Britain and the Berlin Airlift

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(All photographs provided by AHB)

For they intended evil against thee; they imagined a mischievous device, which they were not able to perform

Psalm 21 verse 11

At half past six in the evening on 23 September 1949 the wheels of a heavily laden Douglas Dakota transport aircraft of the Royal Air Force lifted off the concrete runway at Lubeck airfield in the British Zone of Germany. The aircraft's destination was Gatow airfield in the western suburbs of Berlin, approximately 150 miles to the south east of Lubeck. Once clear of the runway, however, the navigator on board the Dakota instructed the pilot to fly the aircraft almost exactly due south. After flying for some 20 miles the pilot brought the aircraft round in a gentle turn until its nose pointed towards a navigational beacon on the ground near Restorf some 40 miles to the south east, and from there course was set for Berlin Gatow. Fifty two minutes after it took off from Lubeck the aircraft landed in Berlin. As it rolled to a halt on the concrete apron at Gatow the small huddle of men waiting to unload the aircraft's cargo could see an inscription on the nose of the Dakota which read "Positively the last load from Lubeck, 73,705 tons. Psalm 21, Verse 11". The biblical quotation was an entirely appropriate and pointed jibe at the Soviet Union's "mischievous device" — the surface blockade of Berlin — while the rest of the inscription conveyed both pride in a job well done, and relief that many months of hard, back-breaking toil were finally over.

It might prove impossible for the Western powers to maintain their position at all in Western Germany

For much of its flight from Lubeck the Dakota had been flying in the airspace over the Soviet Zone of Occupied Germany. The air "corridor" it flew along had been defined in written agreements made between the four occupying powers, Britain, The Soviet Union, The United States and France in November 1945, and was some 20 miles wide. The reason the Dakota's journey was necessary, and the cause of the barbed biblical comment, lay in the fact that no such written agreement had ever been drawn up between the four powers regarding access via land corridors to Berlin; the three Western Allies, the USA, France and Britain had not considered it necessary, since roads and railways were already in existence and no one had foreseen that the Soviets could deny their use to the Allies.

That had proved to be an expensive miscalculation when, on 23 June 1948, some 15 months before the Dakota's flight, the Soviets had halted all rail and road traffic from the Western Zones of Germany to Berlin. The steady deterioration in relations between the four powers culminated in the British and American decision to forge ahead with currency reform in their Zones. The Soviets saw this, quite correctly, both as the first step to German self-government, an idea which they detested, and as a threat to the economy of the Eastern Zone, which they feared. Their own behaviour had been increasingly uncooperative in the first months of 1948, and the imposition of the blockade was simply the culmination of several months of obstruction and intransigence.

As the relationship between the four powers deteriorated during the early months of 1948 the British and Americans had made some contingency plans for supplying their garrisons in Berlin by airlifting supplies. In April the British Army of the Rhine and Royal Air Force Transport Command had drawn up a plan to fly in 65 tons of supplies per day using two Dakota squadrons deployed from their base in England. They had also laid plans for flying out the families of the garrison on the return flights from Berlin. No consideration had been given to supplying the needs of the two million Berliners living in the Western sectors of the city. When the Soviet blockade was imposed the problems faced by the Western Allies seemed dauntingly insoluble. The political stakes could hardly have been higher. In the sober words of the British Foreign Office:

