

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

Issue No 9

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**JOINT ROYAL AIR FORCE/UNITED STATES AIR FORCE
SEMINAR MONDAY 29th OCTOBER, 1990 HELD AT 'THE
ROYAL AIR FORCE MUSEUM**

- 09.30 Coffee in Art Gallery
- 10.15 Welcome by the Chairman of the RAF Historical Society
- 10.20 Seminar Chairman: Mr Michael Charlton
- 10.30 Higher Command Structure and Relationships
American speaker: Dr Richard Davis,
Office of Air Force History
British speaker: Air Commodore Henry Probert,
Air Historical Branch
- 11.00 Discussion
- 11.45 The Strategic Air Offensive in Europe
– American speaker: Dr Alfred Goldberg,
University of Georgia
– British speaker: Dr Richard Overy,
King's College, London
- 12.15 Discussion
- 13.00 Lunch
- 14.15 Land/Air Operations in Mediterranean and North West Europe
– American speaker: Professor I B Holley, Duke University
– British speaker: Mr John Terraine
- 14.45 Discussion
- 15.45 Chairman's Closing Remarks
- 16.00 Tea

JOINT ROYAL AIR FORCE/ UNITED STATES AIR FORCE SEMINAR

Air Marshal Sowrey:

This is an historic occasion. It is the first meeting between the Royal Air Force Historical Society and the longer-standing United States Air Force Historical Foundation. This is an opportunity for us to look at the great co-operation between our two great Air Forces between 1941 and 1945. I extend the very warmest of welcomes to all our American visitors, our colleagues and also our guests.

The Americans are led by the President of their Foundation, General Bryce Poe; they are supported by General Jacob Smart and General Robert M Lee who bring to us their battle experience and also their command experience. I welcome too General 'Rocky' Brett, their Vice President; General Ramsay Potts who flew with the 8th Air Force; General Brian Gunderson who operated with both the RCAF and the 8th Air Force; General John Patton; Dr Richard Kohn, the Chief of the Office of Air Force History; and their distinguished team of speakers, who will be introduced by our Chairman. It is also a very great pleasure to welcome General Anderson, the Commander of 3rd Air Force; his deputy; and also the American Air Attaché.

From our side we have a weight of air marshals of various levels who are members of the Society, led by Marshal of the Royal Air Force Sir Michael Beetham. Amongst our guests are Air Chief Marshal Sir Harry Broadhurst, one of the great early influences on Anglo-American co-operation even before America had entered the war; Air Chief Marshals Sir Neil Wheeler; Sir Freddie Rosier; Sir Freddy Ball; and Lord Zuckerman the operational analyst. But one name is missing; General Curtis LeMay, a figure of world stature who was much looking forward to being with us today and who died so sadly earlier this month. He was held in high regard and respect on this side of the Atlantic and particularly in this country, as the extensive and detailed obituaries published in the major newspapers made clear. How good it was to see in the photographs of him in uniform, the diagonal purple and white of a British DFC. As a strategic thinker, planner, operator and commander his influence was immense with both the B-17 and the B-29. He was also a tactical innovator, something which is an absolute necessity in war. Curtis

LeMay's nine years at Strategic Air Command showed nuclear deterrence by manned aircraft at its peak and the links forged with Bomber Command then are still strong today. A message of our sympathy has been sent to his widow. Today Michael Charlton from the British Broadcasting Corporation, an experienced international affairs commentator, is going to be our Chairman. We give him a very warm welcome.

Michael Charlton

The subject of this seminar is essentially coalition warfare and in particular the history, the origins and the evolution of the relationships between the United States Army Air Force and the Royal Air Force from 1942 to 1945. When Napoleon was marching down all the roads in Europe, he said, 'Give me a coalition to fight.' Beside that I thought I might read you something very briefly that Cordell Hull, Franklin Roosevelt's Secretary of State, said in retrospect following this unique experience as between two allies. 'As I look back,' he said, 'over those relations, I am struck by the fact that there was scarcely any point of our contact with the outside world at which we were not talking to the British. On the diplomatic side it is probably true that never before in history had two great powers tried to co-ordinate their policies towards each other's country so closely, and we reconciled to an astonishing extent our diverging interests. On the military side, the efforts of the two countries were integrated to a degree never previously reached by any two great allies in history.' That of course, and the particular intimacy between the two Air Forces, we are here to talk about today. A subject that has had a certain airing on this side of the Atlantic and I know in the United States too, was Professor Fukayama's utterance that we have reached 'the end of history'. You may feel that is a prescription as narrow as it must seem unreal and that with your help today we might make a contribution towards the ending of endism. The first paper to be given this morning on the Higher Command Structure and Relationships comes from our American colleague Dr Richard Davis, who is an historian at the Office of Air Force History in Washington.

Dr Richard Davis

The actual organisation of the combined high command structures of the British Royal Air Force (RAF) and the US Army Air Forces (AAF) is relatively easy to describe, but an assessment of the relationships between the two Allied services represents a more difficult task. The command structures providing air support to the ground forces were in place by the end of 1943. But, as will be discussed below, the concoction of a single Anglo-American command for the Combined Bomber Offensive against Germany proved elusive.

Although the heads of the RAF and the AAF both sat on the British-American Combined Chiefs of Staff, their services initially occupied somewhat different positions. The Chief of the RAF Air Staff, Air Chief Marshal Sir Charles A Portal, participated from the beginning as a member in full, as befitted the senior officer of an independent service fully the equal of his naval and army counterparts. A different case held for the Commanding General of the AAF, Lieutenant General Henry H (Hap) Arnold. His service was still subordinate to the US Army and, at least at the start, Arnold sat on the Combined Chiefs with the authority to discuss only air matters, which expanded to full participation as the war progressed.

Below the Combined Chiefs level were the Combined Allied Theater Commands. No air officers ever led one of these Commands, presumably because in none of them did the Air supply the preponderance of the men and units. The Combined Theater Commands had subsidiary Theater Allied Air Forces, directed by airmen. Each Theater Air Force consisted of one numbered AAF Air Force and one RAF Tactical Air Force. Although both the Allied Air Forces in South East Asia and the Mediterranean had Combined Air Forces labelled as strategic, analysis of the missions flown by these forces shows that they flew grand tactical or deep interdiction raids, rather than raids against the economic heartlands of the Axis.

The great Anglo-American strategic air forces in Europe never became a single command. During the first year of the US Eighth Air Force's existence, there seemed little practical need for co-ordination between it and Bomber Command. The slow American build-up and the totally different operational techniques of daylight versus night bombing seemed

to belie the need for more than a casual liaison between the two forces on targeting and strategy. On the other hand, the almost complete dependence of the Eighth Air Force on the British air control network and on British intelligence fostered much close co-operation on a day-to-day basis. However, the reinforcement of the Eighth in the winter of 1943-1944 and the creation of a new American strategic air force, the Fifteenth, in Italy changed the equation. At long last, the AAF and the RAF actually had the capability of hitting the same targets around the clock. A comprehensive, simultaneous, and sustained offensive by all three air forces on a single target system offered outstanding prospects for damaging the Germans.

In late 1943 General Arnold sought to impose a formal command structure on the strategic bombers. He proposed the appointment of a single overall Allied strategic bomber commander, based in London. This would avoid the overlarge liaison staffs and constant appeals to the Combined Chiefs for decisions,¹ resulting from the competition between three independent strategic air force commanders. In November 1943 Arnold persuaded his fellow American Chiefs of Staff to support him.² In case the RAF refused to accept a single bomber leader, Arnold also sought to provide for solely American co-ordination of the two geographically separated American strategic air forces. He obtained the consent of the American chiefs to the creation of an overall US strategic bombing headquarters – the US Strategic Air Forces in Europe (USSTAF), with Lt Gen Carl A Spaatz as its commander.³

The RAF did reject Arnold's proposals. Portal, in accordance with previous agreements of the Combined Chiefs, already had the task of co-ordinating the Eighth Air Force and Bomber Command. He maintained that a new structure might disrupt the excellent relations between the two existing commands and that tight direct co-ordination between Britain and Italy would be impossible to attain, while shuttle bombing (moving bombers between the two forces) would not work because the aircraft would rapidly lose their effectiveness when separated from their dedicated maintenance and supply echelons.

At the First Cairo Conference, Churchill made it clear to Roosevelt and Marshall that the current system worked well enough.⁴ At the Second Cairo Conference, Arnold abandoned the proposals for a combined bomber commander. Nonetheless, Arnold obtained the approval of the

Combined Chiefs for the creation of USSTAF, with the provisos that USSTAF continue to co-ordinate with Bomber Command and remain under the direction of the Combined Chiefs with Portal serving as their agent. At some later date, USSTAF would come under the commander of the cross-channel invasion of France (Operation OVERLORD). However, Spaatz retained direct channels to Arnold 'on matters of technical control, operational and training techniques, and uniformity of tactical doctrine.'⁵

This directive would seem to have left Portal as the *de facto* head of the Allied strategic bombers. In reality, Portal had a weaker position. Although he and Spaatz had thoroughly cordial relations during the war, they worked from different agenda. Spaatz could, and often did, refer disagreements over targeting and other policy to Arnold, who in turn would take these disagreements to US Army Chief of Staff George C Marshall and/or to the Combined Chiefs.

Nor did Portal have complete control of Bomber Command. The Air Officer Commanding of Bomber Command, Air Chief Marshal Sir Arthur T Harris, felt that the destruction of 63 key German cities would end the war by collapsing Germany's war economy. Harris inflexibly pursued this goal, denying that his force was suitable for any other target. This, alone, would not have insulated Harris from Portal's supervision, save for two other factors. As the leader of the only force striking directly and successfully at the German homeland, Harris had enormous prestige, which made it difficult to remove him. Furthermore, Harris had the unique advantage of direct access, independent of Portal, to Prime Minister Churchill.⁶ Rather than being the director of the Combined Bomber Offensive, Portal had the rather unenviable position of being the bare-backed rider of a pair of unbridled, ill-matched stallions.

No sooner had the Allies rejected the idea of a single bomber commander, than another dispute arose concerning the control of Bomber Command and USSTAF. The Combined Chiefs had agreed that the strategic bombers would assist General Dwight D Eisenhower in carrying out OVERLORD and in subsequent operations. But the Combined Chiefs did not determine the exact instant, or the form of command, or the type of operations required of the bombers. The struggle to make those determinations lasted from January 1944 to the eve of the invasion. No doubt it was in the mind of Air Chief Marshal Sir Arthur Tedder,

Eisenhower's Deputy in 1944, when he noted after the war, 'One thing I have learned in this late war is that the personality of the few men at the top – commanders and staff – matters far more than I conceived.'⁷

Spaatz and Harris differed about their bombers' participation in OVERLORD. Spaatz planned to carry out strategic operations until he came under Eisenhower's command.⁸ Harris wished to avoid coming under Eisenhower altogether.⁹ Neither Spaatz or Harris would willingly serve under Eisenhower's Deputy for Air, Air Chief Marshal Sir Trafford Leigh-Mallory. They objected, among other things, to Leigh-Mallory's tactical, rather than strategic, outlook on air operations. For his part, Leigh-Mallory made the logical assumption that since, at the crucial phase, all air assisting OVERLORD would have to be co-ordinated at some central point for the tactical support of the invasion, he ought to be the person to do it. Nor was Eisenhower a bystander to this clash of wills. He insisted that all available Allied aircraft be devoted to the preparatory phase of OVERLORD and expressed concern that the British might not be willing to place Bomber Command and Coastal Command under his control.¹⁰

The differing factions on the use of air power in support of the cross-Channel invasion eventually coalesced around two different schemes for employing available air strength – the transportation plan and the oil plan. The transportation plan called for a campaign of attrition against German lines of communication in France and Belgium. The oil plan used the strategic bombers to destroy the major synthetic and natural oil producing facilities available to Germany. This dispute has usually been presented, and rightly so, in terms of tactical *versus* strategic bombing.

But the two plans also presented stark alternatives in the command and control of the strategic bombers. The oil plan emphasised the independent action of the bombers without need of close co-ordination with the tactical air forces. It allowed a non-centralised air command system. The transportation plan yoked the strategic and tactical air forces together into a complex attack on an enormous target system. It lent itself to centralised air command.

By the end of February 1944, the Anglo-Americans had still not yet decided upon the method of control of the strategic air forces. The fractious attitudes of the strategic commanders so discouraged Tedder that

he warned Portal that if the British Chiefs of Staff and Churchill continued to withhold Bomber Command from Eisenhower, 'very serious issues will arise affecting Anglo-American co-operation in Overlord,' issues that would result in 'quite irredeemable cleavage' between the Allies.¹¹ Churchill, however, refused to commit all the RAF to OVERLORD.¹² This provoked Eisenhower into a threat to resign.¹³ Obviously, the form of control of the strategic air forces had become a matter of critical importance. In such circumstances the two bombing plans offered great advantages to their proponents who sought to maintain their positions at almost any bureaucratic cost.

At last, a consensus emerged. Churchill suggested that Tedder, not Leigh-Mallory, co-ordinate the air forces supporting the invasion.¹⁴ Eisenhower agreed to let the British retain Coastal Command, but insisted upon Bomber Command. Portal objected, but Churchill ordered him to come to an agreement with Eisenhower.¹⁵

They agreed to let Tedder co-ordinate the operations of the strategic forces in support of the invasion, while allowing Leigh-Mallory, under Tedder's supervision, to co-ordinate the tactical air plan.¹⁶ In their review of the matter, the British Chiefs of Staff noted that USSTAF, Bomber Command, and any other forces that might be made available would pass to Eisenhower, who would have 'the responsibility for supervision of air operations out of England of all forces engaged in the programme.'¹⁷ The US Joint Chiefs of Staff objected that this agreement did not give Eisenhower unquestioned control of the strategic air forces. Naturally, the British protested that Eisenhower had already approved the arrangements – to no avail. In the meantime, Eisenhower himself began to have second thoughts and demanded that his control of the strategic bombers for the period of the actual assault be untrammelled. Not until sixty days before D-Day did the Combined Chiefs permit the strategic air forces to operate under Eisenhower's direction, not his command. In the meantime, Portal and Eisenhower had chosen the transportation plan over the oil plan, making the operational planning compatible with the command arrangements.

Although the exact air control arrangements utilised for OVERLORD were not a make or break situation for the success of the entire operation, many of the most significant figures involved in the operation's outcome

seemed to have spent an inordinate amount of time and effort trying to arrive at an acceptable solution. Perhaps that was the curse of too many staffs engaged in planning, not operations. More likely, the fuzzy command arrangements for the strategic forces resulted from the uniqueness of the problem. No one had given sufficient thought to how to integrate this new weapon of immense power into an operation as complex and significant as the cross-Channel invasion.

Contrary to their earlier fears of domination by a ground officer, the strategic airmen found that Eisenhower employed an easy rein. In early June, the Supreme Commander approved a full-scale campaign by USSTAF against the German synthetic oil industry. In late August, Bomber Command, too, resumed operations deep into Germany.¹⁸ Eisenhower raised no objection when Harris chose to continue his area bombing strategy.

Portal opposed Harris's strategy. He had seized upon the oil campaign with the enthusiasm that only a convert can sometimes generate.¹⁹ But the direction of Bomber Command belonged to Eisenhower. Consequently, at the beginning of September 1944, Portal pressed for a modification of the control arrangements for the strategic air forces. Spaatz opposed any change. He feared that the Air Staff wished to revert to the scheme of January 1944, which made Portal the arbiter of the strategic bombers.²⁰ Eisenhower and Arnold supported Spaatz. Rebuffed in Europe, Portal simply took the matter to a formal meeting of the Combined Chiefs at Quebec in mid-September 1944.

Portal made it clear that if no new arrangements were made he would pull Bomber Command out from under Eisenhower while leaving USSTAF under him.²¹ Arnold and Marshall soon accepted Portal's pleas.²² Portal gained Arnold's support because he advanced a scheme that made USSTAF independent of army control. Instead of returning to the arrangements of 1943, Portal recommended a new command structure, which the Combined Chiefs accepted. The new structure vested responsibility for the control of the bombers in the Chief of the RAF Air Staff and in the Commanding General of the Army Air Forces, jointly. Portal and Arnold in their turn designated Air Marshal Sir Norman H Bottomley, Deputy Chief of the Air Staff, and Spaatz as their representatives for the purpose of providing control and local co-

ordination through consultation.²³

These were the final command arrangements for the strategic bombers in Europe. The heavy bombers of each ally operated in practice almost autonomously with only a vague requirement for co-ordination of targets. Harris, who had co-operated loyally with Eisenhower, paid little heed to the air staff when its desires contradicted his own. Bomber Command continued its area bombing campaign until the end of February 1945 when Harris could at last announce that he had struck all of the cities on his list.²⁴ Spaatz, in part because of Arnold's complete trust, became the man solely responsible for day-to-day US strategic targeting. He continued his oil campaign, and after some convincing from Tedder, added the German transportation system to his list of targets. The bombing of these two systems, aided by significant and very damaging Bomber Command strikes, played a decisive factor in the collapse of the Nazi regime.

While no grand lesson may be drawn from strategic bombing command arrangements, their application points to the inherent difficulty of redirecting the momentum of a large military operation. The relative freedom of Spaatz and Harris to conduct their own affairs demonstrated yet another unique factor affecting Anglo-American strategic bombing – the seeming lack of supervision or meddling by the political leadership. The Anglo-American civilian leadership does not appear to have demonstrated much interest in strategic targeting. Roosevelt, in particular, employed a hands-off policy. Churchill, who apparently liked to poke into the affairs of every part of His Majesty's forces, as well as leading his government, was spread too thin to oversee consistently Bomber Command. Of course, the highest levels of civilian leadership in the Second World War would have had no more experience in wrestling with the implications and actualities of the long-range strategic bomber than their military counterparts. Perhaps that is why they allowed the great experiment to continue virtually unrestricted.

NOTES

RAF-AAF High Command Structures and Relationships, 1942-1945

¹ Message, Marcus 133, Air Marshal Sir William Welsh (Head, RAF Delegation, Washington) to Portal, August 2, 1943, the Public Records Office (PRO), Kew, London, Air Ministry Records (AIR), file 20/1011.

