Mick, the man we all knew and loved and admired so much, without also thinking of what he represented. I mean the Commonwealth and the Dominions. People sometimes talk of the day when Britain stood alone. But Britain never stood alone: the Commonwealth and the Dominions stood by her from the very beginning. From virtually Day One volunteers from its furthest reaches, and from virtually every country that formed a part of it, began to come over, thousand upon thousand of them. They never had to. It was our war, not theirs, but they did. My prayer is that we will never forget the debt that we owe them.

Mick must have had the spirit of adventure built into him. In 1937, at the age of 19, he left his native Sydney and signed on with a ship in order to see the world and visit his three aunts, in England and South Africa. He wanted to read Medicine at Trinity College, Dublin, where all his forebears had been, but adventure proved the stongest pull. The outbreak of war found him on an armed merchantman manning a machine gun, leaving the Clyde in one of the first convoys. On his return he applied to the RAF but was rejected because he was on the reserve of the Australian Light Horse. At a different enlistment post he said nothing about horses, got in, was commissioned at the end of his training and sent to Bomber Command: first on Hampdens, then Manchesters, then Lancs.

From almost the word 'go' he discovered the advantage of low flying and began to set his mind to mastering the techniques despite knowing that he was acting in contravention of orders.

Master it indeed he did, but probably at some psychological cost to his crew who, as he learned to get lower and lower, had to get used

to treetops, telephone posts and other objects more associated with fighting on land than in the air, flashing past their ears.

When the decision was taken to form 617, Mick was an obvious choice. He had proved himself in two hard, but successful, tours of ops, had already discussed low-level flying with Guy Gibson, and was known as someone determined to get to grips with the enemy. It may be that he had a slight tendency towards impatience, that at times his low flying was too low and his experiments too reckless; perhaps something within him still needed taming. I think the fact that having the great Guy Gibson as his CO, and of being but one amongst a highly-proficient and dedicated aircrew elite, played their crucial role in equipping him for all that was to lie ahead. Nonetheless, he on his side undoubtedly made a unique contribution to the success of the Dams Raid and the legend it was to become.

After the raid there followed six difficult months, with heavy casualties and no precise role for the squadron: towards the end of that period Mick was Acting CO and it was then that we see his economic Australian phrasing make its impact. It was decided that the squadron should have a crest, but the Heraldry Office objected to the one that had been chosen and when they finally turned it down, he wrote the following letter: 'Sir, I am in receipt of your letter. The Monarch has seen the crest and approved it. Yours faithfully ...'

When I came down to take over command from him, the squadron had been given a new role which involved dropping a revolutionary deep-penetration bomb from 16,000 feet with a required average accuracy of 20 to 30 yards, in pitch dark if necessary. Clearly the key lay in the absolute accuracy of the marker and that, in our combined view, was only possible at low level. But Bomber Command had ruled that out as being too dangerous.

Forty-five years ago this very night, January 4th 1944, against a camouflaged V1 site in an open field, and carrying Group Captain Evans-Evans on board to prove there was no cheating, we demonstrated that this was possible and not in fact at all dangerous. Now, at last, we were given the go-ahead and low level flying at last entered Bomber Command as one of the target-marking options. This technique, which in a more refined form became 617's hallmark, it

goes without saying was the result of a team effort involving ground, as well as air, crew, outside specialist advisers and not least our much-loved AOC, Sir Ralph Cochrane. But without Mick I doubt we would have done it. What set him apart from others, in my mind, was a kind of sixth sense that told him where to position himself in order to get through the defences while others were still sizing up the situation. His performance against the Antheor Viaduct I have always looked upon as the supreme example of inspired, fearless night marking. While I was caught in heavy flak at 5,000 feet, struggling to get out of it and unable to formulate any coherent plan of how to make a run onto the aiming point, Mick was sliding down the steep mountains, straight towards the viaduct. Unfortunately, the defences picked him up at the last moment. His bomb aimer, Bob Hay, was shot through the head in the very act of pressing the bomb button, and Mick only just escaped, to be taken off the squadron and told that that was the end of his operational flying.

But Mick was too wily an old Aussie to be beaten by that. Within a month or two he had got himself onto Mosquito night intruders.

He and I had just one last encounter. Munich was the squadron's target: it was a particularly difficult operation on the outcome of which a great deal would depend. Pat Kelly, my navigator, and I were unusually silent on the way in but perhaps a little more watchful than normal. Suddenly, what happens but Mick's familiar voice on the RT. He must have been somewhere down below, circling a fighter airfield. The very fact of just hearing him made us both feel that all would be well, and so it was, though only just.