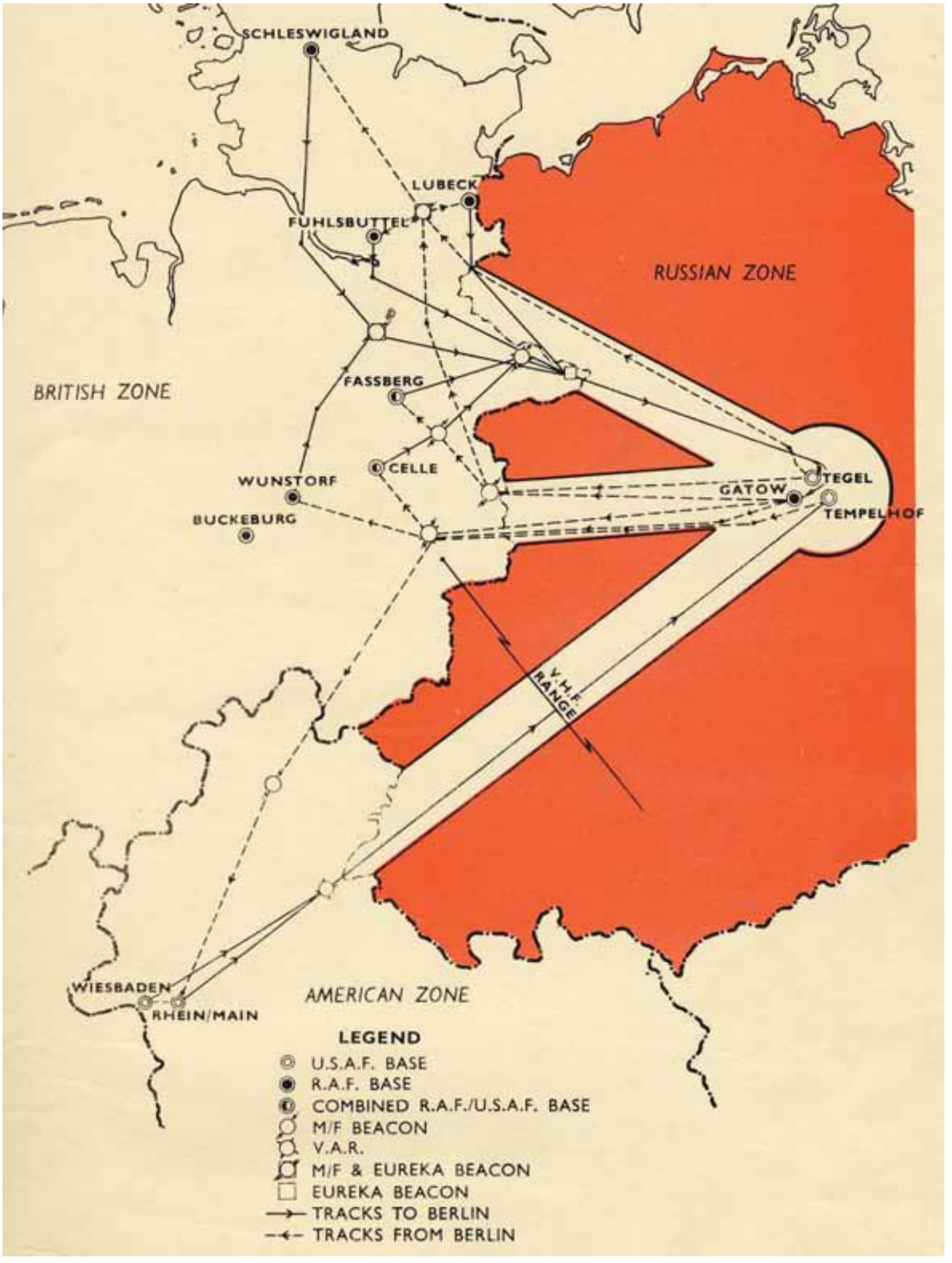
"If the Soviet Government were to succeed in their efforts to force us out [of Berlin] in humiliating circumstances the effect would be extremely grave not only in Berlin but in Western Germany and in Europe at large. It might prove impossible for the Western powers to maintain their position at all in Western Germany, if Berlin were lost to them, except by heavily reinforcing the military forces there."

With the British economy struggling to recover from six years of total war this was a deeply uncomfortable prospect. The option of attempting to force a land convoy through the Soviet blockade, as suggested by the American Military Governor, General Clay, seemed unlikely to be succsessful, and carried with it the real risk of precipitating a war with the Soviet Union. As the British Government's senior military advisers pointed out, however, the western position in Berlin was:

"militarily unsound and could not be maintained by fighting . . . if His Majesty's Government were prepared to go to war on this issue, they should realize that the Russians could squeeze us out of Berlin without themselves firing a shot, so that hostilities would have to be opened by ourselves."

The West had only two significant cards to play, one was US possession of the atomic bomb, and the other was that while the Soviet forces in

Airlift routes



RAF Yorks being loaded with supplies

Europe were powerful, the Soviet economy was in no condition to undertake another major war. Hence the decision to deploy two groups of B-29 bombers to Europe. In the meantime, and almost solely as a device to gain time for diplomacy, rather than as a serious longterm attempt to counteract the blockade, the Allies began the airlift.

The credibility of the Western position in Berlin hinged on the US and Royal Air Forces ability to keep two million West Berliners warm and fed. The prospects were not encouraging. Stocks in the city were not high with only enough food, petrol and solid fuel to keep the civil population supplied for two to three weeks. There were no appropriate plans for the scale of airlift required, and the runway at Gatow airfield was undergoing repairs. No one seriously considered it a realistic prospect to provide food and fuel by air for a city of two million people over an extended period. The daily requirement for food alone was daunting: 900 tons of potatoes; 641 tons of flour; 106 tons of meat and fish; 105 tons of cereals and so on, amounting altogether to some 1,800 to 2,000 tons of food alone every day. A fully laden Dakota could carry about 2.5 tons.

When General Robertson, the British Military Governor in Germany, telephoned the Headquarters of the British Air Forces of Occupation on 24 June he must have been aware of the scale of the problem, but he was equally aware that to do nothing was not an option. Hence his message to the Royal Air Force was simple: "Something must be done and something must be done at once." The British Foreign Secretary, Ernest Bevin, shared this view and galvanised the sceptical and reluctant with the simple exhortation "Do your best". As one of the RAF staff officers charged with organising the operation remarked "Something at once" and "Do your best" hardly appeared to be the most well considered instructions issued at the start of a military operation. It is to the credit of the United States and Royal Air Forces that they were to prove that their best was better than anyone, in Berlin, London, Washington, Paris or, most important of all, Moscow, had a right to expect.

By one of those odd coincidences, on the day after the instruction to start the airlift was given the only RAF transport squadron in Germany at the time actually left the country to fly back to England. Number 30 Squadron had been participating in an exercise with British paratroops and had been temporarily based at Schleswigland, but the exercise had finished and the Squadron departed for England as planned just after lunch. Even as the Squadron loaded its aircraft and took-off for their home base in eastern England

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another squadron of Dakotas was undertaking the same journey in reverse. Ordered to deploy from their home base at Waterbeach and to be ready to commence operations to Berlin within 48 hours these Dakotas also took off for Germany at lunchtime on 25 June and flew to Wunstorf airfield. They flew the first British flights of the airlift into Berlin that same evening, three Dakotas carrying in 6.5 tons of supplies.