- ² Memo to the President from the JCS, November 17, 1943, *Foreign Relations of the United States (FRUS): Cairo-Teheran* (Washington, DC: Department of State, 1961), pp 203-209.
- ³ *Ibid.*, numbered document CCS 400, November 18, 1943, pp 228-232.
- ⁴ Churchill-Marshall Dinner Meeting, November 23, 1943, and meeting of the CCS with Roosevelt and Churchill, November 24, 1943, *FRUS: Cairo-Teheran*, pp 326 and 334.
- ⁵ *Ibid.*, numbered document CCS 400/2, Subject: Control of Strategic Bombers in Northwest Europe and in the Mediterranean, December 4, 1943.
- ⁶ Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany 1939-1945* (London: Her Majesty's Stationery Office, 1961) Vol I, pp 340 and 405.
- ⁷ Arthur Tedder, Air, Land and Sea Warfare, *Royal United Services Institute*, XCI (February 1946), p 65. This presentation was dated January 9, 1946.
- ⁸ Harry C Butcher, *My Three Years With Eisenhower: The Personal Diary of Harry C Butcher, USNR Naval Aide to General Eisenhower, 1942-1945* (New York: Simon and Schuster, 1946), p 455.
- ⁹ Webster and Frankland, *The Strategic Air Offensive*, Vol III, pp 24-25.
- ¹⁰ Alfred D Chandler (ed.), *The Papers of Dwight David Eisenhower: The War Years* (Baltimore, Md: John Hopkins Press, 1970), Vol DI, Message, Eisenhower to Bedell Smith, January 5, 1944, item 1472, pp 1651-1652.
- ¹¹ Arthur Tedder, *With Prejudice: The War Memoirs of Marshal of the Royal Air Force, Lord Tedder GCB*. (Boston: Little, Brown and Co, 1966), pp 508-512.
- ¹² *Ibid.*, pp 510-511.
- ¹³ Butcher, *My Three Years With Eisenhower*, pp 498-499.
- ¹⁴ Tedder, *With Prejudice*, pp 508-512.
- ¹⁵ Forrest Pogue, *United States Army in World War II*, Subseries: *The European Theater of Operations, The Supreme Command* (Washington, DC: Office of the Chief of Military History, 1954), p 124.
- ¹⁶ Pogue, *The Supreme Command*, p 124.
- ¹⁷ Message COS (W)1210, Air Ministry to the British Military Mission, Washington, DC, March 13, 1944, Spaatz Papers, Diary; and CCS numbered document 520, Control of Strategic Bombing for Overlord, March 17, 1944, Office of Air Force History microfilm reel A5535, frames 377-379.
- ¹⁸ Webster and Frankland, *The Strategic Air Offensive*, Vol III, pp 80-93; Max Hastings, *Bomber Command* (New York: The Dial Press, 1966), p 302.
- ¹⁹ Webster and Frankland, *The Strategic Air Offensive*, Vol IV, pp 47, 50-51.
- ²⁰ Letter, Spaatz to Arnold, August 27, 1944. Also see Letter, Spaatz to Arnold, September 1, 1944, both in Diary, Carl A Spaatz Papers, Library of Congress.
- ²¹ Webster and Frankland, *The Strategic Air Offensive*, Vol III, p 60, note 1.
- ²² *Ibid.*, pp 58-59.
- ²³ Message OCTAGON 29, Portal and Arnold to Bottomley and Spaatz, September 15, 1944, Spaatz Papers, Diary.
- ²⁴ Notes of Allied Air Commanders' Conference, March 1, 1945, Spaatz Papers, Diary.

Chairman:

To complement Dr Davis' paper, we now have a paper from Air Commodore Henry Probert, who until very recently was head of the Air Historical Branch in this country.

Air Commodore Probert:

In the short time I have available I want to reflect briefly on certain aspects of higher command as they affected our two Air Forces in World War II and thus suggest some of the issues which may be worth discussion.

Obviously we shall be concentrating mainly on the period from 1942 onwards, but I think it important to start with a few words on the RAF's own structure and command system as they had developed before the war and during its earlier stages. The first point to be made – and particularly important in a comparative study such as this – is that the RAF was an independent service, equal in status with the Navy and Army. So its leaders shared with those of the other services the responsibility for providing the government with military advice and direction, they had their own budget, they ran their own service. In contrast, the USAAC was very much under Army control.

So on our Chiefs of Staff Committee, originally set up in 1923, the Chief of the Air Staff had an equal say with his Navy and Army colleagues. In the same way in the 1930s the Committee of Imperial Defence, which was responsible for the general co-ordination of British defence policy and was chaired by the Prime Minister, included the CAS as one of its members, and subordinate to it were two very important committees – the Joint Planning Sub-Committee and the Joint Intelligence Sub-Committee, on which all three services were represented. When the war started the functions of the CID were taken over by the War Cabinet, but the COS Committee and the Sub-Committees continued, and then in 1940, when Churchill became Prime Minister and at the same time Minister of Defence, a Chiefs of Staff Secretariat was set up to co-ordinate and administer the activities of the Defence Committee and the Chiefs of Staff. This was headed by General Ismay, who thus played a key role throughout the war.

The committee system I have just outlined was of course extended to

cover many other areas of activity, and I want to stress here just how important it was for the effective running of the war. As Slessor wrote of the COS Committee in his book *The Central Blue*, the key principle was that the man who gave advice to the Cabinet must be the same man who had ultimate responsibility for putting it into effect. For Churchill, who strengthened and worked the system, the committees combined the power to supervise with the capacity to act. So throughout the various levels from the Cabinet and Chiefs of Staff downwards, the machinery existed both for deciding strategy and for implementing it, and it is impossible to over-emphasise the influence of Portal, Brooke and Cunningham, the Chiefs in the later stages of the war, as a collective team working under Churchill. Remember that nothing remotely comparable existed in Germany. On the other hand, the system was quickly extended when the USA entered the war, and it was decided to institute the Combined Chiefs of Staff, answering directly to our two governments. Using this structure, the major problems of Allied strategy were dealt with at the periodic major conferences, and day-to-day direction was provided by frequent meetings of the American Chiefs and senior British representatives in Washington. I believe I am right in saying that the committee system was also applied at lower levels in the American command structure, and I hope some of our later discussion will revolve around the workings and effectiveness of the CCS and the committee system in general. And a specific question: to what extent were the Americans influenced by their observation of the system as we were applying it?

Let me now turn to the purely air side, where first I want to remind you of the early links that were established between the leaders of our two Air Forces. It was in the summer of 1940 that Carl Spaatz came to London to assess Britain's prospects – and especially those of the RAF – after the fall of France, and to my mind that visit marks the start of the 'special relationship' between our two Air Forces that continues to this day. Another important 50th anniversary, I suggest, that we should be celebrating this year. During that visit Spaatz and Slessor (our Director of Plans) got on particularly well with each other, and Slessor was greatly encouraged when Spaatz told him he believed Fighter Command would win the Battle of Britain and that without air superiority the Germans would not invade. Not all Americans shared that confidence, it has to be said. Later that year Slessor was in Washington for the first Anglo-US

staff conversations, when among other things it was agreed that the bomber offensive would have a high priority if the USA entered the war. This gave Slessor his first opportunity to meet Arnold and they met again when Arnold came to London in 1941 and saw the bombing of London at first-hand. Arnold created an excellent impression with, as Slessor said, his effervescent enthusiasm and his burning faith in the future of air power. Portal, of course, met him too and wrote in later years: 'I always regarded General Arnold as a wonderful co-operator, a great helper at the beginning of your participation in the war in helping the RAF to get the aircraft we so badly needed from America. And another thing I remember very clearly is his intense keenness to benefit from our experience.'

So we have here a reminder of the way in which the AAC assisted us in the early years of the war in the critical matter of aircraft supply, and also of the extent to which our American friends were prepared to learn from us in the earlier days. And one major point came home to them in December 1941, when the first meeting of the Joint Chiefs of Staff took place in Washington. I refer to the fact (as mentioned by Dr Davis) that Portal was of equal status with the other British Chiefs whereas Arnold, the head of the Army Air Corps, did not have a seat on the joint Army/Navy Board where American military policy was worked out. There seems to me little doubt that the leaders of the Army Air Corps were strongly influenced in their drive for an independent air force by what they saw of the independent RAF, and there is considerable evidence that, as the war progressed, a major factor in some of their decisions was their determination to prove the case for a separate US Air Force to be established after the war. Here perhaps is another subject for later discussion.

I should now like to turn briefly to the three main campaigns in which our two Air Forces co-operated in the European war. The combined bomber offensive will be discussed in detail later on, and here I would merely remind you that one of the reasons for the British decision to press on with strategic bombing in early 1942 was the desire to ensure that the USA would give the war against Germany first priority; had we changed our policy – as many were urging – in the face of mounting evidence that not very much had so far been achieved, the USA could hardly have been expected to deploy its own strategic air forces in Europe. So in 1942, as the British bomber offensive was extended under Harris, the Eighth Air

Force under Ira Eaker began to take up position in this country, and immediately we find close ties being established between the two commanders; indeed, Eaker actually lodged with the Harrises for several months. To give a feel for how they got on, let me remind you of what Harris himself wrote: 'If I were asked what were the relations between Bomber Command and the American Bomber Force, I would say that we had no relations. The word is inapplicable to what actually happened; we and they were one force. The Americans gave us the best they had, and they gave us everything we needed as and when the need arose. I hope, indeed I know, that we did everything possible for them in return. We could have had no better brothers-in-arms than Ira Eaker, Fred Anderson and Jimmy Doolittle.' It is worth stressing, too, that the airmen of both countries supported each other in stressing the operational realities to those higher up – Portal, for example, asked Trenchard – who was about to visit the States – to tell the senior Air Force officers back home that many knew nothing about the local conditions; it was time they trusted and supported their commanders in the field rather than worrying them with theories and ideas conceived 3,000 miles from the front. So what we see in these years is the professional airmen of both Air Forces helping and encouraging each other on all sorts of occasions – an important lesson of history. Here may be another area on which some of those present will have worthwhile recollections.

The next campaign where we worked together was in the Mediterranean, where first of all General Brereton's 9th Air Force operated alongside Coningham's Desert Air Force and then large USAAF forces moved into North-West Africa in Operation Torch. Coningham, and Tedder his Commander-in-Chief, had already done much to improve the RAF's operating methods; they had proved the value of unified control of all the air forces in the theatre, and had developed the techniques of close co-operation with the land forces. Not surprisingly, therefore, both were keen for the Americans to profit by their experiences, and to appreciate that Army and Air commanders must work together as equals. Moreover, it seemed essential to Tedder and Coningham that there should be unified command of all the Air Forces, British and American.

So we find that, after a complex series of discussions, with both sides jockeying for position, Tedder was appointed CinC Mediterranean Air Command in early 1943; he answered directly to Eisenhower, as the

overall Allied commander, and under him were all the Allied air forces in the theatre. There is no point in pretending that all went smoothly, though the differences were probably greater on the Army side than between the airmen, where I believe it fair to say that both Tedder and Coningham were well respected by their American colleagues. The former was something of the soldier-statesman and thus hit it off well with Eisenhower; the latter was a most able operational commander who won the confidence of the Americans simply by being first-class at his job. But if we are to understand some of the tensions that arose both now and later, we must remember that the British believed that their much longer wartime experience entitled them to take the lead and show their American counterparts the way; the Americans, understandably, were determined to be seen from the outset as equals – and in due course, as the USAAF contribution to the total air effort grew ever larger than that of the RAF, they felt they ought to have the major say. This is an inevitable problem in coalition war, and I sometimes think that historians make too much of the differences that arose and give too little credit to what was in fact achieved. Remember that nothing like it had ever been done before. So maybe here is another topic for discussion: how did the top commanders view each other and how far were their attitudes influenced by the dictates of national prestige?

And this brings me to the last of the three campaigns, North-West Europe, where the principle of unified command as introduced in the Mediterranean was again applied. It was less easy here because of the scale of the forces involved, the ever-growing preponderance of the American contribution, and also because of the structure of the RAF home commands. Their functional division had been fine for the earlier part of the war but was less so when the main role of the RAF came to be the support of an enormous land/sea invasion, to which every part of the service based in the UK would have to contribute. So there were always going to be problems for the RAF in organising its contribution to the new centralised air command known as the Allied Expeditionary Air Forces. And to the Americans it seemed that these were compounded when Leigh-Mallory, not their favourite British airman, was chosen to command it. We must remember, however, that he was highly experienced in the fighter and tactical support roles; Portal had selected him in March 1943, he led the planning team and he got on well enough with Eaker and with

his first American deputy, Hansel. Moreover, until the end of the year he had no Supreme Commander to whom he could answer, and he had no directive. One wonders whether anyone else could have done the job better, and it is worth remembering that in August 1944 Mountbatten asked for him to take over as the Air CinC in the Far East, a request which Portal approved. This was hardly a vote of no confidence.

One of the biggest problems here, of course, arose over the strategic air forces. Neither Harris nor Spaatz wanted their bomber forces to be diverted from the offensive against the German homeland; Harris still believed that – properly pursued – this could bring about Germany's defeat on its own, and Spaatz had much the same view – provided the main attack was from now on concentrated on the enemy's real weak point: oil. But there was more to it than this, for we must remember Arnold's determination to win his Air Force's independence, which meant preserving the autonomy of his theatre air forces. Spaatz held similar convictions; not only had he no personal confidence in Leigh-Mallory but he was insistent on maintaining the separate status of the Army Air Forces under his command. His attitude was influenced too by his feeling that the RAF still had too much influence in some of the Allied organisations. Anyway a solution had to be found and the untidy answer was to give Tedder the role, as Eisenhower's deputy, of commanding all the Allied air forces involved in Overlord. Both Spaatz and Harris were prepared to take their orders from him, but not from Leigh-Mallory, though in practice, since Tedder had hardly any supporting staff, all the actual planning and direction of the Allied air operations was in fact done at HQ AEF, with Leigh-Mallory in the chair.

I cannot go into here the many problems that arose, such as the arguments over the transportation plan, the strains that arose between the senior British air commanders, and the many questions surrounding Montgomery's conduct of the actual battle, in which Tedder and Coningham became increasingly critical of him and supportive of Eisenhower. Nor is there time to talk about the closing stages of the war, when the strategic air forces were handed back to national control, with co-ordination being effected only through the CCSs – a sad commentary, on the difficulties of the previous months. Some of these matters can, perhaps, be ventilated later on, and I certainly hope that some of those here today who have personal recollections of the men involved will give

us their comments – in particular, on the British side, Lord Zuckermann and Sir Harry Broadhurst.

But while we criticise, may we please keep a sense of proportion. The historian who wrote one of the volumes of that much-neglected but very valuable official series entitled *Grand Strategy* said this: ‘The Allied success in 1943-45 bore witness not only to the ability of the commanders but to the unusual strength of the Allied machinery for the central direction of the war.’ Let us remember the many good qualities of the command structures we devised, of the men who worked them, and of their enormous achievements. Nobody else came anywhere near us.

Chairman:

I suggest that we might pick up first two particular aspects from these papers. Henry Probert asked to what extent were the Americans influenced by their observation of the staff system that they found here in Britain and to what extent were the United States airmen influenced in their drive for an independent Air Force by the fact that the Royal Air Force was an independent service. It is surely remarkable that before 1939 Americans were people seen here largely on films. As one distinguished commander told me, there were Turks in Royal Air Force squadrons but no Americans. The wartime co-operation is quite extraordinary really in view of how quickly it developed, so I suggest that we keep those two things in mind. General Brett, to what extent was the American attitude to the air influenced by the fact that the Royal Air Force had achieved independence?

General Brett:

Two of the gentlemen here who are quite senior to me in knowledge, experience and rank would be better prepared to answer that. I can only answer it from my own experience as the son of an officer who joined the air service in 1912, listening to my father through many years between the wars. There is no question in my mind about the tremendous impact of the fact that the United States Army dominated the Army Air Corps but I would like to pass, if I may, to General Smart and General Lee.

General Smart:

I will comment first on the papers that were presented earlier and then make a few remarks on my own which are aimed more at reinforcing the

points that have already been made rather than arguing with them. At the outset, I would like to confirm a view that Air Commodore Probert expressed, that the Americans patterned their Joint Chiefs of Staff on the British system. This is clearly so; we learned early in the game that you had a working system that we could follow wisely. From an Air Force point of view, this was very helpful because it enabled us to advance General Arnold to a level comparable with that of the Chief of Staff of the Army and the Chief of Naval Operations. That worked well from the point of view of the conduct of the war, and it assisted in the advancement of the proposal that the Army Air Forces become a service with comparable status with the Army and the Navy, as had been true in Great Britain for a long time.

Command and control of the Allied forces in the initial phases of the Torch Operation were neither efficient nor highly effective; due largely to American inexperience in war and in planning and preparation for war. As the Americans learned how to operate their independent services in co-operation with each other, we began to improve our capabilities, and as the Americans and the British learned to work jointly together in planning and preparing for campaigns in which each service supported the other, certain instances integrated their efforts. We were preparing ourselves to proceed from North Africa into Sicily and later into Italy. As a matter of fact, before Torch ended, the Allies had developed mechanisms and procedures by which information about enemy and friendly forces – and all the factors that influenced their operations or their deployment – could be made known at various decision levels. We had established relationships that enabled commanders of subordinate forces to plan and prepare together. The North West African Air Force is one good example of that, proving the point that I have just made. The British and the Americans worked together at various hierarchical levels in planning and preparing for co-ordinated, mutually-supported land, sea and air operations against Sicily, Italy and then France. In these endeavours it is my view that inter-personal relationships tended to minimise the distinction between nationalities and service affiliations.