After the war Mick opted to stay in the RAF. The picture of those who served with him is remarkably consistent. The same old Mick, transferred to a peacetime setting: still refusing to let regulations stand in the way of the success of the task he had; as ever indefatigable; dedicated to achieving perfection; at times trenchant in his sense of humour and with strong likes and dislikes, but always warm and accessible to all, no airs or graces.

In Israel, as the Air Attaché, he set about learning the complexities of the Middle East with typical determination: he made far wider contacts than his military duties called for and acquired a sense of

international affairs which contributed greatly to his later success in NATO.

As SASO of the Near East Air Force and as AOC 38 Group he is talked of as a highly shrewd staff officer with a lot of native cunning. If things went wrong his aim was to put them right, not look for scapegoats. A great practical joker, which at times left a few red faces, but one of the kindest and most genuine of senior officers who made working fun and who left you to get on with your job until you got it wrong; then you soon found out. The Army loved him particularly, not least because when they wanted a forward landing strip in the desert for an exercise and officialdom said that it was not within regulations and might be dangerous, Mick, in slightly different words from mine now, replied, 'forget regulations and lay the airstrip down'.

He was appointed CinC Germany at a time when the squadrons were struggling to get the Harrier operational in forward areas off grass strips. It was a totally new problem, involving a huge leap forward in flying techniques and logistical back-up. These problems he thoroughly understood. He tramped the dispersal sites and had a charisma that enabled him to hold conversations with young pilot officers despite the difference in age group, just as he had done with the Paratroopers in the Near East, who thought the world of him. In a word, he was an Operational Commander through and through, who gave great inspiration to the whole Harrier team.

Three weeks before the end of his posting, he went over to Wildenrath and did a last flight in a Harrier. He had not flown many types of aircraft during his period of command, but is reported by the senior flying instructor who accompanied him to have felt immediately at home in the Harrier. After a little time, just to get his hand in, he dropped down to the deck and flew between the flagpoles at HQ, causing the SASO to ring up the Station Commander at Wildenrath and tell him that both he and the pilot would find themselves on a court martial. When the Station Commander answered that he thought the CinC was probably flying the plane, he nearly found himself on a second court martial on the grounds of facetiousness when being reprimanded. When the time came to

leave, Mick said that he wanted nobody to see him off in his Andover; however, the Station Commander, George Black, decided that he ought to be present. Mick walked up to him, put his hands on his shoulders, and thanked him. Black says that there were tears in his eyes, as though he realised that this was the final end of his operational career.

I am not sure how much Mick enjoyed his final posting as AMP. It is said that he found battling with civil servants more wearing than anything he had known in the war. But battle he did. He battled against the cuts, battled on behalf of the Servicemen and women, showing to the end his warmth and concern for others. I think he can be summed up as the character for all seasons; intensely loyal to his friends, a courageous example to those facing adversity and an inspiration to those overwhelmed by the strait-jacket of convention; a loner, perhaps, but a superbly challenging one.

So far, I have spoken only of Mick. But Mick did not stand alone. He had Wendy. None of us in the squadron would ever forget the day in 1944 that he brought Wendy to a party we were holding to introduce her to us. Hardly had the door opened than a silence fell upon the room. Here was a Mick we had never seen before, bubbling over with happiness and rather coyly trying to conceal his obvious pride in the very lovely girl who was soon to be his wife. They looked and acted as if they were made for each other and so it was until the very end of his life.

His last days were clouded by the effects of that dreadful accident, when he was hit by a bus. Throughout his long fight against the consequences of this injury, perhaps his greatest personal achievement, his trenchant sense of humour never left him. Sustained by, and perhaps occasionally reined in by, the loving and sensitive care of Wendy, and by Vanessa and Stella, he bore this cross with a patience and sweetness of temper all the more impressive in a man whose exceptionally active nature was accompanied at times by an element of impatience.

The last words I remember him saying to me on the telephone, were: 'Bless you'. My farewell words to him are a prayer for a blessing on him and on Wendy and all his family. I pray that God in His

goodness and His mercy will bring him into His own marvellous light, where he will be reunited with the men and women by whose side he fought so bravely but to whom it was not given to survive.

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### ERRATA

The following amendments should be made to the text of the lecture given by Mr T C G James on 14 March 1988, and published in *Proceedings 4*:

Page 9 line 7 – delete ‘out’, substitute ‘one’.

Page 14 line 15 – delete comma after ‘Sign’.

Page 15 line 8 – delete ‘dismissed’, substitute ‘discussed’.

Page 15 line 19 – delete ‘rule’, substitute ‘role’.

Page 25 line 16 – delete ‘obstructive’, substitute ‘destructive’.

Page 38/29 – delete from the last ‘Air’ on p.28 to ‘trebled’ at the top of p.29.

The Editor apologises for these examples of that well-known RAF phenomenon – ‘Gremlins’.