With that peculiar knack that the military has for issuing orders at the most inopportune moment the instruction to send a second squadron from Waterbeach to Wunstorf was issued at midnight on the 27-28 June 1948, thus ensuring a sleepless night for many of those involved in preparing the second squadron, which flew to Germany the next morning. The operation was originally given the codename *Knicker,* which prompted the humourists amongst the British Army in Berlin to tie underpants to the radio aerials of their vehicles. The name was soon changed to *Carter-Paterson*, which was the name of a well-known removals firm in Britain. This prompted the sarcastic and politically damaging comment from the Soviets that the British were clearly intent on quitting Berlin rather than helping the city. The codename was rapidly changed once more to the gentle pun *Operation Plainfare,* and *Operation Plainfare* it remained.

It was clear from an early stage that two squadrons of Dakotas totalling 16 aircraft would never be sufficient for the task in hand.
The British Military Governor, General Sir Brian Robertson, made an early estimate that just over 2,000 tons of food were required each day to feed the Western sectors, and this figure took no account of other commodities such as fuel or raw materials for industry. By 30 June a further 38 transport aircraft had arrived at Wunstorf, including the aircraft of No 30 Squadron which had left Schleswigland only five days earlier. On 28 June the RAF's Chief of the Air Staff, Lord Tedder, had told a meeting of his senior colleagues that the RAF could lift 75 tons a day into Berlin at once, rising to 400 tons a day when the extra aircraft arrived in two days time, and 750 tons a day from the 3 July when repairs to the runway at Gatow would be complete. The planning in the early days of the airlift stipulated 450 short tons [1 short ton = 2,000 lb] a day as soon as possible rising to 840 short tons by 7 July. The first target was to be achieved by a force which would initially consist of 54 Dakotas (out of 112 in the RAF). These would then be replaced in due course by a reduced force of 32 Dakotas and some 40 of the larger Avro York transport aircraft which could carry 7.5 to 8.25 short tons on each journey.

Making plans was one thing, however, putting them into effect quite another. The first Yorks were intended to arrive at Wunstorf on 1 July, with 10 more arriving on each of the two following days, and eight more on 4 July. By early July, however, there was severe congestion at Wunstorf, with 48 Dakotas of numbers 30, 46, 53, 77, and 238 Squadrons, and some aircraft of 240 Operational Conversion Unit, a Dakota training unit. The

Berlin: RAF Yorks unload at Gatow — the airlift never stopped, night or day, good weather or bad.

weather was appalling, with rain and low cloud seriously impeding operations. The airfield at Wunstorf was not large and all-weather concrete surfaces were limited to the two runways, a few aircraft parking areas, and the concrete aprons in front of the hangars. These were inadequate for the large numbers of aircraft now trying to use the airfield and there was no alternative but to park them on the grass areas. The unrelenting rain made matters far worse as the constant movement of aircraft and vehicles churned the grass surfaces into a sea of ankle-deep mud. There were also shortages of all kinds of equipment which would normally be available at the home airfields of the transport squadrons, ranging from petrol bowsers, to engine-starter trollies and wheel chocks.

There were also delays at both ends of the airlift due to shortages of manpower to load and unload the aircraft. The officer in command of the transport wing at Wunstorf noted in his diary on 1 July that the airlift was well behind schedule because of difficulties loading the aircraft, and because there was a shortage of oil and petrol bowsers. The section responsible for refuelling the aircraft was also overworked and badly organised. On the 3 July he wrote that the British Army (who provided much of the labour for loading the aircraft) could not cope with loading both the Dakotas and the newly arrived Yorks. In these circumstances it was decided to postpone the arrival of the last 20 Yorks. The airlift had not started well.

Nor did the weather improve in the following week. The German summer contrived to produce thunderstorms, heavy driving rain and continuous low cloud, and even snow. When it wasn't raining it was foggy. In the first three weeks of the airlift the RAF crews flew to and from Berlin in weather in which they would not normally have been permitted to fly. The intention had been to fly 160 trips per day to Berlin, but Gatow was frequently forced to suspend operations altogether because the weather closed in, or simply to allow the ground staff time to sweep from the runway the great sheets of water which had accumulated. At other times when flying was not suspended the weather still meant that Gatow could only accept one aircraft every 15 minutes during the day instead of the normal six minute interval. The rain was so incessant that the damp began to penetrate the electrical systems of the aircraft to such an extent that on 2 July, 26 of the Dakotas at Wunstorf were unable to fly because of it: the Yorks were if anything more prone to such problems. For the additional groundcrews and loaders brought in to help, many of whom were sleeping in tents on the airfield, the conditions made life especially miserable, with the damp and the constant roar of aircraft and vehicles making sleep virtually impossible until exhaustion took over.