I might point out here that in my own experience I had the privilege of working at combined levels; the United States Army Air Forces found it much easier to work with the RAF than we did with some of our Naval counterparts and the American Army. Speaking the same language is

certainly helpful in military operations but as a result of these operations and the very friendly personal relationships, we worked out procedures that enabled these operations to be carried off successfully and, in my judgement, with not as many losses as we might previously have expected. It is my view that all of these command arrangements, whilst closely co-ordinated and integrated, fell short of being unified. I believe that neither Churchill nor Roosevelt seriously considered giving command of their national forces to another national. Most British and American military personnel gave lip-service to unified command and we actually took steps toward setting up what might be described as a unified command establishment.

General Eisenhower was envisaged as being the Supreme Commander Allied Forces in Europe and bore such a title, and Air Chief Marshal Leigh-Mallory was named as Commander of the British and American Tactical Air Forces, but it is my belief that these gentlemen exercised authority and had the ability to control the utilisation of their forces to a much lesser degree than was actually thought. I think that the degree to which unified command was exercised by both of them was far more apparent than real. This does not in any way disparage the roles of Commanders-in-Chief of national forces or of multi-national forces; they serve essential purposes, they serve as a link between civil authorities and the military establishment. They are the means by which authority and resources needed by the military are made known to civil officials. They serve as a buffer to protect the military from unwise political interference. Reflect for a minute on how visibly the OKW failed to protect the German military establishment from Hitler's misdirection. The Commanders-in-Chief of Allied Forces, acting within the responsibilities and constraints imposed by civilian officials (and these are important words), developed strategy, determined requirements, allocated available resources, made plans, assigned missions, prescribed relationships and took other feasible preparatory measures; however, they left the conduct of the battle to lower echelons of command where the factors bearing on success or failure were better known.

The concept of unified command of Allied Forces in Europe appealed to several military leaders including General Arnold, General Spaatz and others; I believe, however, that it was not practicable for a wide range of reasons, notably political reasons. As I mentioned earlier, neither Head of

State could, I think, with the approval of his people, surrender command to any person other than his own nationals. Furthermore, I believe that the relationships, accountability and responsibility that are inherent in military command could never be delegated to another national by a military commander. The chain of command is inviolate and part of the laws of both your country and mine. There are practical reasons why a real unified command was never achieved; one is that the complexities of the conduct of a war in the face of an enemy are such that events transpire far more rapidly than can be acted upon by a higher level headquarters, certainly at a theatre level. Another reason is, in my judgement, the inertia in responding to a situation or a sudden change, and changes do occur, as all of you know. I think these matters have to be resolved at a lower level where the need for change is first detected, where the responsibility is for responding, and where the means are available for so doing. What I am trying to emphasise is that unified command at theatre level is an interesting concept but not really practicable.

I would like in closing to cite a personal experience which illustrates the hazards of planning and preparing for war and taking low-level issues to the highest levels of government. I was assigned to the staff of General Eisenhower's headquarters, actually working for Air Marshal Tedder when he was in command of the North-West African Air Forces; he was Eisenhower's Deputy Air Commander. We were planning the low-level operation against the oilfields at Ploesti, and I was sent over by the American Chiefs to explain this to the American Commanders to get their concurrence with the use of their forces. Tedder said that I should go with him to visit the Prime Minister, who was visiting the theatre at that time and living in the villa of Admiral Cunningham. His purpose was to let me explain at first-hand how we proposed to conduct this operation. We did just that. We arrived at the Admiral's villa in the middle of a hot June afternoon – believe you me, it was boiling hot; Lord Tedder and I were wearing the uniform of the day, which was a pair of slacks and a shirt with an open collar, no jackets and no ties. The Prime Minister was clad in a RAF flying suit; the Admiral, however, the host, was dressed to the nines, in whites with a full array of ribbons and epaulettes, a very distinguished-looking gentleman. So the Prime Minister asked him to take part in this explanation and this briefing, and he did. Very quickly he became bored and fell asleep, and from time to time the Prime Minister would look over

and see that he was sleeping. He seemed to bristle but he didn't say anything. Finally, he turned and said, 'Admiral, tell us your views on this point.' You can imagine the gentleman's embarrassment. There are a lot of hazards in war that are not caused by .the enemy!

Chairman:

General Smart has said the staff system in being was seen to be a workable system and was adopted, but was that the controlling thought that dictated the outcome of co-operation or was it the drive for an independent Air Force? Can someone like Sir Harry Broadhurst, whose mind reaches back as far as these events, respond to what General Smart has said?

Air Chief Marshal Broadhurst:

I started at the bottom of the ladder and first met the American Air Force in that capacity. I had a squadron at the start of the war which was attached to the Air Development Fighting Unit where we studied all the different types of aircraft and the happenings in Spain and Poland. From there I went to France for a few days where I learnt a lot about low level strafing and bombing, having been chased out of various airfields by the German Air Force; the effect of an overwhelming Air Force on the French and the British armies was quite staggering. From there I went to a fighter station and an odd thing happened. My administrative officer came in one day and said, 'We have two Americans coming to look at the operations on our station; I'm meeting them in the George Hotel at six o'clock and would you like to come with me?' I said, 'If we are not flying, I would be delighted to meet them.' It was a horrid night, pouring with rain, and I went down to the George Hotel where I met Tooley Spaatz and Monk Hunter. I took them back to my house for dinner, by which time a few bottles of Scotch had been absorbed.

Then, by another extraordinary coincidence, the following year, I was directed to go to America with a team consisting of a fellow called Malan, a South African who was a famous fighter pilot, and a fellow called Tuck who spent most of the war in a prisoner-of-war camp. We went out there and I reported to General Arnold, and while I was waiting to see him, who should come out of his door but, no longer Colonel Spaatz, but General Spaatz. It wasn't long before we were round a bottle of whisky and a pack of cards and he took me fishing at Tampa, or somewhere, and then he took

me on to the air manoeuvres, where I met Ira Eaker and several other officers who became senior in the American Air Force in the war. On my way flying back to England, I landed at Prestwick to find that the Americans were in the war; nobody had told us in our Liberator flying back. That was yet another coincidence.

Leigh-Mallory then became my boss; he never had the credit due to him for the efforts he put into the war. Almost immediately after that, who should be commanding the American Air Forces but Tooey Spaatz and Monk Hunter and Ira Eaker, so Leigh-Mallory said to me one day – and by this time we had gone on to the offensive – that we were no longer just defending England, but we were bombing France, Holland and Germany and we could get more bombers if the Americans would start coming with us. So Leigh-Mallory said to me, ‘Now you know these Americans; go and see them and see if you can get some bombers off them.’ It’s all good low-level stuff this, I’m afraid. So off I go to Tooey Spaatz’s headquarters, where out came the pack of cards and a bottle of whisky, and I told him my mission. ‘Oh,’ he said, ‘you had better go and see Ira Eaker who is at a girls’ school at High Wycombe.’ ‘How many bombers do you want?’ said Ira Eaker. I said, ‘The more, the merrier; we’ll escort them and we will learn a lot flying together.’ Bert Harris was by then on night bombing and we in Fighter Command were only interested in day bombing. As a result of that, I was sent to Polegate, where I met a group of medium bombers, as you would call them, and we arranged the first raid over France to be escorted by Fighter Command. I went on that mission and anybody that went near the American bombers was asking for trouble because they didn’t know a Spitfire from a 109.

Anyway, this was the beginning and then I was sent out to the Desert Air Force where, within no time at all, we had four American groups attached to us with no top command; in other words, they served with us and under our staff. They seemed to welcome the opportunity of being independent and separate, and I must say we found them marvellous chaps. They stayed with us until we got to Italy. However, I hadn’t been out there long before Coningham, who was my boss, went off to North Africa and Tedder, who was his boss, also went and I was left, promoted out of all recognition, to try to keep pace with what was going on until we joined up with North Africa for the invasion of Sicily.

I came back to England for the invasion where again I met Tooley Spaatz and Pete Quesada, and between us we set off for France. I think the staffs were clever to put Coningham and Tedder with the rather raw bosses in North Africa; they were already trained and had achieved much in co-operation with the Army. They balanced the Army/Air set-up of the Americans by putting at the top of the headquarters chaps who had already made their name in Army co-operation. Back in England we had the same. Tedder was deputy to Eisenhower but the unfortunate chap in the middle was Leigh-Mallory who had an awkward job in what seemed to be a rather surplus command. He didn't get on very well with Coningham, who didn't want a commander over him, or with Tedder, who again had what you might call no command appointment; Tedder was deputy to Eisenhower but was really adviser to him. I was extraordinarily lucky meeting those two senior officers at my fighter station and then going to America and meeting everybody out there, many of whom became well-known senior officers in the American Air Force. I also met General Marshall.

There was never much doubt, to my mind, that the Americans would become a separate Air Force because all their junior officers, that is up to Colonel, did not acknowledge the fact that they were Army/Air. I must say that Tooley Spaatz and Ira Eaker were two most outstanding people who, if they made their minds up, would get on with anybody provided it furthered the cause of their Air Force. The Chiefs of Staff made some very wise decisions at that time which enabled the two Air Forces to work virtually as one.

Chairman:

We have had three broad points established, the importance of relationships which this orgy of card-playing and whisky-drinking seems to have underwritten early in the war, a certain coyness about the ambition of the Army Air Force to become an independent force, and most certainly the staff system. Sir David Lee.

Air Chief Marshal Lee:

Rather like General Smart, I attended some of these Chiefs of Staff conferences, not Casablanca but Quebec and Yalta, as a planner. It is worth mentioning that one of the greatest problems facing the Combined Chiefs of Staff in those mid-war years was the priority to be given to the

defeat of Germany and the defeat of Japan. It seems an obvious strategy to us, long after the war, but it was far from easy at that time because one has to remember that the United States had had the terrible shock of Pearl Harbour. All the feelings and sentiments of people in America tended towards going for the Japanese and prosecuting the war in the Pacific. There were many, many long, detailed discussions within the Combined Chiefs of Staff, who finally came to the conclusion that Germany had to be defeated first and then the whole of the war effort could be turned to the elimination of Japan. Just to finish that little comment, I shall never forget Winston Churchill coming into the planners' office on one of those occasions when we had been writing papers for him and he said to us, 'You planners spend your time writing appreciations and I don't always appreciate your appreciations.'

General Bob Lee:

I am going to save my remarks on land/air operations until this afternoon but I would like to make a couple of comments on the lower-level command relationships. I spent most of the early part of the war training folks for deployment to various theatres and almost wound up, as General Patton said, sitting out the war in Louisiana (he used more colourful language!). On the other hand, I wound up as Deputy Commander for Ops of the 9th Air Force. Working with the AEF was fine initially but I feel that the deployment of an advance section to the continent was unnecessary; in fact it was with us until we were in Versailles about October 1944. Generally speaking, we worked out with 2nd TAF the employment of medium bombers and the shifting of fighters among ourselves. Occasionally there might be some differences in priorities and then we would have to go to AEF. Always the advance section of AEF consisted of an Air Vice-Marshal and some Americans and their staff and they were attached to us, not 2nd TAF. Sometimes we thought that they were spying on us. On the other hand, the difficulty was that every time we took a point to AEF they couldn't make a decision but would have to send a signal to Stanmore. I feel that they could have left out the advance section of AEF. Decisions we couldn't work out with 2nd TAF we could have taken directly to Stanmore ourselves. We had excellent communication which gave us flexibility and as soon as SHAPE got to Versailles, with Air Marshal Tedder heading up the Air Staff, everything worked very smoothly.

Chairman:

Thank you, General. Now we have Dr Alfred Goldberg, the Historian of the United States Office of the Secretary of Defense, who will speak about Anglo-American co-operation in the Strategic Air Offensive.

Dr Alfred Goldberg:

‘War without allies is bad enough – with allies it is hell.’ Thus wrote Sir John Slessor, and the sentiment no doubt has been expressed by most participants in coalitions. World War II was fought by coalitions and of them all the Anglo-American alliance was surely the best and the most successful. Indeed, I cannot think of any wartime alliance between equals that was more successful.

In every coalition there is both co-operation and competition, and how these two interacted is fundamental to an understanding of the workings of the World War II Anglo-American coalition. Of particular interest to us is the relationship between the Royal Air Force and the Army Air Forces in the larger context of the war. I shall examine the strategic bombing force, surely the dominant one in the relationship of the two Air Forces.

I propose to examine first what the Air Forces had in common, then the difference between them that made for competition, and finally the areas of co-operation that will give the measure of how effective was the alliance. I shall focus on the United Kingdom to the exclusion of the Mediterranean area from where the Fifteenth Air Force and RAF 205 Group participated in the strategic bombing offensive. The co-operation there was chiefly in operations, and the Americans were not dependent on British assistance as they were in the United Kingdom.

Foremost among the things the Air Forces had in common was the English language, but, as we all know, we are also ‘separated by a common language.’ The RAF and the Eighth Air Force had to issue a dictionary with translations of the terminology, chiefly technical, of the institutions, but in the main the airmen spoke the same language. Much of the frustration of coalition in the past has occurred because of language difficulties.

The two Air Forces shared strongly-held beliefs and goals. Their belief in air power and its potential to win the war arose out of basic doctrines and concepts that were identical. The belief in the supremacy of the

bomber and of strategic bombing was central to these concepts, for strategic air operations offered greater freedom of action for the Air Forces than any other mode of operation and therefore fostered the notion of independent air forces with a separate identity. Although the RAF was independent, it still had to prove itself, and the AAF, determined to strive for independence from the Army, felt that its future was at stake. Moreover, both Air Forces had to justify the use of the enormous resources put at their disposal – resources for which they had fought ardently – chiefly in the bomber forces. Accordingly, both the RAF and AAF resisted efforts to divert their bomber forces from the main objective of defeating Germany by strategic bombardment – whether to join in the antisubmarine campaign or to support the ground battles. In these matters where they saw eye-to-eye, the two Air Forces co-operated and reinforced each other.

There were differences, of course, personal and professional. The personal differences derived from the circumstances of the environment and its demands. The British were the hosts and the Americans the visitors. It was British turf and the RAF were the old professionals and the Americans the amateurs at the beginning in 1942. The RAF regarded itself as the senior partner in the venture and entitled to call most of the shots. The Americans were determined not to become the tail to the RAF's kite and looked forward to a reversal of roles that would follow on their achieving a preponderance of forces.

The sensitive psychological relationship between the two Air Forces was further aggravated by differences in strategic and operational approach to the bombardment of Germany. For a time, the contest between day and night bombardment operations affected the relationship, but this diminished in 1943. The differences between area bombing and precision bombing were probably more apparent than real. The real difference of approach was in targeting: between Bomber Command's de-housing and morale objectives and the American's industrial systems objectives – particularly the aircraft and oil industries. Consequently, given the differences and the determination of both Air Forces to achieve a maximum degree of independent action, there was no combined structure for carrying out the bomber offensive and therefore no real combined bomber offensive. A unified command for the bomber forces never existed because neither side really wanted a centralised command.

Bomber Command was Britain's only independent contribution to the war effort, and the Air Ministry wanted to retain exclusive control of it. There were two separate campaigns and only occasional co-ordination of operations between, the two. Indeed, even the two American bomber forces – the Eighth and Fifteenth Air Forces – engaged in co-ordinated operations infrequently in 1944-45, even though they were both under General Spaatz.

On the other hand, there was a certain amount of unavoidable co-operation in the strategic direction of the bombing campaign. Although there was no permanent machinery for planning operations, the Air Forces agreed from time to time on bombing directives, beginning with the joint American/British directive on day bomber operations in September 1942 and subsequently the Casablanca directive of January 1943 and the Combined Bomber Offensive directive of June 1943. Other directives followed in 1944 and 1945. Portal generally acted as the overseer of the bombing offensive, but he was satisfied to allow the Americans to go their way. He had enough on his hands dealing with Harris at Bomber Command. A number of joint committees functioned successfully, particularly the Joint Oil Targets Committee and its predecessors, and the Joint Strategic Targets Committee, the latter to provide broad guidelines to the two bomber forces.

In other ways the British and American bomber forces were mutually supporting. In general they refrained from open criticism of each other's efforts and supported each other in controversies with the other military services in each country. Portal encouraged AAF strategic bombing plans and programmes even before the United States entered the war and supported daylight bombing at Casablanca.

There was close collaboration in other important areas also, particularly targeting and photo reconnaissance. The Americans benefited greatly from British intelligence, communications, and weather services, all of vital importance in planning and executing operations. Ultra and especially the Y Service provided priceless information. The RAF defended US air sectors in the United Kingdom. During 1942-43 RAF fighters participated in fighter escort of Eighth Air Force missions against France and the Low Countries. Some joint night and day bombing operations were mounted – notably Hamburg in 1943 and Dresden in

1945. These were not frequent. The Eighth Air Force played a part in the campaign against the V-Weapon sites in 1944, flying more missions than Bomber Command.

Above all, the Americans benefited from the enormous advantage of coming to a theatre of operations where there already existed an effective operational and logistical substructure to support them. Without the logistical substructure that the RAF and other British elements provided, the Eighth Air Force (and the Ninth for that matter) could not have played the mighty role that it eventually did. Its contribution to the bombing offensive and to Overlord would have been later and on a smaller scale.

Let us consider the ways in which British aid – most of it reverse lend-lease adding up to billions of dollars – made the American contribution possible, just as American lend-lease helped keep Britain in the war. First, and obviously indispensable, British labour built most of the bases from which the Americans flew. This required the British government to defer calling up thousands of men for service in order to provide the manpower to build the bases. It is likely that additional men were deferred to supply other vital services to the Americans, including maintenance of aircraft at depots. In all, the American Air Forces occupied more than a hundred large air bases (including those for the Ninth Air Force) plus a large number of other facilities of all kinds in the United Kingdom, for which the British furnished the initial housekeeping equipment and supplies. This added up to a huge amount of real estate. And most of these bases were provided in time to receive the American bomber and fighter units that arrived in a flood in the first five months of 1944.

The Eighth Air Force received hundreds of British aircraft during its first year in the theatre – principally Spitfires to equip two of its fighter groups. In 1943 the Ministry of Aircraft Production provided the first jettisonable tanks used to extend the range of Eighth Air Force fighters. We should bear in mind also that the premier American escort fighter – the P51 Mustang – was the result of the RAF's cross-breeding of the airframe with a Rolls-Royce Merlin engine. Ironically, the RAF did not take advantage of this breakthrough. British plants assembled most of the American planes shipped by water through 1944 and performed a substantial part of maintenance, repair, overhaul and salvage functions for the Eighth. Moreover, up to 31 July 1943, half of the Eighth's air force

supplies, including spare parts for both British- and American-made planes, came from the RAF. Most of the radio, radar and bombing equipment, and electronics in general, came from the RAF, since these had to be co-ordinated with the RAF's communications systems. And to operate its aircraft the Eighth received its fuel supplies from British depots, transported in the main by British tankers, pipelines and fuel trucks.

Much of the Eighth's other supplies also came from British sources. During 1942-43 the shortage of shipping aggravated the overseas supply situation and made it necessary for the Eighth to procure most of its engineer, quartermaster, medical and chemical supplies from the British. By the end of 1943 the United Kingdom had provided the US Air Forces in Britain with the equivalent of 1,050,000 ship tons of supplies, including materials used in construction and equipment of air bases and depots.

Bear in mind that this requirement to nurture the American Air Force was imposed on an industrial system already functioning at its outer limits and subject to severe shortages. It is probably correct that the United Kingdom attained the most complete mobilisation of human and material resources of any nation during World War II. Moreover, the Anglo-American co-operation in waging the war certainly represented the highest order of voluntary meshing of resources by two countries that occurred during the war. It is significant, and perhaps predictable, that the best and most complete form of co-operation occurred at the working level in both operations and logistics. It proved much more difficult to reconcile different national political, strategic and service outlooks at the highest levels. The most successful element of the co-operative effort was thus the mutual sustained provision of the wherewithal to pursue the strategic bombing offensive.

What the campaign achieved is still the subject of intense and sometimes rancorous debate. We can agree that the bomber forces, chiefly the Eighth Air Force, accomplished just in time the interim objective of defeating the *Luftwaffe* before the Overlord landings – and did it handsomely. But the triumph over the *Luftwaffe* could not have been achieved in time for Overlord without the contribution that the RAF and other British agencies made to the build-up of the Eighth Air Force. Nor could Bomber Command have conducted its substantial daylight

operations after D-Day had not the Eighth so greatly sapped the strength of the German fighter defences.

The question of whether the resources used in the Anglo-American bombing offensive against Germany could have been put to better use in waging the war cannot be answered definitively. The same question can be asked of other major dispositions of men and material during the war without positive answers. The essential fact is that the war in the West was won by a joint Anglo-American effort that required a remarkably high degree of mostly amicable co-operation. The scale of the effort, its duration and its success are surely unique in history.

Chairman:

Dr Goldberg's paper is followed by one from Dr Richard Overy, the very distinguished military historian from King's College, London.

Dr Richard Overy:

The strategic bombing campaign against Germany is all too often regarded as two separate campaigns, a British one and an American one. This morning I want to argue that there was in fact far more co-operation and shared thinking than is usually assumed. I would like to start by quoting from a meeting in November 1940 between Sir John Slessor, Director of RAF Plans, and Captain Haywood Hansell, from American Air Intelligence. Hansell wanted to know about the strategy pursued by Bomber Command. 'It appears to us,' he told Slessor, 'that to date neither England nor Germany has succeeded in destroying consistently targets which require precision bombing. Do you still feel that accurate bombing can be carried out economically in the face of strong anti-aircraft defence?' Slessor replied: 'Oh yes, we feel convinced that bombardment aviation is only effective when it is so employed; area bombardment does not produce effective results, you must do precision bombing.' This was, Hansell then assured him, 'entirely in accord with our own previous conviction.' They then went on to discuss the targets most suitable for bombardment; again, their views were very similar. 'Our doctrine,' said Hansell, 'for the employment of bombardment aviation is based upon the careful selection of physical objectives, the destruction of which will cause the breakdown of important industrial and civil structures.' 'That is remarkably like the system we use,' replied Slessor.

It should not surprise us that as late as November 1940 the RAF and the American Air Forces should see more or less eye-to-eye on the nature and purposes of strategic bombardment. Strategic thinking on both sides of the Atlantic had followed very similar paths during the inter-war years. Both Forces had common intellectual influences in the theories of Douhet, Mitchell, Trenchard, Sykes, etc. Ideas about bombardment were known on both sides of the Atlantic and both Forces watched the development of the other with interest. RAF manuals can be found in American air force records in the 1930s; reports of American bombing trials turn up in the files of the Air Ministry.

With this shared theoretical background, both Forces developed ideas and assumptions about bombing in common. A central feature was the view of strategic bombardment as a form of economic warfare. The purpose of bombing was to attack the 'vital centres' of the enemy state, economic systems whose destruction would bring about a collapse of war willingness and war capability. It is important to recall that in the late 1930s this was just the campaign that Bomber Command was preparing for. It was drawing up elaborate schedules of economic targets in Germany (transportation, oil, steel, etc.), all of which were designed to serve the central purpose of wearing down and destroying Germany's economic war-making machine. There was agreement in both Forces that the way to achieve this purpose tactically was to attack precise industrial targets and to do so with very heavy multi-engined bombers. The RAF's famous discussion of the so-called 'Ideal Bomber' in the late 1930s had been followed in the United States and had, Hansell told Slessor at the same meeting, 'very much influenced development of bomber technology.' One final shared assumption should not be overlooked. Both Forces came to recognise that under conditions of total war as it was defined in the 1930s, the attack on civilian targets, on factories and urban industrial areas, was not only strategically sensible but morally justifiable. There were, of course, degrees of scruple. No one in either Force wanted to attack civilians just to terrorise them. But it was generally agreed that the nature of modern warfare, and of the particular enemy, Germany, permitted Western air forces to attack civilian economic targets within the laws of war.

The common outlook between British and American airmen is much in evidence in 1940 and 1941. It was clear in the discussion between Slessor

and Hansell. It was evident when Hansell came to London in July 1941 and collected a whole ton of target folders and information from British air intelligence for transport back to Washington. These target folders played an important part in 1941 in the drawing-up of the American air plan against Germany. It was evident, too, in the discussions between the two sides in July 1941 when they drew up common long-term plans for the production of heavy bombers.

Where then does the gap appear between the Americans, the precision bombers, and the RAF, the area bombers? I would like to suggest that this division is very much prone to exaggeration. Of course there was a distinction between day and night bombardment which for much of the war dictated the nature of what could be attacked and with what effect. But we need to be aware that the RAF accepted area bombing only as a final and less satisfactory option. Consider this view from a lecture given by a senior RAF officer in 1936: 'Indiscriminate air bombardment of the civil population does not comply with the principle of concentration; concentrate on the attack on industry.' Or the report from September 1940 evaluating the effects of bombing during the Battle of France: '*The indiscriminate attack on cities is invariably uneconomical*'.

The same might be said of night attacks. In 1938 when the RAF began to think seriously about the difference between day and night attacks, the conclusion it reached was that during night attacks the opportunities for accurate bombing would be rare. Close observation of American practice in bombing trials encouraged the RAF to concentrate on precision bombing in daylight attacks. In June 1940, when the RAF was compelled to shift to night attacks because of strong Luftwaffe opposition by day, reports filed in the Air Ministry made it clear that such attacks were regarded there as 'very poor' or merely 'random'. It was the urgent need to get at Germany by any means, together with evidence of how poor bombing accuracy was with conventional technology, that forced the RAF's hand. Air leaders had to accept from that stage on what was operationally possible rather than what was tactically desirable. They never lost sight of the central purpose, defined in the 1930s, that, through bombing, the Germany economy and workforce would be brought to a point where the war could no longer be continued.

Where a real difference in outlook existed between the two Air Forces

was in their respective attitudes to counter-force strategy. Running through all the discussions in the RAF in the late 1930 and the early years of war was a strong aversion to the idea that bombers could somehow defeat the *Luftwaffe*, or that its defeat was a necessary prelude to an effective bombing campaign. American airmen, on the other hand, observing what had happened in Poland and France, reached the conclusion that a vital element in any strategic bombardment campaign was to attack and neutralise the enemy air force. This explains why the 'Flying Fortress' was so heavily armed, and why the air plan that Hansell helped to draw up stressed the importance of attacking the *Luftwaffe* as an 'intermediate target', whose destruction would permit effective bombardment of economic targets. This view was confirmed by wartime experience. Bombing by day exposed American forces much more to the attacks of the *Luftwaffe* than did British night bombing. The advent of the long-range fighter was an essential pre-condition for the successful bombing of precision targets.

Wherever else we look there is plenty of evidence of co-operation and common endeavour. There was a high degree of technical and scientific co-operation between the two states, in the development of radar, of long-range fighters, of heavy bombers and, most notably, the development of the 'super bomb' – the atomic weapon. There was a good deal of operational co-operation under the umbrella of the Combined Offensive. On occasion the US Air Forces attacked cities; the RAF co-operated in the attack on industrial target systems, particularly oil and steel. The two Forces co-ordinated the attack on German transportation in 1944, and co-operated with great success in the interdiction programme leading up to D-Day. Counter-force strategy remained the striking exception. In February 1944 the American forces undertook 'Big Week', a sustained attack against the German aircraft industry in order to weaken the *Luftwaffe* sufficiently to permit further bombing attacks on non-air targets. During 1944 the American forces played a prominent part in the defeat of the *Luftwaffe* in the skies over Germany when long-range fighters became available in quantity. These attacks actually made it easier for Bomber Command to continue its operations as well.

Both Forces remained committed to the central objective of using bombardment as a way of weakening the German economy and the resolve of its workforce to continue the war. This objective was not

achieved in 1941 or 1942 when the technical means were not yet to hand, but it was achieved from the summer of 1944 onwards. By March 1945 the German economy was turning out only 40-50% of the quantity of aircraft and tanks it had been producing a year before, and German forces could barely fly or drive those that were produced for lack of fuel or spare parts. From the late summer of 1944 the Combined Offensive, whether carried out by day or by night, began to achieve what Slessor and Hansell had hoped for four years before.

Chairman:

Gentlemen, we now throw this open for discussion. I should first like to ask Lord Zuckerman if he can enlarge our understanding of these matters.

Lord Zuckerman:

I must first say that I approach the whole historical problem from a somewhat personal point of view, like Sir Harry Broadhurst whom I first met in the desert. I happened to be a civilian sent out to the Middle East in order to see why the Desert Air Force had not won the war and destroyed Rommel all by itself. This totally impossible question was put to me but many people believed anything could be done by the Air. It did work in the end and stopped all the toing and froing in the desert.

I served on the staff of General Spaatz and also those of Tedder and Leigh-Mallory, so I saw the air war both from the point of view of co-operation with the armies and also in terms of strategic bombing – whether it could, by itself, fulfil the Trenchard/Douhet doctrine or the doctrine held in the United States, that of Billy Mitchell. Two things amaze me in what I heard in this last session: there was no reference whatever to the fact that the *Luftwaffe* had bombed London and many other British cities and that there was a strong feeling in public and political circles for revenge, and secondly, we knew very little about what was happening in our own bombing effort.

My involvement was that I belonged to an organisation which was then trying to dissect exactly what the *Luftwaffe* had achieved by its bombing of cities in the United Kingdom. There is no doubt in my mind that the big reason why we turned to the bombing is that it was the only thing we could do at that time, and the extent of our bombing was all that was

possible. Another thing that I would like to say is that the term ‘precision bombing’ in the end meant the same degree of precision between the Royal Air Force at night at the USAAF by day. It is unfortunate that the word goes on being used without reference to the facts.

As for the feeling that one ought not to hit civilians – and this applied to both sides – in my experience, the Commanders-in-Chief themselves did not like the idea of killing civilians. General Spaatz held that view strongly but in the end we had to accept the fact that one could not bomb either by day or night without killing civilians. That is why, when I was in charge of the casualty survey of the Blitz in this country, I don’t believe I had any moral feelings about the killing that was going on; by that time one was deeply involved in it. On another point, it is understandable that there were no differences of view about the purposes of air war. The Trenchard/Douhet and the United States doctrines were the same in the end as those of the *Luftwaffe*. However, the Russians had a different one. The real problem was how was one going to achieve one’s purposes. As Lord Wavell wrote in one of his celebrated essays, ‘Any fool can talk about strategy; it’s tactics, logistics that matter,’ and that was where the differences really occurred; how were we going to do these things? A reference was correctly made to the technical side, such as the work of the people trying to contrive airborne radar; that was all integral to the argument of what was possible, and was being followed very carefully in higher quarters. Indeed, the history of the development of radar shows that the steps were taken by the people concerned in parallel and in concert with what they were learning from the operational people.

Chairman:

May we have an American complementary response to that?

General Potts:

My name is Ramsay Potts and I am a Major General (retired) in the Air Force Reserve; I started not at the bottom of the ladder but some point below that in World War II as a bomber pilot. Proceeding through a succession of assignments to be a squadron commander and a bomber group commander, I then served on the operational planning staff of the 8th Air Force as Director of Bombing Operations for the last six months of the war. My next assignment was to the US Strategic Bombing Survey where we gathered all the evidence from the German files and the German

leaders and wrote reports; we then did the same thing in Japan. That is that vantage point from which I am able historically to view this problem.

Let me cite one statistic for you that I think puts everything into the proper frame of reference: 80 % of the bomb tonnage dropped on Germany by the RAF and the USAAF combined was dropped after D-Day. Now we had tremendous publicity about all the things going on in 1941, '42 and '43 and indeed we did have a very successful mission bombing Hamburg, but I repeat, 80% of the total bomb tonnage was dropped after D-Day. In addition to that, the accuracy began to improve as the forces began to gain even more skill and more experience so that, if you look at what the Air Forces accomplished in the early part of the war, you have to realise that they had very inadequate, inexperienced forces. That is a very important statistic.

Now the USAAF was dedicated to the precision bombing technique. What Lord Zuckerman correctly points out is that in actual operations what the 8th Air Force did was to choose an aiming point and then drop a pattern of bombs from a formation on that particular target so that we ended up by doing area bombing of precision targets. That's about how it came out. I don't want to minimise the difference in the way the two strategic air forces, so-called, went about their jobs. The dedication of the people at the 8th Air Force, like General Doolittle and General Orville Anderson, to this concept of going after the precision targets was really total. I remember an incident where a telegram came from General Arnold to General Doolittle: 'You are to bomb Berlin.' It was passed to General Anderson who showed it to me saying, 'Look at that. It's nonsense.' I said it had come from the Chief. 'I don't give a damn who it comes from; our job is to bomb precision targets' – and we did nothing. A day later another message came: 'Did you get my message – bomb Berlin,' so I said we had got to do it. General Anderson said, 'I don't want to do it.' I replied that we had better do it as we had promised the RAF we would do this in a daylight operation. 'To hell with it,' he said, 'a promise means nothing in wartime.' But we did it, believe me; General Doolittle came down and said, 'Andy, you damn well do what you are told to do,' so we did it.

I will add this. The doctrine of the USAAF to hit the precision target was all well and good but when we went out to Japan it turned out differently. The way to end the war out there, and General LeMay

instituted the programme, was by bombing the cities because that was where the Japanese industry was concentrated and that's what we could do. We found that we couldn't do precision bombing at very high altitude with the B29 – there were a lot of troubles with it – but we could bomb those cities at night, which is what happened in Japan.

I would like to make a final comment and it is about the way that the USAAF viewed the RAF as a model. All the senior commanders that I was associated with had an admiring envy for the RAF. They had a distinctive uniform, they had titles, they were separate from the Army titles and they had a separate independent Air Force that had equal status with the Army and the Navy. Our men all wanted that, they wanted it more than anything.

I recall an incident in Japan when I was working for General Anderson as his executive officer on that survey. We had dinner for him and Seversky, the very famous aircraft designer, who got up to propose a toast to Air Chief Marshal Orville Anderson, and Anderson broke down and wept. He was so absolutely overcome. More than anything in the world that is what he wanted and that was also what the senior officers in the Air Force wanted: they wanted a separate Air Force and they wanted one like the RAF. They even wanted uniforms and titles like the RAF. That didn't happen but we did get the separate Air Force.

Group Captain Batchelor:

I would like to speak from the sharp end. I was a flight commander in Bomber Command in 1940, then a bomber squadron commander and finally, from 1943 until the end of the war, a bomber station commander. A lot has been said over the years about the inaccuracy of our early days but people forget that a massed attack probably numbered less than 80 and in 1940-41 sometimes up to 90 aircraft. Something that is always forgotten is that merely flying over Germany, whether it was effective or not in those early years, wrapped up something like one and a half million Germans in manning their fighter defences, searchlights and so on. In addition, there were something like a million people – admittedly some were slave labour but most were skilled workers – repairing the damage. We in Bomber Command had one simple philosophy and that was: 'All good Germans were dead ones'. We had no compunction over that at all and, moreover, on my three trips to Berlin in 1941, I didn't give a damn

how much damage I did. The great thrill in those days was the thought of retaliation for London and the thought that we were putting tens of thousands down the shelters so that they were not working in the vast industrial complexes, such as around Berlin, in the Ruhr and elsewhere.

It wasn't until 1943 that the navigational aids such as H2S came along and we really began to know that we were hurting where we wanted to hurt. When I commanded Mildenhall, every day we sent out 36 Lancasters on all targets (in daylight they went in formation) and the results were there to be seen. It should be known full well, whether the other services like it or not, that with the Americans we were a major influence in the defeat of Germany. I do not agree with our own Imperial War Museum who say, 'Bomber Command played a significant but not decisive part.' I think we and the Americans would argue that, combined, we were the major cause of the defeat of Germany.

Chairman:

Both Dr Overy and Dr Goldberg thought that the differences that existed over bombing policy were not to be exaggerated; Dr Overy asked, 'Where did the gap appear and what forced the difference?' I should like to read something that Harris wrote to Churchill in November 1943 before he began the Battle of Berlin. 'The Ruhr,' he said, 'is largely out; we must get the United States Air Force to wade in with greater force. If only they will get going according to plan and avoid such disastrous diversions as Ploesti we can get through it very quickly and wreck Berlin from end to end. It will cost us between 400 and 500 aircraft; it will cost Germany the war.'