It was not until 14 July that the daily tonnage reached the target figure of 840 tons. This was partly the result of a change in policy. In the light of the conditions at Wunstorf and Gatow it was decided that the most efficient force which could be operated would be 40 York aircraft with 60 crews and 42 Dakotas with 63 crews. It was thought that the Dakotas could fly 50 daylight trips to Berlin and 42 at night. With the Yorks this would give a total tonnage of just under 1,000 short tons per day — *if the weather was ideal.* In addition the capacity of the Dakotas was increased from 5,500 lb to 6,500 lb, and on 16 July to 7,500 lb, by removing unnecessary safety equipment, such as dinghies, and reducing the fuel load. On the 4th July the Royal Air Force introduced a new and unusual element into the airlift.

Two squadrons of Short Sunderland flying boats alighted amidst plumes of spray at Finkewerder on the River Elbe. The next day at quarter to six in the evening any Berliner who happened to be strolling on the banks of the Havel close to Gatow would have seen a large white aircraft swoop down over the shoreline and cut a neat furrow in the water. The Sunderland was flown by a young Flying Officer who only four days before had been flying round and round a Royal Navy submarine off Northern Ireland. In the intervening days the aircraft had been stripped of much of its military equipment and loaded with 10,000 lb of supplies for Berlin.

The Sunderland crews were based in the old Blohm and Voss works on the Elbe near Hamburg. Each aircraft had to be loaded with supplies bought out to it by small boats and the aim was to fly three missions to Berlin each day.

British Army soldiers and German civilians stand by as a truckload of coal is backed up to the loading door of a Handley Page Hastings at Schleswigland

This represented some six and half hours in the air, plus loading and refuelling time, which meant a long and tiring day. The Sunderlands carried salt, meat, sanitary towels, and cigarettes into Berlin. On their return to the Elbe they carried industrial goods or refugees. One Sunderland pilot remembers flying his aircraft off the Havel without, for once, worrying about the weight and distribution of his cargo: every inch of the aircraft was crammed with boxes of lightbulbs from Siemens. The Russians protested at this unusual mode of transport, claiming, probably correctly, that the flying boats had no right to be there: the RAF ignored their protests.

The presence of the flying boats provided a much needed boost to the morale of Berliners in a city where entertainment was hard to find. Each day, but especially on Sundays, the banks of the Havel would be filled with spectators curious to see these elephantine but graceful beasts landing and taking-off, their mere presence floating serenely on the water brought a measure of hope along with the more tangible cargoes in their bulging fuselage. The crews, however, found little joy in their task, particularly since the waters of the Elbe were rough and covered in debris making the take-offs and landings potentially dangerous. One crew returning to Finkewerde at the end of a trip to Berlin found themselves stranded on their flying boat for one and a half hours when fog closed in and the boat sent out to pick them up could not find their aircraft's mooring buoy. The Sunderlands also had few of the radar landing aids and ground navigational beacons available to other aircraft, and it was difficult to integrate their operations with those of other aircraft types on the airlift. By the time ice flows on the Havel brought an end to Sunderland operations in December they had carried in 4,500 tons of food and brought out more than 1,100 undernourished refugees as well as the lightbulbs and other products of Berlin's industry.

The arrival of the Yorks and Sunderlands on the airlift did not satisfy the British Government that enough was being done to help break the Russian siege. In November the first squadron of brand new Handley Page Hastings transport aircraft arrived at Schleswigland. The reaction of the crews when ordered to fill their shiny new aircraft with sacks of coal is not recorded! Royal Australian Air Force crew also arrived to help in September, followed by South Africans and New Zealanders in October. Every little helped, but there was still a need for more aircraft. Once all the available military aircraft had been summoned, officialdom turned to the civil airlines. The initial need was for aircraft to fly liquid fuel into Berlin. Some drums of fuel had already been carried in on military aircraft, but this was both a dangerous and inefficient way to carry such volatile cargoes. Fully loaded the 55 gallon metal drums were heavy, 365 lb each, bulky, and difficult to secure inside the aircraft.

The British therefore turned to a specialist firm *Flight Refuelling Ltd*, which was run by the aviation pioneer, Sir Alan Cobham, who had many record-breaking flights to his name. Cobham had also pioneered the art of air-to-air refuelling and his firm therefore had available that rarest of commodities in 1948 — fully equipped tanker aircraft. On 27 July the first civil flight on the airlift was made by a Lancastrian tanker aircraft of Flight Refuelling Ltd carrying a bulk load of petrol to Berlin from its base at Tarrant Rushton in England. A second Lancastrian arrived and operations then continued from Buckeburg.

In August a series of contracts were let with British civil airlines, several of which had only one or two aircraft, to provide further aircraft. The first wave of civil freighter aircraft arrived at Wunstorf on 4 August, and the first sortie was flown by a Handley Page Halton of Bond Air Services, which landed at Gatow at 3 o'clock in the morning. This same aircraft flew five return trips in the following twenty-four hours which saw 33 return flights by civil aircraft in all. Aircraft of all shapes and types joined the lift, many like the Halton being converted versions of the heavy bombers which had flown over Berlin three to four years earlier, crewed in many instances by the same men who had been used to searchlights, nightfighters and anti-aircraft fire over what they had known as "The Big City".