Clearly there is a difference here and I wonder if we might hear, in order to widen our understanding of such differences as did exist, what were their origins. Is it right to suggest, for example, that Britain did not have the same view of bombing a modern economy as the United States did? The United States by that time had produced the greatest industrial economy that the world had ever seen. Trenchard had used air power in strategic terms as an instrument of Imperial power abroad; is there something in that? Are the differences between us to be explained in terms of our assessments of the value of, say, synthetic oil plants or are they to be explained purely by the technical differences between the two Air Forces and the specific attributes of the USAAF, such as bomb sights?

Air Vice Marshal Oulton:

I would like to comment on the splendid statements by General Smart and Dr Goldberg. In early 1941 General Arnold made a most generous gesture in that he allocated one-third of all American training capacity, his training capacity, to the Royal Air Force and this must be remembered alongside the kind remarks of Dr Goldberg. I only got the worm's eye view, even lower than Ken Batchelor's. I was one of the five people sent out to Washington to implement this training plan and it went very well for a little while. Then I was swept into the December 1941 party to act as office boy to Air Chief Marshal Portal after Pearl Harbour and so I saw the beginning of the Combined Chiefs of Staff, which was a most interesting exercise. I most strongly endorse General Smart's remark that it is the people at the lower level who make things work; the chaps at the top, four-and five-star people, can never concentrate on the job in hand because they are continually fighting for their political lives. One saw this between General Marshall and Admiral King, for instance, on the American side. But at the lower level of Squadron Commanders, Wing Commanders in the American sense of that word, co-operation all along was absolutely splendid – sometimes acrimonious but effective.

One can pay far too much attention to the theme of unified command which, I agree with General Smart, is unlikely to be normally realised. I don't think that we are going to see it in the Middle East at the moment, for instance, and I think we should bear in mind that our discussions are very relevant to what is happening in Saudi Arabia right now. How are we going to manage things there? One has seen several brief interviews on television between American commanders and British commanders and I rejoice to see that at the working level. There are going to be some acrimonious discussions about who is supposed to be in charge, if it ever does come to shooting, but meanwhile all this manoeuvring still has to go on. A great deal of the trouble between Bert Harris and Portal was the rivalry between them that has been very well documented by some of our historians. I think the reason why the RAF got along so well with the Americans in the first case was that the people who did the co-operating were aviators and that at least is a common language. One aeroplane is very like another and I think that in all this deliberation, the essential thing is that at the working level allies should co-operate. Sometimes when the masters fall out they make a wrong decision but it doesn't matter all that

much.

Air Chief Marshal Constantine:

I spent the whole of the war in Bomber Command, for my sins, and I would just like to mention one or two points. We were so unprepared at the beginning; I can remember when I was a Station Commander, operating Halifaxes and Wellingtons in 1941, that I went as second pilot on a trip to Saarbrücken. We had 18 Halifaxes airborne and I vaguely saw a river and one or two things coming up, after which we reported back to the Intelligence Officers and said, 'Yes, very successful attack on Saarbrücken.' There was one 'Sprog' crew, as we called them, the chaps who had just arrived and were the least experienced, and they failed to return. Suddenly, half an hour later, they got back and in came the pilot saying he'd seen the target but not much else. It turned out that 17 experienced crews had bombed Saarlouis, some 20 miles down the river, with the 'Sprog' crew being the only one actually to bomb the proper target. We were so unprepared in those days, it really was almost unbelievable.

At the end of the war I had command of 5 Group and at that stage we had our own marking force; Bert Harris had decided that instead of having just one marking force under the Pathfinders, he would try and have two, and so 5 Group had its own marking force. I was the AOC then and Sam Elworthy (later MRAF Lord Elworthy) was my Chief of Staff; when Bert Harris said bomb something there was no argument and I remember towards the end of the war receiving a message from Bert: 'Bomb Dresden, maximum effort, 250 Lancasters.' So Sam and I just carried on with it as a normal target; after all, we had been bombing Hamburg and every other city. Talking of cities, the term 'city bombing' always seems to me to be slightly wrong in today's context; 'area bombing' sounds better. For people today the talk of bombing is a dirty word and they always talk about city bombing and civilian casualties. Of course I take the view of several other speakers that once you get involved in war it is a dirty business since civilians will always get hurt. I was with Bert in 1944 as his deputy chief and the co-operation there was superb. Every morning at half past eight there would be Bert and the whole of the staff, weather men, the Army, Navy men, the Americans. He listened to the whole thing; we were doing the night bombing at that stage and the Americans were

doing that marvellous job with the day bombing, and it really was a perfect example of co-operation to see these great men there every single morning getting on with the targeting. Those are just a few of the feelings that I have about working with the Americans, the perfect co-ordination of our night and their day bombing, and the targeting. My lasting impression of working with the Americans was marvellous. Later in the war when we had improved our marking techniques, you could bomb more accurately at night than you could by day but one of the things that Bomber Command became was heavy artillery. When we had just landed in Normandy we were told to put a thousand bombers on Caen just to help the Army move in the next day. I went across to watch this extraordinary sight of 1,000 bombers dropping just as much as they could in that area; it was an awe-inspiring sight. The flexibility of the bomber force was incredible, including mining the Baltic and sinking more ships than the Royal Navy. The final result is argued but the combined RAF and USAAF bomber offensive was one of the great achievements in securing victory. I feel very privileged to have been in Bomber Command and seen what they did.

Chairman:

Sir Hugh, we all know what the exchanges were in historical terms between Harris and Portal on panacea targets and so on but, as we have this audience and people like you here, can you enlarge on that? What really lay at the root of these differences when it came to bombing industrial targets like Schweinfurt or the synthetic oil programme?

Air Chief Marshal Constantine:

As you know, Harris believed a sufficient number of aircraft, both British and American, would have finished the war. Weather, of course, compared to the Mediterranean, was a very, very important factor and when they sat down to look at the targets for a particular night with all the target systems in front of them, they could only attack where the weather men thought it might be possible to see a target. I think that Bert was a bit naughty sometimes in not following the exact target system, whether it was oil at that moment, or transportation, or whatever; he tended to say sometimes that the weather was not sufficiently good to tackle this or that particular target.

Graham Hall:

Like General Potts, I started on a lower rung of the ladder as an NCO pilot, regular RAF, and by May 1940 I was a prisoner of war. It is not generally known that there were two SSs in Germany; there was the *Waffen SS* and the *Sicherheitsdienst* and there has not been enough information about what the *Sicherheitsdienst* did to nullify the efforts of both the Americans and the British. They kept the civilian and Army personnel in absolute terror and the bombing offensive would have been much more effective if these people had not been in the way and kept the civilians so frightened and doing their jobs.

Anthony Furse:

I am a retired merchant banker but I flew with fighters for 12 years. We have distinguished guests here who may be able to comment on the decision appointing Doolittle to command the fighters of the 8th Air Force in 1944 rather than Eaker. I may have got my numbers wrong but I am pretty certain there was a change in the American High Command and from that moment on the way in which the Mustangs were controlled changed.

Unidentified American:

Doolittle took command of the 8th Air Force in January 1944 when Eaker went to the Mediterranean and a few months after that the practice of sending the fighters ahead of the bombers was instituted by Spaatz and Doolittle.

LUNCH BREAK

Chairman:

The first speaker this afternoon, on the subject of 'Land/Air Operations in North West Europe', comes from Duke University. Professor I B Holley enlisted as an Air Gunner and is now a Major General (retired) of the United States Air Force Reserve.

Professor I B Holley:

During World War I, Col Billy Mitchell assembled for the St Mihiel and Meuse-Argonne offensive a force of 1,481 aircraft, the largest such aggregation ever assembled for one operation on the Western Front. He assigned units for close air support, for observation and artillery fire-control, as well as for top cover or air superiority. In addition, he allocated approximately 10% of his total force to interdiction, striking German aerodromes behind the lines. This apportionment of air assets was doctrinally sound, reflecting British and French experience during four years of war.

Unfortunately, what was doctrinally sound was flawed in execution. Some of the assigned units failed to sortie because of dense fog. Others were grounded by mechanical problems which left significant sectors of the Front without close air support. Ground troops harassed by German 'planes unhindered by Allied air developed a distrust of promised air support which was to persist long after the war. General Hugh Drum, an influential Army leader throughout the between-war years, was especially loud in his condemnation of Mitchell's tactics which he saw as abandoning the ground troops while flying off, as on parade, to distant targets.¹

Mitchell was right and Drum was mistaken. His misunderstanding was typical of what fuelled the air-ground controversy of the inter-war years, the assumption that if you can't see those 'planes from the ground, they aren't helping you. What is evident here is the entirely understandable reaction of the ground soldier who is being clobbered by the enemy from the air.

In the immediate post-war period, even Billy Mitchell, now a general and deputy chief of the Army Air Service, was enthusiastic about the role of attack aircraft in close air support. By 1925, however, he had cooled

decidedly to the air support role in his obsession with strategic bombardment. He went so far as to tell the Morrow Board, in the hearings which led to the creation of the Air Corps, that he had some doubts as to whether or not there would be a role for attack aviation and close support during future wars.²

Given this attitude, it is hardly surprising that very little progress was made in developing close air support doctrine between the wars.

True, improved attack aircraft were acquired, but little was done to perfect the detailed procedures and organisations needed to ensure effective air-ground co-operation. The day of reckoning for this neglect came only after the outbreak of war in Europe in 1939.

On 9 April 1942, soon after Pearl Harbour, the Army published Field Manual 31-35, *Aviation in Support of Ground Forces*. This document clearly revealed the ground arms reaction to the emphasis on air superiority and strategic bombardment given by the air arm over the previous two decades. This orientation, this relative neglect of close air support, could scarcely help fuelling ground arm fears that the flyers would not provide the support they knew they needed.

To rectify the imbalance perceived by ground commanders, FM 31-35 was written explicitly in support of his subordinate units. In short, aviation was cast in a *defensive* role. Neutralisation of the enemy air was implicitly seen as secondary. This document clearly ran contrary to what air officers had been learning at the Air Corps Tactical School. There the faculty preached unity of command and concentration of forces for offensive action to attain that first priority, air superiority.

Thus it was that when the US 12th Air Force went into North Africa during November 1942, to support the US Army Second Corps, official doctrine said one thing and air officers thought another. But even if there had been no appreciable difference in the official view and the airmen's views on the basic principles, the manuals were lacking in the detailed procedures relating to communications, tactics, priorities and the like, so essential to a smoothly-functioning air-ground team.

The realities of battle soon made it evident that the whole system for close air support was in disarray. Because ground commanders insisted on having a perpetual 'umbrella' of patrols directly over their units spread

across the Front, there were few aircraft available, for example, to attack the slow-flying and vulnerable *Luftwaffe* transports that were bringing as many as 2,000 German replacements from Italy to North Africa each day.³

Further, the Germans had air bases close behind their Front but just out of range of Allied artillery. Their 'planes could respond to calls for close support in five or ten minutes. Even though many of the German aircraft were slow-flying *Stukas*, no match for superior Allied aircraft, they would simply turn and run at the approach of Allied fighters. Being so close to the Front they could refuel and rearm and return to action as soon as the Allied aircraft withdrew. And withdraw they must, for Allied aircraft were tied to airbases over a hundred miles to the rear. Efforts to build landing strips close to the Front proved frustrating as tons of gravel simply sank into the mud of the winter rainy season.

The answer, of course, was PSP, pierced steel plates, to provide at least a temporary hard-surfaced runway. But a single runway required 2,000 tons of steel, or the total capacity of the single available railway line for two full days. And this would have to be brought up in competition with every other requirement – fuel, food, munitions, etc.⁴ In peacetime it is exceedingly easy to forget that there is also a large logistical dimension to close air support!

So the ground commanders complained, just as they did in World War I. The archives are full of their recorded protests. Listen to Col Harry Dexter of the 1st Armoured Division: "Our aviation,' he protested, 'is off 'fighting an air war'; it doesn't provide us with support when we attack, it fails to provide the observation we need; the few aerial photos they produce usually come too late to be of use."⁵ Let Colonel Dexter's litany of complaints illustrate the dozens of similar protests – including those of General Patton – which fill the after-action reports.⁶

But the airmen had complaints about the ground forces. Consider this episode: a ground force commander called for bombers to clobber a particularly tenacious point of enemy resistance. The request came at 10:00 am. By 2:00 pm, a sufficient force of aircraft had been assembled, fuelled, and suitably bombed up. To verify the mission a call went to Army headquarters, no easy task given the rickety communications net and over-crowded lines. Army replied, 'Hold it; we took that objective last night, and it's still occupied by our troops.'⁷ An urgent request for

close support, long delayed in transmission, almost led to one of those fratricidal disasters in which the Air Force would be blamed for bombing friendly troops.

The irony of the situation is evident when one realises that the Allies had many more aircraft in North Africa than did the Germans. But the US portion of that Allied force was not being employed effectively. Air Force doctrine was faulty. But reform was on the way.

Brig Gen Larry Kuter, deputy commander of the Northwest African Tactical Air Force, set about gathering evidence on all aspects of the air-ground problem, studying all sides of the issue, listening to ground complaints no less than airmen's. Finally in May of 1943, as the North African campaign reached its climax with the capture of Tunis, he submitted a long report to General Arnold back in Washington which leaned heavily on the advice of RAF Air Vice Marshal Arthur Coningham.⁸

Kuter described in detail how the air support arrangements had gone wrong. But he also explained the organisational and procedural fixes which were being dreamed up to rectify the malfunctioning system. He began with an illustrative case history of why the system had failed. The ground commander, about to launch an attack on the Faid Pass, a crucial terrain feature, demanded an all-day umbrella of aeroplanes over his troops to drive off the expected *Stukas*.

The Air Force officers explained that the long flight to and from surfaced runways at bases over a hundred miles to the rear meant that 'planes over the assault area would have only minutes of loiter time. Given the limited number of aircraft available, with the long commute to base, virtually the whole force would be consumed just to provide a minimal force over the assault area at all times. Outnumbered by the *Luftwaffe* locally, these few 'planes might be able to down a few of the enemy, but they could not hope to drive the *Luftwaffe* off entirely. Moreover, as the airmen pointed out, the demands of sustaining an umbrella would make it impossible to send out deep penetration reconnaissance sorties with suitable fighter escorts to locate approaching enemy reinforcements. Nor would there be 'planes available to interdict any such reinforcements as they passed through the narrow defiles where their vehicles would offer easy targets unable to disperse.

The need for centralised control was easy to demonstrate. When 19 Corps was heavily attacked, 2 Corps, only 70 miles away, refused to release its umbrella aircraft for an operation which, in the eyes of a ground commander, was 'far distant.' In sum, Kuter pointed out, the organisation and doctrine were faulty. Available aircraft were being used *defensively* and in dribbles, responding to ground force calls rather than *offensively* and in large *concentrations*.

The creation of the Northwest African Tactical Air Force in January 1943 was a step in the right direction. It was a free-standing Air Force, *not* a support operation parcelled out piecemeal in an umbrella role. It began concentrating assets, taking the initiative, and attacking the Nazis on their bases. The results showed up immediately: fewer German sorties against Allied ground units. By the end of May 1943, the enemy had been cleared from North Africa.

Kuter recognised that this success would be no more than local and transient unless the prevailing doctrinal manuals were rewritten to reflect the realities learned from actual combat.⁹ Just how flawed the existing manual, FM 31-35, *Aviation in Support of Ground Forces*, actually was can best be appreciated by noting a single point in its text. It identified as suitable targets for air strikes by supporting aircraft: enemy field fortifications, tanks, trucks, and the like, but failed to mention enemy airfields!¹⁰

General Arnold called Kuter back to Washington where he promptly sat down and wrote a whole new doctrinal manual, FM 100-20, *Command and Employment of Air Power*, issued 21 July 1943. This brief 14-page document dealt only with the essentials: to exploit the flexibility of air power, its assets must be centrally controlled by an air commander directly under the theatre commander. The air commander's priorities are clearly stated: first, the enemy air force, or air superiority; second, enemy supply and reinforcement, or interdiction; and third, enemy ground forces, or close air support.

What wasn't spelled out in Kuter's basic manual were all the tactical details – the important communication links, the procedures for screening and prioritising competing calls for close air support, and the multitude of procedures which go to make for a smoothly-functioning air-ground team.

During the campaigns in Sicily and Italy, many of these details were

perfected: standard channels for requesting air support, bomb safety lines, controlled phase lines. Perhaps most important of all was the introduction of 'Rover Joe' teams, pilots serving as forward air controllers, either in jeeps or airborne in puddle-jumpers such as the L-5 liaison aircraft, a method pioneered by the RAF.¹¹

All these lessons paid off handsomely during the cross-Channel attack into Normandy, Operation Overlord. The 9th Air Force was created to provide tactical support for the invading ground units. To benefit from what had been learned earlier, intensive training programmes were inaugurated to ready pilots, forward air controllers, and the whole command and control team for the coming challenges posed by close air support. Through an 'exchange programme', 9th Air Force pilots were sent to fly missions in Italy to hone their close support skills before D-Day. And Air Force tactical headquarters practised moving forward on two hours' notice.¹²

The results were spectacular. With sound organisation, perfected procedures, and lots of training, the Air Force delivered the kind of close air support the ground arms wanted. There were mistakes, of course, fratricidal fire and the like, to be sure. But the after-action testimony of the ground troops was full of praise for the help received from air units.¹³

What can we learn from this truncated account of US air-ground operations? Why did we make such a poor showing at first and then perform superbly later? We lacked an effective organisation to distil sound doctrine from the experience of World War I. This shortcoming was compounded by the difficulty of simulating the realities of close air support in peacetime. We developed a weapon, the attack aeroplane, a light bomber, which turned out to be more vulnerable than the fighter-bomber which we improvised only belatedly. Above all, air officers failed to educate ground officers soon enough as to the inexorable priorities: air supremacy first, next interdiction and only then close support, to achieve which centralized control by air officers under the theatre commander is the *sine qua non*. Co-location of air and ground headquarters and the competent communications help to minimise the frictions bred of misunderstanding, but even more important are the personalities of both air and ground commanders in attaining harmonious co-operation.

Finally, we US officers would do well to appreciate the all-too-often

underacknowledged debt we owe our British mentors who shared their hard-won experience from three years of war.

Notes:

- ¹ Maurer Maurer, ed. *The US Air Service in World War I* (Washington, DC, Office of Air Force History, 1978) I, 37, II, 231 ff. Colonel Drum, as Chief of Staff, First Army, signed all of Mitchell's operations orders, so he should have been aware that only 10% of the available force had been assigned to attack enemy airfields. See also Brig. Gen. Hugh Drum testimony, House of Representatives Committee on Military Affairs, Jan. 1925, on HR 10147 and HR 12285, 'Air Service Unification,' 68 Cong 2 Sess, p 283.
- ² Capt. Ronald P Fogleman, 'The Development of Ground Attack Aviation in the US Army: evolution of a doctrine, 1908-1926,' MA thesis, Dept of History, Duke University, 1971, pp 81-2. By 1924 there were only 8 attack aircraft available in the US in contrast to 457 observation aircraft.
- ³ Lt Col J A Cash, USAF, 'Employment of Air Power in the North African Campaign,' 9 Oct. 1951, pp 19-20. Copy in Wolfert file, Office of Air History.
- ⁴ Cash, 22.
- ⁵ Cash, 25.
- ⁶ Cash, 61, quoting Northwest African Tactical Air Force cable to II Corps, 25 April 1943.
- ⁷ Cash, 19.
- ⁸ Kuter to Arnold, 12 May 1943, Historical Research Center (hereafter HRC), Air University, Maxwell AFB, Alabama, 614 201-1.
- ⁹ Thomas J Maycock, 'Notes on the Development of AAF Tactical Doctrine,' 14 *Military Affairs* (Winter 1956) 190 and Kuter to Arnold 12 May 1943.
- ¹⁰ Cash, 19.
- ¹¹ James H Dickinson and R H Kauffman, 'Air Power Doctrine: A Case Study of Close Air Support,' Air War College, April 1976, pp 28-31.
- ¹² Maj. Michael L Wolfert, USAF, 'From ATSC to Cobra: Evolution of Close Air Support Doctrine in World War II,' Air Command and Staff College thesis 88-2800 (1988), Maxwell AFB, Alabama, pp 50-53.
- ¹³ Riley Sunderland, *Evolution of Command and Control Doctrine for Close Air Support* (Washington, DC, Office of Air Force History, 1973), p 19, and R.E. Schmaltz, 'The Impact of Allied Air Interdiction on Germany Strategy in Normandy,' 17 *Aerospace Historian* (Dec 1970) 153-155, and Lt Col C R Shrader, 'A Visit to the Falaise Pocket,' *Vignettes of Military History No 176*, 25 May 1981, US Army Military History Institute. Ironically, as one student of close air support has put it, by the *end of* World War II, the US had a system of support as good as the Germans had at the *beginning*. Maj Stephen M McClain, 'Problems Associated with the Joint Air Attack Scheme,' US Army Command and General Staff College thesis (1982), Fort Leavenworth, Kansas, p 30.

Chairman:

The next paper has been prepared by John Terraine who is the author of that important book *The Right of the Line*. He is unfortunately ill and cannot be here today, so his paper will be read by Sebastian Cox of the Air Historical Branch.

John Terraine:

Land/Air Operations: these were, of course, the prime activity of all Air Forces during the First World War and, as far as the *British* Air Forces – first the Royal Flying Corps and later the Royal Air Force – are concerned, an activity of prime importance to the war itself. The main front in that war was the Western Front and, as everyone knows, the Western Front was locked in a stranglehold of trench warfare for three grim years. The reasons for this were technological: a stultifying balance of fire-power and defensive technique which frustrated every army from 1915-1917. In 1918 trench warfare joined the archers of the Middle Ages, muzzle-loading muskets and the ‘Thin Red Line’ – it became part of history; movement was restored to the battlefields of the Western Front. How was this done?

On the British sector of the Front, which in 1918 became the decisive sector, it was the fruit of a remarkable achievement of land/air co-operation. The First World War, one must remember, like the Second, was on land an artillery war. It was guns that decided battles, but for three years the effects of artillery tended to be self-defeating. Registration of fire made surprise impossible. Multiplication of guns alone simply led to crater-fields and swamps over which infantry found it often impossible to advance. The solution was ‘predicted shooting’ – shooting on *accurate map references* by *calibrated* guns whose individual characteristics had been studied and corrected for precise results. Accurate map references: no work done by the Royal Flying Corps during the whole of its life was more important than the laborious, dangerous photographic reconnaissance which enabled the Royal Engineers to produce, in 1917, a new 1:20,000 map sufficiently accurate for the guns to shoot at precise targets instead of blazing away at landscapes. And they could do this without registration. No more long preparatory bombardments to give the game away. Surprise returned to the tactical repertoire. And since both the Germans and the French had been working on the same lines, movement

returned, battle was transformed. It was a tremendous contribution.

Alas! as Sir Maurice Dean, one of the ‘grey eminences’ of the RAF, succinctly said:

‘Between 1918 and 1939 the RAF forgot how to support the Army.’

It was a big thing to forget, and the reason for it was a fatal intrusion of *dogma* – a condition which always fills me with lively fears. The dogma in question was the fixed belief in a strategic air offensive as a complete war-winner – the ability of air bombing to deliver a ‘*knock-out blow*’.

This dogma persisted unmoved by experiences between the two world wars. It dismissed the clear fact that several years of a war which included some vigorous bombing of cities by the Japanese *did not produce a ‘knock-out blow’ in China*. And spectacular air-raids by Italian and German aircraft in *Spain* caused a lot of damage, but no ‘knock-out blow’ there either. German air intervention on *Spanish battlefields*, however, did have a very definite effect: the Nationalists won *command of the air* in 1938, and thereafter the issue of the war was not in doubt. Such is the power of dogma that Sir Cyril Newall, Chief of the Air Staff, pronounced this activity to be ‘a gross misuse of air forces’ and in that belief the RAF entered World War II.

The Germans, nevertheless, repeated the lesson in 1940. In the Battle of France they seized air supremacy and proceeded to *saturate the battlefield with air power* – and won the battle hands-down, to the dire humiliation of their enemies. They repeated the lesson again in *Greece* in 1941 – another humiliation which was all the worse by reason of our own Desert Victory over the Italians in which the *absolute supremacy* of the RAF’s Desert Air Force played a significant part. When the Germans came to North Africa, that supremacy had to be fought for very hard.

It was really not until the Battle of *Alam Halfa* in September 1942 that we permanently regained it, and it was our famous enemy, Field-Marshal Rommel, who clearly described its meaning at that time. He said:

‘Anyone who has to fight, even with the most modern weapons, against an enemy in complete control of the air fights like a savage against modern European troops, under the same handicaps and with the same chances of success.’

You could hardly find a terser, more accurate summary of the object and significance of land/air operations.

What had happened was the systematisation of *Army/Air co-operation* after many trials and tribulations, and this came about where you would expect it to come about – at the sharp end of the war, which from our point of view was at that time *North Africa*. This area was in the domain of the RAF's *Middle East Command*, under Air Chief Marshal Sir Arthur Tedder. This Command was not like the functional Commands back in the UK – Fighter, Bomber, Coastal, etc. It was not really a Command at all: it was the *Royal Air Force in the Middle East*, and doing its fighting there.

The fighting itself, as we painfully discovered, called for the use of *all types of aircraft*: long-range bombers and short-range bombers, fighters, reconnaissance and transport – the lot. And it was the particular contribution of the Royal Air Force to discover and accept, as I said in *The Right of the Line*:

‘that when critical land operations are in progress, Army co-operation is not simply a specialised activity of part of an air force. It becomes the function of the *entire force*, with all its available strength.’

That is the full meaning of ‘saturating a battle area’ – and modern battle areas go a long way back.

In a crisis – and the Middle East saw plenty of these – it meant *interdiction* in various styles by the heavy bombers, constant *battlefield action* by mediums to produce the effect described by Rommel, fighter-bombers going for close *pin-point targets*, fighters in their true role *gaining and holding air supremacy*, transports for *supply and evacuation of casualties*, and constant *photo-reconnaissance: the whole force*. That was the manner of land/air operations, 1942-45.

The system and the apparatus of what was then called ‘Air Support’ began to be evolved in the Middle East in 1941. The details repay study, but there is no time for them now. I would just like to make two points, and if they seem to offer blinding glimpses of the obvious, you must forgive me; and I can say in self-defence is that a lot of people were blinded at the time.

First, land/air operations are a two-way traffic. For the RAF to give the

Army the security of close air support that it likes to have – responses in a matter of very few minutes for preference – it must give the RAF in return a good measure of *security on the ground*. As 1941 and 1942 displayed, however good the system, air support tends to break down abruptly when enemy tanks close in on the airfields. Or, to put it differently, if the Army wants support, it had better *be there* to receive it.

Secondly, in any working system of land/air operations, *communication is everything*: communication between aircraft and communication between ground units; air-to-ground and ground-to-air communication; communication between units and headquarters; communication between land and air headquarters. Fortunately, communication had made great strides since 1918, and it kept improving until in Italy in 1943 and Normandy in 1944 the ‘Rover’ system produced the famous ‘cab-ranks’ of fighter-bombers and rocket-firing fighters of the Tactical Air Forces which, in Air Marshal Sir Arthur Coningham’s words, ‘wrote air history’.

One thing was quite apparent from the first, but remained at all times curiously difficult to implement: the fullest and most intimate collaboration between the *Land and Air commanders and their staffs* was an essential. No-one perceived this more clearly than General (as he then was) Sir Bernard Montgomery, commanding the Eighth Army. Shortly before he left the Italian theatre of war to come home and command the Allied Land Forces for Operation OVERLORD, Montgomery stated what he considered to be the guiding principles of land/air operations. Here is the Creed as he proclaimed it, somewhat abbreviated:

‘I believe that the *first and great principle of war* is that *you must first win your air battle before you fight your land and sea battle*. If you examine the conduct of the campaign from Alamein through Tunisia, Sicily and Italy ... you will find I have never fought a land battle until the air battle has been won. We never had to bother about the enemy air, because we won the air battle first.’

In his inimitable style, Montgomery continued:

‘The second great principle is that Army plus Air ... has to be so knitted that the two form one entity ...

The third great principle is that the Air Force side of this fighting

machine must be centralised and kept under Air Force command.

The next principle is that there are not two plans, Army and Air, but one plan, Army-Air ...

Next, the Army and Air Staff must sit together at the same headquarters. There must be between them complete confidence and trust ... The Senior Air Staff Officer and the Chief of Staff have to be great friends. If there is any friction there, you will be done. You have to be great friends, not merely to work together ...

Each side has to realise the other's difficulties. A soldier has to realise that the Air has certain problems. Across Africa and through Sicily we fought for airfields. The air aspect dominates the plan ...

Fighting against a good enemy – and the German is extremely good, a first-class soldier – you cannot operate successfully unless you have the full support of the air. If you do not win the air battle first, you will probably lose the land battle. I would go further. There used to be an accepted term, 'army co-operation'. We never talk about that now. The Desert Air Force and the Eighth Army are one. We do not understand the meaning of 'army co-operation'. When you are one entity you cannot co-operate. If you can knit the power of the Army on land and the power of the Air in the sky, then nothing will stand against you and you will never lose a battle.'

Well, there you have it: the thing could scarcely be clearer.

Unfortunately, Field-Marshal Montgomery in 1944 seemed to have forgotten the impeccable beatitudes of 1943; the campaign in North West Europe saw relations between the Army Command and the RAF leaders sink to a very low level indeed, and land/air warfare survived, not by the grace of the leaders, but by the good sense of the led – and also, I should add, by the possession of overwhelming strength.

As I said in *The Right of the Line*:

'close liaison between the services, the very foundation of land/air warfare, is a tender plant and always liable to wither if uncared for.'

How important it is that it should not wither is shown by the air contribution to the Battle of Normandy: between them, the RAF and the USAAF, in the three months of action at maximum intensity, flew nearly

half a million sorties (480,317), lost 4,101 aircraft and had 16,714 aircrew killed and missing. The RAF's share of these was 2,036 aircraft lost, 8,178 aircrew. All combatant Commands were involved, and the Tactical Forces flew 151,370 sorties at a cost of 829 aircraft and 1,035 aircrew.

It was, I said:

‘an outstanding triumph of air power. It was air power that paved the way into Europe; air power covered the landings and made it impossible for the Germans to concentrate against them; air power maintained interdiction, and pressure on the enemy when the ‘master plan’ failed; air power completed the overwhelming victory.’

OVERLORD, in fact, was the perfect example of land/air operations after all.

Chairman:

I am now going to call on General Robert Lee to deliver some impeccable beatitudes on the subject we have just heard about.

General Lee:

I am neither an historian nor a researcher but I should like to make a few comments on the presentations. I would first like to discuss the development of air/ground operations and the United States Air Forces. When Jake Smart and I were going to flying school in 1932, the class was divided into sections on Bombardment, Pursuit, Attack and Observation, and they were not related at all; neither was there any attempt to consider how any of them would work together. The same thing applied when I was in the 20th Pursuit Group in 1932 and ‘33; we had support of ground forces in mind because we would do dive bombing with practice bombs and we had a 30mm machine gun with which we would strafe, but we never practised with the ground forces. I went to the Tactical School in 1940 and they were teaching bombardment, pursuit, attack and observation pretty much in that order of emphasis; Orville Anderson was the main proponent of bombing and that was given the heaviest emphasis. The pursuit course was headed up by an exponent of patrols and air-to-air fighting. Attack got a fairly low emphasis although they talked about strafing and the dropping of fragmentation bombs on the troops but there was no indication of technique or anything like that, merely on dropping

them. Observation was primarily taking pictures and spotting for artillery.

However, there were some people thinking about it – for example, General Arnold, in spite of the fact that he was busy with other things. In 1940, I was aide to General Chaffee who had formed the armoured force in the United States Army. He and Hap Arnold were great chums, and General Arnold was very emphatic that they should try to get together with whatever air forces were available to make air/ground operations work. At this time Arnold was not only on the General Staff of the Army but also Commanding General of the Army Air Forces. I have a document from the Adjutant General of the Army to the Commanding General Army Air Forces, dated 1941, and I am sure that General Arnold's staff had written it because it detailed very clearly the formation of five air support commands. Four were to be assigned to the four ground armies scattered geographically around the United States and the fifth was to support the armoured forces and be located near their headquarters. Those air support commands picked out all the observation, light and medium bomber groups and assigned them to these tactical air commands for working with whatever ground forces were in the area. Again, little or no technique was supplied.

Word was filtering back in 1941, '42 and '43 from the North African campaign and the big word was Air Marshal Coningham and the way he had worked out these techniques. There was pride in some of our training but the equipment was terrible; we had nothing but HF radios that wouldn't work and weren't placed in the proper places, although attempts were being made. It is true, as was pointed out by Professor Holley, that General Kuter came back with a long report to General Arnold who immediately handed it over to the training section of his staff. This was primarily given to one Ralph Stearley who called me and another officer in and we sat down for a week going over all of General Kuter's report. General Stearley was a great proponent of air superiority but he called it 'control of the air'; I like that term a little better, too. Air superiority may have degrees and what you are really looking for is control of the air, in certain locations anyway. That document was primarily intended to provide the overall view. You could not cram too much at once on the War Department of the US Army. The main idea of this document was to centralise control of the air and specify the priorities: air superiority or control of the air first and then interdiction, followed by close support.

It has been pointed out that this was perfected in North Africa, Sicily and Italy and adopted by the forces in England in preparation for D-Day. A lot of credit for adopting this and putting it into practice is due to General Pete Quesada who had control of all the fighter forces, the last of which only came in a few weeks before D-Day, and his intense training programme with the Army had a lot to do with their ability to perform properly after D-Day. He instituted a few things of his own; for example, the tactical liaison parties were frequently unable to be exactly in the right place at the head of the columns in a forward movement, so General Quesada asked General Bradley to send up a tank to his communications man and he installed a VHF radio that was compatible with the radio in the aeroplane. Then he took pilots who had a hundred missions – volunteers, and there were many of them – to go down with the forward elements, the armoured units. We set up this procedure throughout the three armies, 9th, 1st and 3rd, and so the pilots who had flown these missions were down with the forward tanks and were able to talk to the pilots knowing what the pilots could see.

We still want to give a lot of recognition to Air Marshal Coningham for actually working this thing out; I think everybody will recognise that. I would like to second a remark made about communications being the answer to properly co-ordinated operations. We had them in the 9th Air Force not only up and down but laterally. Generally speaking, our orders for the operation as a whole came in a field order from Eisenhower's headquarters; it went to the main formation headquarters and gave the broad direction as to the objective of the Allied Supreme Commander. After that the details were worked out by the staffs of each of the Armies and co-ordination was effected between them. Any differences at the Army subordinate command level were discussed with the headquarters and straightened out. If there was a difference between Armies, we would go to 12th Army Group.

One thing I would like to bring up again relates to the way the troop carriers were handled with the First Allied Airborne Army. When this was formed, all the US troop carriers, about 14 wings, belonged to 9th Troop Carrier Command. I think this disrupted things considerably. The 1st Allied Airborne Army, when it arrived on the Continent after D-Day, was always developing plans for using the troop carriers, but unfortunately they hadn't trained for a lot of these proposed objectives, which meant

that the Troop Carrier Command had to stand down. First it had to stand down to await the proper time for the operation to be executed; at least two-thirds of the time the objective had already been overrun by the time it came for them to execute it. Consequently, all this time the troop carriers could have been carrying gas and ammunition to the armies and our own fighter units on the Continent, but all that capacity was lost. So I believe that as we were paying, feeding and supplying it, Troop Carrier Command should have been controlled by the 9th Air Force and available on call when they were really needed; then the decision would have been made by Eisenhower's headquarters that operational control should be passed to 1st Allied Airborne Army. As it was, a lot of airlift capability was lost.