To some of the British and American airmen it must have seemed as if little had changed since they had last been there as, during September

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especially, the Soviets chose to conduct anti-aircraft firings and air defence exercises in the corridors. Soviet fighter aircraft also "buzzed" airlift aircraft in the corridors. Protests proved of little use but eventually either the Soviet forces became bored with the sport, or were ordered to give it up. The one thing that the Allied airmen most feared was that the Soviets would fly barrage balloons on the approaches to the airfields. This they never did, possibly because it would have been difficult to claim that a collision with a tethered balloon on the approach to an airfield was the fault of the pilot!

Many difficulties had to be overcome to integrate the civil and military lifts. The civil aircraft companies did not have sufficient groundcrews to service the aircraft as efficiently as the two air forces, and the number of civil aircraft which were unserviceable at any one time was generally high. When the first civil aircraft arrived it was found that their radios operated on different frequencies from those of the military, and motorcycle despatch riders had to be sent out from Wunstorf to RAF bases around Germany to locate the necessary radio crystals to enable the frequencies to be changed. The civil aircraft did not have such sophisticated navigation equipment as those of the RAF and there was a desperate scramble to find and fit the necessary aids. As the necessary sets were in short supply and the crews had to be trained to use them this caused some problems. It also caused delays in the plan to convert more civil aircraft to tankers and since the civil aircraft were now entirely responsible for lifting liquid fuel into Berlin this could have had serious consequences.

By the end of 1948 liquid fuel stocks in the city were dangerously depleted, and from 1 January 1949 the city became entirely dependent on the supply lifted in the British tanker aircraft. The target figure had been set at 220 tons, but the problems with the civil aircraft meant that the average had only been 148 tons. The plan had been to have 31 tanker aircraft flying on the airlift by 1 January, but there were only 11 such aircraft available on the day, increasing gradually to 20 by the 14th of the month. In November the Western Allies would have run out of fuel had they not simply purloined Soviet stocks which happened to be stored in the Western Zone.

A civil Avro Tudor II is loaded with bags of flour

The civil aircraft did not have such sophisticated navigation equipment as those of the RAF and there was a desperate scramble to find and fit the necessary aids

Other improvements helped. At Wunstorf at the start of the airlift the tankers had to be filled from fuel trucks using portable pumps which were not designed for such heavy usage and frequently broke down causing delays. A new fuel installation was therefore built linked directly to the railway sidings. Fuelling points at a special aircraft apron were equipped with electric pumps capable of delivering a precise pre-set quantity of fuel at 100 gallons per minute. At Schleswigland there was a fixed underground fuelling system built by the *Luftwaffe*. The system was modified by the British Army to provide two rapid fuelling points which could load a Halton tanker aircraft in 12 to 14 minutes instead of the previous 20-25 minutes, which allowed more flights per day. In Berlin a new receiving system was installed at Gatow with five large tanks and 18 bays around a circular island in the middle of the airfield, complete with floodlight towers for night operations. The system was ready by March 1949 and could unload fourteen tanker aircraft simultaneously with two hoses attached to each aircraft — a far cry from manhandling heavy metal drums from the back of Dakotas and Yorks. Altogether by the end of the airlift the British civil aircraft had carried 147,727 short tons of supplies into Berlin. This represented just over 6% of the total tonnage lifted into Berlin. What this bare statistic does not reveal is the fact that the civilian tanker aircraft lifted in much of the liquid fuel carried to Berlin, amounting altogether to some 92,282 tons. By early 1949 every motor vehicle in West Berlin was running on fuel flown in by British civilian pilots, and for that alone they deserve great credit.

A civil Avro Lancastrian tanker aircraft of *Flight Refuelling Ltd* discharges fuel at RAF Gatow under the gaze of an armed sentry. In the background are two Avro Yorks of No 242 Squadron

By early 1949 every motor vehicle in West Berlin was running on fuel flown in by British civilian pilots

It was not only the delivery of fuel which became more sophisticated as time went on. Gradually as the RAF and USAF settled in to running the airlift they made significant improvements to the organisation and a semblance of order emerged from the initial chaos. The haste and frantic improvisation of the early weeks was replaced by a more thoughtful and professional approach. In the early days of the airlift the Dakotas had simply flown round trips as fast as they could be loaded and fuelled at one end and unloaded at the other. This was not the most efficient method of utilising the limited numbers of aircraft available. As there were eventually aircraft from several different organisations — the RAF, the USAF, the United States Navy and British civilian airlines — operating on the airlift, with, in the British case, several different types of aircraft, it became obvious that a single co-ordinating authority was necessary, and a Combined RAF/USAF Headquarters was formed in August, to be known as Combined Airlift Task Force [CALTF]. In October CALTF was formally instructed to fly "in a safe and efficient manner" the maximum possible tonnage to Berlin. The establishment of the HQ not only gave the airlift a more recognisable and permanent status and removed the notion that it was a temporary expedient, but also allowed the two air forces to plan a more rational use of their combined resources.

It is easy to forget that the air traffic control techniques and equipment available in 1948 were far less sophisticated than they are today. At the start of the airlift aircraft had flown to and from Berlin along the route of the nearest of the three available air corridors, but as the numbers of aircraft grew it was quickly decided that aircraft in the corridors should generally all be flying in the same direction to ensure safety. British aircraft therefore used the northern corridor to fly in to Berlin, and US aircraft used the southern corridor, both would then fly back out of Berlin using the central corridor. The different aircraft types added a further complicating factor, because they all flew at different speeds.