Chairman:

Lord Zuckerman, you were with Tedder; could you tell us why the unified command in North Africa started to fall about a bit when we got into North West Europe, and about the Transportation Plan?

Lord Zuckerman:

I would have preferred to have given way at this stage to Sir Harry Broadhurst who succeeded Coningham in the desert and who remained perfecting the organisation that he inherited but, if you wish me to discuss the Transportation Plan, I am perfectly ready to go ahead. The Transportation Plan related to the arguments about the calling in of heavy bomber forces before Overlord. Nowadays we talk of interdiction, which never had that meaning until it was used by some US Air Force Sergeant, as the means of denying the enemy some facility, and in this case we are talking about movement. Before Sicily and after Pantelleria had been captured, I was working with both General Spaatz and Tedder and there was no argument between them. When asked for my views about what target system to hit in preparation for the invasion, I suggested the nodal points of the communications network leading down to the heel and toe of Italy from the North and then across the Messina Straits. That was accepted and immediately after Sicily was cleared, indeed almost before it was cleared, Tedder arranged with Spaatz to provide me with a Colonel Willis, who was General Spaatz's resident historian, as my executive officer. We set up headquarters in Palermo where the Italian railway staff helped us analyse what had happened to railway movement. That showed

absolutely clearly that the way to disorganise traffic, and the cheapest way, was not to bother about dry ravines or bridges, or to try to block particular lines, but to hit the nodal centres where marshalling took place and where railway stock was looked after. It was this that caused the greatest damage, and it was very easy to show that before the end of June there was absolute paralysis of the railway system with no movement of military supplies by rail.

The idea that this should be used as the basis for strategic planning in preparation for Overlord was conceived in North Africa. Tedder was watching very closely what was emerging from the analysis that I and my team were doing, and the suggestion that this should be done in North West Europe and that railway movement was the common denominator for economic and military activity was conceived there and presented to Portal on his way home from the Teheran Conference in December 1943. I was called back from Palermo and a meeting took place in Algiers, where I stayed with Tedder. The communications plan was then redirected to Overlord and I was sent back to the UK at the same time that Tedder and Eisenhower returned. Portal sent me to work straight away with Leigh-Mallory, who then accepted from 21 Army Group the idea that the German forces could be prevented from concentrating and thus chucking out our invasion forces if we cut some twenty points on a line a hundred miles from the beaches at which we were going to land. I was presented with this plan and immediately said that it wouldn't do. Nobody could start bombing anywhere near those beaches and thus give the game away until the landings were about to take place. The plan that I was handed assumed that the weather would be all right but I knew enough from what I had seen that we couldn't rely on the weather. The plan was therefore redrafted and this time it called for the use of heavy bombers in an operation that was going to destroy the entire communications network of North-West Europe leading right into Germany. The idea was presented not simply as an operation to help the ground forces but as an operation which would destroy the German economy.

Before the end of January, Leigh-Mallory made it known that he accepted this plan which would necessitate the use of heavy bombers and that was the start of the downturn in his career. Up to that moment Harris didn't mind Leigh-Mallory, and Spaatz didn't even know him, but as soon as it became clear that, in order to have army/air co-operation in the form

in which it was now being presented, the independence of the strategic forces was going to be assailed, Leigh-Mallory started being assailed himself. Anyhow there was a major argument about the 'diversion', as it was called, of the strategic air forces. Tedder held his counsel until a meeting on 23 March 1944, if I remember correctly, when he made it perfectly plain that he was behind this plan. Eisenhower was at that meeting, and he made it perfectly plain in his personal memoirs that he regarded command of the strategic air forces as a matter for resignation: either he had them for Overlord or he was going to resign. Churchill was totally opposed and a series of midnight follies took place; I attended three of them. Churchill, who was entirely behind the heavy bombers and against this plan, made it perfectly clear that he wasn't going to support it. Tedder, however, made it clear that here was the common denominator on which the whole of the German military depended as well as the German economy. The railway network was the one common denominator that held Germany together and we ought to go for that; he also made it plain that with the one target system all aircraft – heavy bombers, medium bombers and fighters – could direct their efforts to the same purpose. Unfortunately, this purpose conflicted with independence and Harris, although he knew what in the end the answer would be, was against it. Spaatz was all for it in the beginning and invited me to do the planning in his headquarters; it was then that oil became the predominant target system for the USAAF. Anyhow, what happened was that President Roosevelt intervened with General Marshall's consent and the Transportation Plan was then adopted.

Bomber Command was delighted because they didn't like it being said that their bombing error average was 1,000 yards, and Cochrane of 5 Group encouraged me; so too did Bennett of the Pathfinders because they knew they could do such precise bombing as would take out any railway centre. I forget who gave them the authority but they did one demonstration in France and it worked. Harris did not then oppose strongly. They carried out their part of the plan and the USAAF came in at the end but the fact is that well before D-Day the destruction of nodal centres in North West France, in the Low Countries and Western Germany had totally paralysed the railway system of that part of North West Europe and, furthermore, had denied the steel mills of the Saar all the iron ore they were getting from the Lorraine mines.

Someone this morning said that Tedder operated with a light rein; it did not stop Tooev Spaatz and Jimmy Doolittle from going for oil plants, and it did not stop Harris from carrying on with area bombing. Tedder did not fight again until the heavy bombers were taken from Eisenhower in September 1944 and handed back to the Joint Chiefs who then delegated to Portal who in turn handed over to Bottomley and Spaatz. Then bad weather set in; the good work that the 8th Air Force was going to do, bombing specific plants (your delightful phrase of this morning was ‘area bombing of precise targets’) proved impossible, and most of the effort of the 8th Air Force in the last quarter of 1944 was directed against railway targets, not the other targets. What Tedder wanted then happened until the Ardennes Offensive began, when it became apparent that most of the attacks on railway centres were being done, as was indicated this morning, in a more or less haphazard way. The weather determined what targets were taken on at night so there was nothing coherent about what was done up to the time of the Ardennes Offensive. A fortnight after that offensive began, I remember a delicious dinner party which General Lee and I enjoyed in Spa. We discovered that the railway attacks behind the German lines had not denied the Germans the ability to move their forces or their supplies and for a fortnight there was a real onslaught. After that, looking at the whole thing in retrospect, the Germans were on the way to defeat, the Russians were overwhelming them and the Russian ground forces had linked up with the Americans in Austria in February. When the strategic air offensive was stopped in mid-April, Spaatz issued an order saying, ‘This is all over’. We now know that the destruction of the railway system had ruined the German economy by October 1944. We also know that the Combined Strategic Targets Committee were sitting on ULTRA intercepts which told the true story from October; they had 20,000 intercepts a week which they either didn’t have an interest in or the staff to deal with, and it is now known that had we gone on hitting at those nodal centres in a concerted way, instead of in the haphazard way, that we had been doing in the last quarter of 1944, the Air Forces would have played a greater part in ending the war than in fact they did.

Air Chief Marshal Broadhurst:

When I went to the desert and became Number Two to Coningham, I was initiated into ULTRA and I was absolutely staggered at the information that we were getting about Rommel from signals back to

Hitler and so on, though I was later warned that Rommel no more told the truth to his boss than anyone else did. If he wanted another couple of divisions, then he had to lose a couple to start with. In the West European theatre the Generals were openly sending signals to each other which were also quite staggering, not least about the attempt to murder Hitler. A lot of these signals are recorded in Ralph Bennett's book *Ultra in the West* and he didn't start it until just before the invasion.

Now I come to air superiority. The difficulty with air superiority is to know when you've got it, because air forces are so flexible that you can concentrate them and switch them quickly, something that the Army and Navy can't do. With the Air Force you can make up your mind tomorrow morning to do a blitz on something in the afternoon. My friend Air Marshal Cross here will remember that the German airman opposite me in Sicily, who couldn't expect to have air superiority, suddenly concentrated on my airfields; he did it again in Holland towards the end of the war in Europe. I remember Air Marshal Cross coming along: "'allo, 'allo," he said, 'he's done it to you again,' and I felt such a bloody fool. I thought I had air superiority.

To go back to the improvements of the air, I received a video tape recently from a chap who died a week or two later; it was a recording of what he thought of me when I put him in an armoured car with an RAF radio and sent him up to the Front Line to talk to the cab-rank overhead. This was the very first time that I had really thought what these people were thinking about me when I started this cab-rank procedure. One of the occasions when this system was not used was the airborne drop in Sicily where they had no means of communication with the Army or the Air on the ground. Most of the chaps who had dropped in front of me went into the sea because there was a strong wind blowing off shore. I didn't even know they were coming. The ones on the American Front were sent through the bombardment on the South coast of Sicily and a large number of them were shot down by the guns of their own fleet. Everybody tried to blame the Navy but the routes for the dropping of these chaps had not been discussed with the people on the spot. The ones on the beach-head were not very well organised but the Tactical Air Force wasn't ashore then and it was pretty difficult to arrange it.

Then I come to the big airborne drop at Arnhem. Here I had all these

rocket-firing Typhoons but I didn't even know there was going to be an airborne drop about 15 miles ahead of me. I was told not to interfere, to look after 30 Corps; the 8th Air Force would look after the airborne drop, but of course they had no communications with the people on the ground. I got an ULTRA which Hitler had sent, moving another armoured division up to the drop area, but I couldn't do anything about it except to warn General Dempsey to get his Y people working hard on it to ascertain the movements of this armoured division. Eventually we got information from Y and I rang up headquarters to be told to mind my own business. So that armoured division was not attacked in any way. I had friends in our airborne army whom I talked to long after the war and they didn't even know what army co-operation was. They had been separated from the run-of-the-mill day-to-day stuff; they were a magnificent bunch of chaps but the thought of dropping down and communicating immediately with the aircraft overhead hadn't dawned on them. I am not criticising anyone in particular, just saying that in the midst of all this conquering these gaps appeared. For the crossing of the Rhine, I remember my SASO coming to me and saying that they were having a conference. This time at least we were being brought in on things, so I told him to arrange to have RAF chaps put in the gliders with RAF radio sets on board so that as soon as they landed they could call overhead to the cab-rank, and that was done. It had been very disheartening to see what happened at Arnhem, when an enormous amount of courage was expended by people who hadn't a clue how to ask the Air Force to come and help.

To come back to air superiority, we had complete air superiority in Holland and suddenly we heard from Y that the Germans were practising diving onto airfields, doing a whole lot of low-level stuff, and that a lot of senior people had been brought up to command the squadrons. This was an indication that the Germans were going to come in in full force and bash the American troops, and it ended up with the Battle of the Bulge. I'd just had breakfast on New Year's Day when, apparently, they didn't go to the American Army but went to my airfields. I remember Coningham ringing me up and saying, 'What the hell's going on? I've just had 109s flying round my window.' I said, 'That's nothing; I've had a variety of things flying past mine.' It caught us absolutely with our trousers down. The same guy who had done it to me in Sicily had now come and done it in Holland; suddenly he decided to concentrate all his forces and bang

them in on a particular target, and you can't allow for that sort of thing happening. Fortunately, most of our aircraft were airborne and we were able to call them back and catch these chaps flying back having used their ammunition on the ground targets. To summarise, getting air superiority is a very tricky pastime. You have to sense what you can do and what you can't do, what will be expensive and what will be an easy run, and it hinges a great deal on your intelligence information. I remember when the Americans were first given ULTRA, they couldn't believe it anymore than I could. It was really fascinating to be in the mind of the chap a few miles up the road, knowing what he couldn't do and what he would try to do. Intelligence is the essence of the business.

Air Chief Marshal Cross:

It was General Oberst Dietrich Georg Magnus Peltz who was the low-level specialist of the *Luftwaffe* and he did me in Bizerta, though without much success. This was before the Sicily invasion because the ships were well dispersed. Then he did Broadhurst's airfields in Sicily and I asked who was commanding on the other side. Tap Jones said it was a fellow called Peltz, and I said we might have guessed, since he was the *Luftwaffe* low-level specialist. He did it once more at Bari, which incidentally was the worst disaster after Pearl Harbour; the *Luftwaffe* sank only two ships there but they were loaded with mustard gas, PSP and petrol, and in the end they lost 25 ships. So when I was in Brussels having breakfast one morning and looked out to see the 109s going past the window it never struck me that there was any connection with what had gone on before. But when I went up to see Broadhurst, I said again, 'Who's commanding these air forces opposite you?' 'General Oberst Peitz,' was the answer, and that was how he got caught out on his airfields.

May I say two other things about USAF and RAF co-operation? One of the closest relationships we ever had was between Strategic Air Command and Bomber Command, so much so that the twice-yearly planning conferences which we held to bring our operational plans up-to-date led to the closest co-operation that there has ever been between two command headquarters of different countries. Let me quote an example. Broadhurst and I were on the tarmac at an Air Force base in Florida for a bombing competition when the Sputnik went up and I am sure my friends in the United States Air Force would say they were more than surprised,

they were astonished. It became absolutely essential to balance this, and the weapon that the United States had nearest to completion was the Thor, whose limited range meant stationing it this side of the Atlantic. We took these 60 Thors into East Anglia, Lincolnshire and Yorkshire, the United States looked after the warhead and we looked after the propulsion, and we did that for four or five years. It was in fact the first ballistic missile system in the West.

Chairman:

Air Marshal Cross, may I ask you one specific question? There have been many other tributes to the intimacy of this co-operation, but did the McMahon Act have a practical effect on this relationship?

Air Chief Marshal Cross:

I think we did a great deal of talking at Offutt Air Force Base, Nebraska; nothing was ever written down but nothing that would ever help us was ever held back by SAC.

Chairman:

There have been several mentions of ULTRA: could we have an American view?

Dr Kohn:

Perhaps it would be wise to put RAF/USAAF co-operation in the broadest possible context and recall that there were discussions between Britain and the United States over strategy and naval talks as early as 1937. The Argentinia Conference in August 1941, before the United States was at war, showed an enormous amount of co-operation in intelligence work, particularly in ULTRA and the sharing of code-breaking, and also in co-operation in atomic energy. So I think that the operational and strategic co-operation between the two Air Forces must be seen against a broader pattern of strategic, scientific, technical and political co-operation that occurred throughout the entire war, and not forgetting Lend Lease. Such co-operation was critical, affecting the strategy on both sides and really affecting the whole shape of the war. It is our belief that the strategic decision on the part of the United States to concentrate on Germany first was taken as early as 1940 because of those talks between the sides on strategy for beating the Axis.

Sidney Goldberg:

I was an operator in the Y Service during the war, in Tunisia and North West Europe, and I would like to assure everybody that at our level, away from the stratosphere of high command, there was very close co-operation with the Americans in exchange for American rations and various other pieces of equipment; we taught them how to do our job. We ran training courses lasting about a fortnight, and as late as 1943, even on the way to Ploesti, the RAF supplied airborne operators to go on bombing missions with the Americans over Europe.

Dr Davis:

I would like to emphasise another important contribution of the RAF to the American effort, namely to give us the secret of the radar bomb sight. The American H2X was simply a variant of the British H2S, and without it the 8th Air Force would have done no bombing except in very clear conditions, which would have meant the bombing effort would have been cut by 80% , if not more.

Dr Kohn:

I have one further comment. In our historical programme some years ago we interviewed Supreme Court Justice Lewis Powell (Junior), a very famous and distinguished jurist in the United States, who was one of the first American intelligence officers to be trained at Bletchley Park and was then posted in January 1944 to General Spaatz's staff as the ULTRA officer. His memoir, published by our office, is a fascinating account of intelligence work in the Army Air Forces during World War II but of course it stemmed originally from that co-operation and training at Bletchley Park. Included in the Appendix are his notes on the German Air Force that he took while at Bletchley.

Group Captain Batchelor:

One of my happiest memories is of General 'Hap' Arnold sitting on my desk at Honington one day in 1940. He was amazed to watch our night flying and see that we could operate off a row of 2 volt Glim lamps. He was so impressed that I gave him one to take back to the United States.

General Lee:

As Deputy Commander (Operations) for the 9th Air Force, I received a

vast amount of intelligence information. I threw away 90% of it and kept the ULTRA.

Chairman:

General Smart, do you feel able to talk briefly about the Ploesti business?

General Smart:

I was involved in planning the low-level raid against the oil refineries in the Ploesti area but I did not take part in it. General Ramsay Potts here did and maybe others in the audience also. I went back over that area a couple of times at high altitude and it was pretty rough there, as it was at low altitude. The reason for this mission was roughly as follows. The Ploesti oilfields were long recognised as a strategic target of prime importance to the Nazis At the Casablanca Conference, and before when Mr Churchill was advocating an attack on the soft underbelly of Europe instead of across the Channel, one of the charms of that strategy was advertised as affording the opportunity to capture the Ploesti oilfields and refineries, a very important prize. At Casablanca it was pointed out that this target could very well be destroyed by air attack and on the way back home General Arnold pointed at me and said, 'Get some plans made for destroying the oil refineries at Ploesti.' That initiated the process, and the intelligence and operational people pulled together a plan which envisaged using B-24s. The B-24 was certainly not designed for low-level missions but it was the only thing in the Air Force inventory that could do the job and therefore the decision was made to try it. There were only five groups that could be mustered in the theatre, within that timescale, to attack the refineries. Part of the reason that the commanders in Europe, both air and ground, favoured this was because the three groups that were actually serving in Great Britain for the bomber offensive there would be transferred to North Africa for the operations in 1943. These groups were utilised in support of the invasion of Sicily, but I believe that by the time Italy was invaded they had been transferred back to Great Britain.

Air Commodore Baldwin:

I am a serving officer taking a day off from my job at Headquarters Strike Command, the modern derivative of the headquarters of Bomber Command at High Wycombe – a day off in fact from a planning

responsibility for much of what is going on in the Middle East. I thought you would be interested, and perhaps reassured, to know that in four minutes' time Air Chief Marshal Sir Patrick Hine, who is the joint commander of our forces in that area, will be sitting down in his underground headquarters in his command group briefing. This has been a daily occurrence since 7 or 8 August. In his War Cabinet, planning today's and tomorrow's work with ten or twelve of my colleagues, there is one foreign officer. He was sitting with us this morning, Brigadier General Carl Franklin, whose empty seat is here next to his boss, General Marcus Anderson from 3rd Air Force. The tradition carries on.