New techniques had to be developed to control the flow of aircraft. Particularly so after a bad scare in August when a heavy storm had caused chaos at Templehof, in which one aircraft had crashed, another burst its tyres avoiding the first and blocked the runway, and the following aircraft had to circle over Berlin at heights from 3,000 to 12,000 feet with increasingly anxious pilots jamming the radio waves trying to find out what was happening. Mercifully, General Tunner, the USAF General in command of CALTF was in one of the USAF C-54 aircraft trying to land. Quickly appreciating that a much greater disaster was imminent he came onto the radio and personally ordered the air traffic organisation to send all the aircraft over the city back to their home bases immediately. It was, of course, Friday the 13th.

The solution was to introduce a new pattern for the aircraft flying to Berlin. Any aircraft which arrived and found that it could not land for any reason was now instructed not to circle over Berlin but to rejoin the corridor and fly back to its home base with its cargo — there were to be no second attempts, pilots landed in Berlin the first time or not at all. The RAF made pilots who overshot fill in a form to explain why — completing bureaucratic exercises was every tired pilot's nightmare and they would do their utmost to avoid it. In one case a pilot, realising that his aircraft was too close to the aircraft landing in front and that he would have to overshoot, kept the wheels of his plane raised and when this set off a warning horn in the cockpit he placed his microphone next to it and pressed the transmit button. The pilot of the aircraft in front heard the horn in his earphones and, thinking it was his own undercarriage which had not lowered, overshot, allowing the resourceful interloper to land in his place.

After Friday the 13th it was clear that a new system was needed. The problem was simple: to find the best method of funnelling aircraft from several bases in Western Germany along the appropriate corridor and down on to the runways at Gatow and Templehof. The ideal solution of continuously despatching aircraft exactly to time was not practicable because, while RAF aircraft had their own navigator and special radar navigation equipment which meant they could keep precise times, USAF aircraft had less accurate equipment which was not accurate enough to allow precise timekeeping. When, in August, USAF C-54s were sent to the new British base at Fassberg to take advantage of

Air traffic control at Wunstorf – the duty air traffic controller, Flight Lieutenant Alan Hill and his assistant AC2 Alan George

the shorter distance to Berlin, the two air forces were forced to develop a common system to allow the USAF to operate from the British zone.

The solution was the block system. Each airlift station in Western Germany was allocated a specific time period when its aircraft were to be over the navigation beacon at the end of the air corridors. Each pilot had to arrive over the beacon within 30 seconds of his allotted time. Between the last aircraft of one block and the first aircraft of the next there was also a six minute safety gap, and between the aircraft in each block there was a three minute gap. Aircraft from each airlift base were also given a specific height to fly, so that all aircraft flying from Lubeck to Gatow flew at 5,500 feet, all aircraft flying from Wunstorf to Gatow flew at 3,500 feet, and so on. The first block system worked on a four hour cycle, which was the time taken by a USAF C-54, the aircraft with the biggest load carrying capacity, to complete a round trip to Berlin and be ready for the next.

The four-hour cycle resulted in long queues of aircraft with their engines running on the runways waiting to fill every slot in the block. This cycle was ideal for the American C-54, but was not suited to the British Yorks and Dakotas, which had different cycle times because they had longer distances to fly and they carried a much

Provided the weather was good, aircraft were landing every three minutes

higher proportion of awkward loads, which took longer to load and unload. There were times when British aircraft were kept idle because they could not be fitted into the four hour cycle, or because delays caused by weather or other problems meant that British aircraft would be held on the ground to allow the bigger C-54s to continue flying. In January 1949 the four-hour cycle was changed to a two-hour cycle and later a one-hour cycle, which made better use of all the available aircraft.

At the Berlin end aircraft were "talked down" on to the runway either by a controller in a van looking at a radar screen, or in good weather by the appropriate control tower. At the start of the operation the radar controllers, known as GCA [Ground Controlled Appraoch] were only able to cope with one aircraft every 10 to 15 minutes, but by increasing the numbers of controllers and radio frequencies, and by constant practice, this was reduced to a four minute interval. The pilots were instructed not to reply to the stream of instructions from the controller, but simply to obey them, if he heard no instruction from the controller for five seconds he was immediately to climb to 800 feet and return to the last navigation beacon and then ask for instructions.

An improved American radar was installed at Templehof later in the airlift, manned by US and British operators. This radar was able to pick up aircraft at longer range and tell aircraft to make adjustments to their height and speed very much earlier. At the peak of the airlift in good weather an aircraft would land and roll to the end of the runway, as it turned off the runway another aircraft would start its take off run from the other end, and as that aircraft's wheels left the runway another aircraft would be on its final approach to land. In this way, provided the weather was good, aircraft were landing every three minutes. In poor weather the British could also use equipment called Beam Approach Beacon System, which allowed them to land more quickly at Gatow in bad weather than the C-54s. With the block system, however, it was often the C-54s which continued to fly if the weather was bad.

There was also a difference of approach and opinion between the British and Americans about flying goods out of Berlin on the return journeys. It was obviously easier to fly a greater tonnage into Berlin if aircraft returned from the city as soon as they had unloaded, rather than spending time waiting and loading export goods. The Americans were reluctant to fly goods out for this reason, and a large backlog built up at Templehof, amounting to some 419,931 kg by October. The British, on the other hand, reasoned that if the products of Berlin's industry, such as Siemens' light bulbs, were not flown out, then the firms manufacturing them would close and the workers would lose their jobs, which could only be to the advantage of the Soviets. The British were therefore committed to flying goods out of Berlin as well as in, and eventually took over responsibility from the Americans for flying out all the goods previously taken to Templehof.

In all, British aircraft flew 35,843 tons of goods, mostly mail and industrial products, out of Berlin. The same reasoning applied to passengers. The Americans limited the numbers of passengers they would carry back from Berlin. The British decided that flying out numbers of the very young, the sick, and the elderly would reduce the burden on the city authorities and the airlift. They therefore flew out of the city 131,436 people, whereas the US figure was only 36,584. This occasionally led to problems of one sort or another. One old lady was lifted gently into the back of a York at Gatow at 4 o'clock one morning and settled as comfortably as possible amongst some mail sacks. The weather was very bad and the flight was uncomfortable and not without some heart stopping moments. The old lady, however, made no complaint about the dark and bumpy trip, and was lifted safely to the ground at Wunstorf. There she took one look at the three-ton military truck which was to take her to Hannover, and refused to board it because it looked too dangerous!

As the airlift expanded and the numbers of aircraft multiplied it quickly became clear that the original three airfields in the Western Zone, Wunstorf, Rhein-Main and Weisbaden, would not be adequate. As the northern air corridor to Berlin from the British Zone was shorter it allowed a greater number of flights per day, and it was quickly

The flight was uncomfortable and not without some heart stopping moments

decided to expand the number of airfields in the British Zone to accommodate both British and American aircraft. The old *Luftwaffe* airfield at Fassberg was opened up and within two weeks the railway and runways were repaired. RAF and British Army engineers and local German labour constructed a new loading area of 140,000 sq m from Pierced Steel Planking [PSP] in just four weeks; built a new 1.4 km road in just 10 days; laid a 10-cm thick 176,000 sq m tarmac apron in front of the hangars; put down 8 km of railway sidings, and installed airfield lighting and built accommodation blocks for 3,000 extra people. Even so the American Air Force personnel who moved in to Fassberg in August were used to greater luxury and, far from impressed, believed that they must have been sent there as a punishment! Their feelings were, however, somewhat mollified when the new USAF commander arrived with his wife, who turned out to be a famous and spirited film actress of the day with a talent for making life more fun for those around her.

The RAF also renovated and rebuilt the airfield at Celle for the USAF in just three months starting in September: including building a new 5,400 ft tarmac runway, and 150,000 sq m loading and maintenance area. Three months later the first American C-54s arrived at Celle and on 16 December they flew their first mission to Berlin. Similar improvements were made to the airfields at Wunstorf, Lubeck, Schleswigland, Fuhlsbuttel and of course Gatow.

How great was the achievement of the Royal Air Force and British civilian aircrews in the Berlin Airlift? Of the 2,325,808.7 short tons lifted into Berlin British aircraft carried 542,236 tons, or just over 23 per cent of the total. This bare statistic does not, however, tell the whole story. Sixty-eight per cent of the tonnage flown to Berlin was coal, which, once some experience had been gained, was relatively easy to handle since it came in standard weight sacks which could then be assembled into standard aircraft loads on the ground. It was decided to concentrate the American C-54s, which could carry standard ten ton loads, to lift most of the coal — the British lifted only 164,800 tons. As priority in the block system was given to the larger C-54s, and as the handling of standard loads such as coal made their turn round time quicker the statistics make the US aircraft appear more efficient in overall terms at the expense of the RAF. In fact this was not entirely true; although USAF C-54s could carry larger loads, and had better reliability because the Americans had more groundcrews per aircraft, it was also because the British aircraft concentrated on handling the more awkward loads, which took longer to load and unload, thus reducing the number of flights the aircraft could make in a day.

This, combined with the willingness to fly passengers and freight out of Berlin, inevitably meant that the British tonnage flown into Berlin was less than it could have been in comparison with the Americans. Next to coal the largest tonnage was food. Here the British achievement was comparatively much greater, with 241,712.9 tons out of a combined total of 538,016 tons, which means that nearly 45 per cent of the food taken into Berlin was flown in British aircraft. We have already seen how British civilian aircraft lifted the majority of the liquid fuel [92,000 tons]. In all British aircraft flew over 175,000 trips to and from Berlin, or 31 per cent of the combined airlift total. They spent over 210,000 hours in the air, the equivalent of 24 man years, and flew over 30 million miles, which equates to flying to the moon and back 63 times. By October the daily running cost of the airlift was over £25,000 per day at 1948 prices, a figure which did not include the cost of improving and expanding the airfields. Britain's commitment to overcoming the blockade is illustrated by the diversion of grain ships from British to German ports, which resulted in the introduction

Nothing was wasted. German female workers carefully collect the sweepings of coal from beneath the cargo door of a USAF C-54 after unloading at Gatow

of bread rationing in Britain. Bread had not been rationed in Britain even at the height of the Second World War. The sacrifice made by British civilians in foregoing their daily bread, however, cannot compare with the sacrifices made by the aircrews and the people of Berlin. Flying round the clock on the airlift in all weathers with the aircraft and equipment available at the time was an arduous, dangerous and demanding task. Inevitably, there were accidents. Altogether 18 RAF airmen and 21 civilian airmen were killed in accidents of one sort or another — 39 deaths to preserve the freedom of Berliners to choose their own way of life.

Ultimately, however, it was the Berliners themselves, in concert with the airmen, who had defeated the Russians. As General Robertson had written in April 1948 "So long as the majority of the Berlin population remain firm in opposition to the Communists the Russians will not get their way".

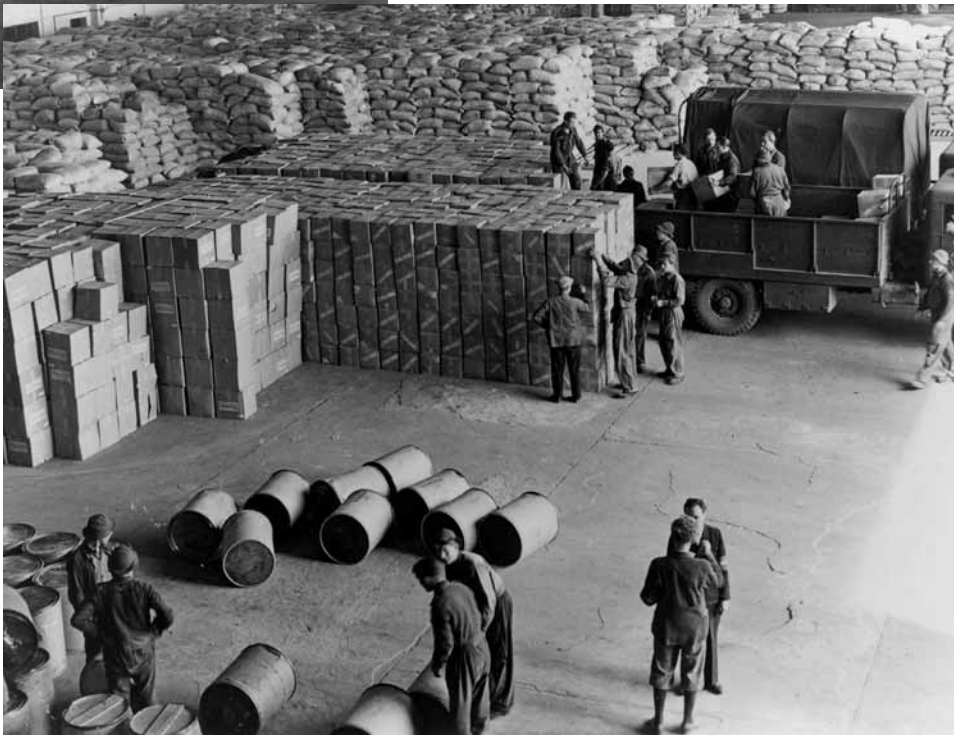
By their willingness to survive on a diet of dehydrated potato, and to endure 20 hours a day without light and with precious little heat, the citizens of Berlin, inspired by the airlift, ensured that the Russians lost the first major battle of the Cold War. On 12 May 1949 the Russians lifted the blockade.

Flour supplies ready for unloading

In Berlin even the construction plant to make improvements to the airfields had to be flown in. A steamroller is unloaded by crane through the rear door of an Avro York at Gatow

The Allied airlift continued both to ensure that the city was well stocked should the blockade suddenly be reimposed, and to demonstrate to the Russians that the Allies remained as determined as ever. The last British flight of the airlift took place on 6 November. The Russians "mischevious device" had indeed been defeated. It seems appropriate to end this account with an example of the humour which exemplified the spirit of the Berliners during the blockade. When contemplating the difficulty of living in a blockaded city one Berliner turned to another and said "Aren't we lucky. Think what things would be like if the Allies were blockading us and the Russians were running the airlift".

Food stockpiles in the Western Zone awaiting shipment to Berlin



SOME AIRLIFT FACTS AND FIGURES

Tonnage lifted to Berlin by British aircraft

RAF aircraft	394,509 Tons
Civil aircraft	147,727 Tons
TOTAL	542,236 Tons

Tonnage lifted to Berlin by USAF aircraft

1,783,572.7 Tons

Total combined British and American airlift tonnage

2,325,808.7 Tons

Tonnage by type

	BRITISH	**USAF**
Food	241,712.9 Tons	296,303.1 Tons
Coal	164,799.7 Tons	1,421,729.6 Tons
Military	18,239.1 Tons }	
Liquid fuel	92,282.4 Tons }	65,540 Tons
Miscellaneous	25,201.9 Tons }	

British tonnage exported from Berlin

35,843.1 Tons

Passengers lifted to and from Berlin

	TO	**FROM**
British	36,218	131,436
American	24,216	36,584
TOTAL	60,434	168,020

Highest daily combined British and American tonnage

12,940.9 Tons on 16 April 1949

Highest daily British tonnage

2,314.5 Tons on 5 July 1949

Highest daily RAF tonnage

1,735.6 Tons on 17 August 1948

Highest daily British civil tonnage

1,009.6 Tons on 22 May 1949

British aircraft consumed over 35 million gallons of aviation fuel, flew more than 30 million miles, and spent more than 200,000 hours in the air flying to and from Berlin.