Chairman:

I would give the United States the last word. Professor Holley, I would like to know to what extent this relationship, which is obviously a happy and affable one for all the historical reasons we have heard, depends upon Britain having a continuing capability in which the United States is interested.

Professor Holley:

I am not the man to answer that question but I do want to second the line that Dick Kohn offered a moment ago. Remembering when Mr Churchill referred to Lend Lease as a most unsordid act, may I return the compliment by reminding everyone in this room that the British gave us the Whittle engine, with no ties; they just handed it over to General Electric, who designed their own jet engine, knowing full well that they would be competitors in the post-war world. That was a most unsordid act because they were thinking we couldn't possibly get the engine going for the war as the war was winding down.

I would like to underscore a couple of points that Henry Probert made this morning that I hope are not going to get lost. He asked a question: what has been the RAF influence on the USAAF, and I think much of that has been answered this afternoon. Then he made an assertion in which he suggested that those who plan should be operators; those who plan should really know what it is to carry things out. I feel very strongly about that. I want to recall an episode during the war. The Army Air Forces were created shortly after Pearl Harbour; within it we formed an Army Service Force with three component parts, and we developed a staff structure at an intermediate level between the top command and the operators. It was a

miserable failure because the people who had responsibility for the operations were separated from the command level by this intermediate level. We scrapped it and we picked up from the RAF a direct staff structure. Those actually responsible for the various functional areas became Assistant Chiefs of Air Staff (ACS) and they then sat as the advisers to the High Command, bringing to the top the specific day-to-day problems. That was an important lesson: that those who do the advising and the planning at that upper level must be in direct contact with the day-to-day functioning. I am sure that that lesson has long been forgotten and yet it is amusing because we have an analogy in our own constitutional provision; the President of the United States has a Cabinet and the Cabinet officers are the directly-responsible planning heads of the agencies of the various departments of government. It was interesting that we ignored our own tradition, our own constitutional tradition, and we borrowed these ideas from you.

Chairman:

Thank you all very much for all your contributions. When it comes to strategic bombardment as a determinant of war, I remember what Doctor Johnson said about Milton's poetry, not exactly a felicitous analogy: 'No man ever wished it were longer.' I have yet to meet anybody who wanted aerial bombardment to go on longer than it actually did.

General Poe:

It is not that we want an American word last but we do want to be polite and say what we seriously feel. Every one of the Americans here can talk about this relationship and what it has meant through the years. Rocky Brett went to one of your staff colleges. I was the obscure Captain asked by Sir Basil Embry, told in fact, that anytime I was in Paris I had better come in and sit down and talk to him. That sort of thing has been going on ever since. We appreciate this opportunity and we would like to make this conference a prototype of things to come, so we are looking for as many of you as possible to join us in the US at the next one. I leave you with a thought from a gentleman who cannot be with us today: The time to come may bring these things even more importance, like the Air Tactical School that you gentlemen went to that trained our leaders for North Africa. We are coming to a time in the United States Air Force, it is clear, when we aren't going to have the money or the space for the

manoeuvres, for the firing, for the flying and such as that. General Spaatz gave us the job in this Foundation to maintain the heritage and pass on the lessons learnt, what not to do again and what to do again. We take it very seriously and it is extremely important nowadays. Let me quote General LeMay's last words to the established four-star senior statesmen – we don't have speeches on such occasions but he gave one at the last one: 'I am more concerned about the future of my Air Force now than when I was down to my last aircraft due to attrition in England, and that is because of the draconian cuts that we all face.' Let us hope that that doesn't happen.

Dr Michael Fopp, Director of the RAF Museum:

It may seem odd that I should be welcoming you at the end of your seminar but I am not going to upstage anybody who has spoken already today because I will let the Museum do that. You are all now welcome to have a walk around the Museum; those who have been here before will, I hope, find that it has changed in many ways and changed for the better. I would ask you particularly to look over the Battle of Britain Hall at the new exhibition that we have created for the 50th Anniversary of the Battle of Britain this year; we call the exhibition the 'Battle of Britain Experience'.

This is becoming a populist museum now, and for many reasons. One is that we believe the population as a whole should be as interested and as well-informed about the Royal Air Force, its history and traditions, as the enthusiast and therefore we have made a number of our displays a little bit more popular in order to attract broader audiences. I hope you will find that we have succeeded without sacrificing some of the scholarly expectations that you would have of us. I certainly think that we have and the reaction from the massive number of people that have come to this Museum in the last year confirms it. We are, at the moment, the most successful museum in this country. You wouldn't see that in the press or on the television because we are a military museum, a science technology museum, and it seems that only art gets into the newspapers. This Museum has had 50% more visitors this year than it had last year and has earned 75% more money, and that is because we are attracting new audiences.

There are one or two new objects in the main Museum which are

particularly appropriate with our guests over here, and I welcome you, gentlemen, from the United States. We have a P-51 Mustang at last, showing the co-operation between our two great nations, not only in terms of actually flying the aeroplane but of course in writing its specification in the first place. The P-51 is sitting next to the B-17, the Lancaster and the PR Spitfire in the Bomber Hall. Also the old Fairey Battle is at last in the Museum; please excuse its propeller which is still slightly bent from its crash in Iceland but after a 15-year restoration, I am sure you will not mind that too much – it is very difficult to bend propellers back. You are all very welcome to have a look at the Museum now; I hope you enjoy it and that we shall see you all here again in the very, very near future.

Minutes of the Fifth Annual General Meeting of the RAF Historical Society

Present: Air Marshal Sir Frederick Sowrey (in the Chair) and 67 other members.

Chairman's Report

The Chairman stated that once the formal business of the Meeting was concluded, there would be a brief discussion period before the lecture by Laddie Lucas commenced. The Chairman said:-

'From the Committee's point of view it has been a good year. We had two distinctive firsts – a joint seminar with the Royal Air Force Staff College and a similar venture with the United States Air Force Historical Foundation. The commercial publication of the Battle of Britain seminar has been delayed whilst some £1,500 was conjured up by Derek Wood, encouraged by Tony Richardson, and the special issue of *Proceedings* should be distributed within the next few weeks. Our future programme is also set for the continuation of the 'Bracknell Series'. This year the Battle of the Atlantic, in 1992 the Mediterranean War, in 1993 the Bomber Offensive, in 1994 Overlord, the Reconquest of Europe, in 1995 the Royal Air Force in the Far East. Next year we are also expecting an invitation from the USAF Historical Foundation to join them in the United States to look at co-operation between these two great Air Forces from 1945 to 1960.

We hope to involve our own members more in the planning and execution of these seminars and there is a note to this effect with your AGM notice.

On membership, we seem to have reached a threshold which fluctuates between 400-500 and it would be a great fillip to break through this and keep rising. The Committee is looking at ways and means of distributing our *Proceedings* more widely, hopefully to the academic world on both sides of the Atlantic, not only to enhance the Society's status but also (hopefully) to increase membership. Increased membership would help our finances – and so would sponsorship. However, the recession has not made this easy. We want the money to pay the travel costs of the occasional lecturer from abroad; we would like to include in *Proceedings*

articles on subjects that cannot be covered in seminars and will generally improve the product; to publish important documents on RAF history and to sponsor research into RAF history.

We are fortunate in the past to have been sponsored for various issues of *Proceedings* and we are most grateful – particularly to those here who have arranged it. But now a bank of capital to move from our day-to-day finances would be desirable.

And if you wonder why we are asking you to ban guests at our seminars, for which we charged £5, and have now substituted temporary membership at the same price – I will leave this to the Treasurer to explain in detail.

I will end by paying a tribute to your hardworking and very capable committee who keep the Society solvent, and produce an imaginative programme which is put into effect. All this is done at the sacrifice of considerable personal time and money, and it is good to see it rewarded by a very encouraging turnout this evening.'

General Secretary's Report:

The General Secretary gave a brief report.

Treasurer's Report:

The Treasurer reported upon the Society's finances during the year as set out in the Accounts sent to all members which had resulted in a deficit of £571. He reported that subscriptions for the current year so far received amounted to £6,245, reflecting the increased rate of subscription. A member queried the item of 'Bank Charges: £251' in the Accounts. The Treasurer pointed out that considerable work was performed by Barclays Bank in dealing with the numerous Standing Orders and resultant queries and that from his experience such charges were not unreasonable. He also pointed out an offsetting item in INCOME of 'Bank Interest earned of £310' as against £77 last year, which was a considerable improvement.

Report and Accounts for the Year Ended 31st December 1990:

It was RESOLVED that the Report and Accounts of the Royal Air Force Historical Society for the year ended 31st December 1990 be received, approved and adopted.

Appointment of Committee:

It was RESOLVED that the re-appointment *en bloc* of thirteen members of the existing Committee of the Society (excluding *ex-officio* members) for a year to the end of the AGM in 1992 be approved.

It was RESOLVED that the re-appointment of the existing thirteen members of the Committee of the Society (excluding *ex-officio* members) as listed in the Note to the Notice of the AGM (being held on 11th March 1991) to hold office until the close of the AGM in 1992 be approved.

Chairman:	Air Marshal Sir Frederick B Sowrey KCB CBE AFC
General Secretary:	B R Jutsum FCIS
Membership Secretary:	Commander P O Montgomery VRD RNR
Treasurer:	D Goch FCCA
Programme Sub-Committee:	Air Commodore H A Probert MBE MA *Group Captain I Madelin T C G James CMG MA Wing Commander B Dove AFC Air Commodore J G Greenhill FBIM Air Vice-Marshal George Black CB OBE AFC Air Vice-Marshal F D G Clark CBE BA
Publications Sub Committee:	J S Cox BA MA A E F Richardson
Members:	*Group Captain A G B Vallance OBE MPhil *M A Fopp MA MBIM A S Bennell MA BLitt * <i>ex-officio</i> members

Re-appointment of Auditors:

It was RESOLVED that Messrs. Pridie Brewster, Chartered

Accountants, be re-appointed Auditors of the Society and that their remuneration be fixed by the Committee.

Attendance at the Society's Meetings, Lectures and Seminars:

The Treasurer reported upon negotiations with the Inland Revenue and explained the reasons for the proposed resolution regarding attendance at meetings.

It was RESOLVED that upon the Executive Committee's recommendation henceforth to restrict attendance at the Society's meetings, lectures and seminars be limited to paid-up members and invited lecturers and contributors only.

Radar Research Squadron Memorial Fund:

The Chairman referred to an appeal for the Radar Research Squadron Memorial Fund, details of which he would make available to the Meeting for any interested member.

Closure of Meeting:

The Chairman declared the Meeting closed at 1835 hours.

THE RAF AND THE BATTLE OF MALTA

Air Commodore Probert:

I am delighted to welcome my good friend Laddie Lucas this evening. He is well known to most of us not only for his highly distinguished wartime career in the RAF but also through the several books on RAF subjects that he has produced over the last ten years or so: his biography of Douglas Bader, his *Wings of War* and his *Out of the Blue*. But he has done many other things too in an exceptionally busy life. To mention just two, he served some ten years as an MP in the 1950s, and he has been a leading figure in the world of golf, both as player and administrator, for much of his life.

So we have as our guest tonight a glutton for punishment, as is being demonstrated right now by his intention to publish shortly another book, this time on the Battle of Malta. As the OC of 249 Squadron in that Battle in 1942, he is well qualified for such a task, and equally to address us on the same subject this evening.

Wing Commander P B Lucas CBE DSO DFC

Those of you who know your Sherlock Holmes will, I feel sure, at once recall the tale of *The Blanched Soldier*. At one point in the narrative, one of the principal characters in the plot, a Mr James M Dodd, ‘a big, fresh, sunburned, upstanding Briton,’ can no longer hide his astonishment at the great detective’s powers of observation.

‘Mr Holmes,’ he exclaims, ‘you are a wizard. You see everything.’ The compliment is brushed curtly aside. ‘I see no more than you,’ retorts Holmes, ‘but I have trained myself to notice what I see.’

I refer now to that engaging little exchange simply to enable me to say this. We all become conditioned by the circumstances of our early working life. For me that meant one thing. Between finishing at the university and volunteering for the Royal Air Force on the outbreak of war, I had spent three or four years working as a reporter for Lord Beaverbrook and his *Express Newspapers* at a time when the papers were approaching the peak of their success and power – a pursuit which, I can assure you, concentrated the powers of observation wonderfully.

So when I flew out to Malta, with 15 other Spitfire pilots under the

command of a remarkable Canadian, Squadron Leader Percival Stanley Turner, in a Sunderland flying boat early in February 1942, I could at least say one thing – my eyes had already been trained to notice what they saw. Certainly, as a wartime amateur in the Royal Air Force – in at the beginning and out at the end – I had few of the attributes possessed by the pilots who had already been on the island for six months and more and were then ready to be relieved. Many of them had had a basinful in the Battle of Britain and some, like Stan Turner himself, had also been in the Battle of France. I, on the other hand, had had no more than eight months with a squadron, albeit an experienced one, in Fighter Command. There were less than 120 operational hours in my log book – nothing.

I mention this only because I was typical of the bulk of pilots and aircrews then gathering on the island, and it says much for the Royal Air Force's wartime training – and for that of the great Empire Air Training Scheme in Canada, where most of us had been trained – that we were able to prevail in the teeth of the odds which were then being ranged against us.

It was, in fact, around this time that Sir Arthur Tedder, our CinC in Cairo, and our AOC in Malta, Air Vice Marshal Hugh Lloyd, were remonstrating vigorously about the quality of pilots then being sent out to Malta from the United Kingdom. Tedder, in one of those messages to the Air Ministry which he was so good at, had referred to these pilots somewhat disparagingly as 'also rans'. I rather fancy that I slipped readily into that ignominious category. And when DCAS at the Air Ministry, Air Vice-Marshal Bottomley, in answer to these strictures coming from Cairo and Valletta, countered by saying that he had arranged with CinC Fighter Command for – and this was his phrase – 'a really choice lot of pilots' to be sent out at once in a Sunderland flying boat, I can only say that, in so far as he might have been referring to me, the Air Marshal was certainly straining credibility to its limit.

Now, against that personal background, let me add two further points by way of preface. My observations on the Malta battle must be, in part (but not, I trust, in prejudiced part), those of a Flight Commander and then of a Commanding Officer of a fighter squadron, for those were my appointments during my time on the island.

But Malta is a diminutive place – 17 miles long by 9 miles wide at its

broadest point, a little smaller than the Isle of Wight – with an indomitable population of rather less than 300,000 people. In those days everyone knew what everyone else was doing. Few secrets could be hidden from us. So there was no way that we on the main fighter airfield at Takali were going to be unaware of the massive contribution then being made on the air side by the general reconnaissance, strike and bomber units based next door to us at Luqa, the island's principal airfield.

And as for that marvellous Fleet Air Arm lot, further to the South, at Hal Far, with their Albacores and Swordfish, flown at speeds which would have shown up poorly in the fast lane of the M1 today, we saw from the work which we sometimes did together, the hideousness of the tasks which they were daily and nightly being asked to undertake.

Indeed, there could hardly have been a battle in World War II where the efforts of the three Services, the Merchant Navy and the civilian population were so closely intertwined, and so intimately dependent one upon the other. Malta was the quintessential combined operation.

Moreover, we all knew that we had, in our individual ways, either directly or indirectly, one prime and governing responsibility; this was to make our own humble contribution, in whatever way we could, to stopping the Axis convoys from forcing a passage across the Mediterranean and so victualling Rommel and his *Afrika Korps* then slogging it out with the British 8th Army and the Desert Air Force in the Western Desert. Malta and the Desert were indivisible.

The brute fact was, however (and Hugh Pughe Lloyd never allowed us to forget it), that if the fighter battle for Malta had not first been contained and then ultimately won, there would have been no future for the island as a launching pad for those murderous shipping strikes against Rommel's seaborne supplies. Malta would have been effectively neutralised by bombing and this would have made it virtually impossible to retain any but the barest minimum of multi-engine units, and their gallant crews, on Luqa.

My other point is this. In the time available, I must, perforce, concentrate my remarks on the crunch period of the battle which, coincidentally, happened to be the five or six months from early February 1942 until the end of July that year when I was myself serving on the island. This included those cataclysmic months of March and April which

marked the nadir of our fortunes and of which Churchill, in a graphic passage, was later to write:

‘In March and April all the heat was turned on Malta and relentless air attacks by day and night wore the Island down, and pressed it to its last gasp.’

But if I fasten my gaze on this critical period it does not mean that I disregard for an instant the epic exploits of the Blenheim crews in 1941 when, with those awful shipping strikes, they were turning squadrons round in maybe three weeks; nor do I forget the earlier struggles of the Hurricane II squadrons when, outperformed but never outflown by the Messerschmitt 109Fs, they miraculously held the line until, with the aid of the Royal Navy and the United States Navy, Spitfire VBs and Cs, with the four cannons, were ferried in in sufficient numbers to turn the battle in the Allies’ favour, and re-establish Malta as the thorn in Rommel’s side.

An incident on the morning of our arrival in Kalafrana Bay – a lovely, mild, early spring morning in the Mediterranean – told us immediately what the Hurricane squadrons had been enduring.

We had just stepped onto the quayside from the flying boat’s tender when the sirens started wailing out the approach of an incoming raid. Within moments five Hurricane IIs (you could almost feel the engines vibrating), strung out in an antiquated VIC formation, emerged from the early morning mist labouring – clambering – to gain height. As they disappeared into the haze, a couple of *Staffeln* of 109Fs, with their slow-revving DB 601 engines, swept in 8,000 or 10,000 feet above, flying fast in those beautifully wide-open fours-in-line abreast – the *Schwarme* they called it – crossing over in the turns and dominating the sky.

Stan Turner, a highly experienced critic of few words, paused for a moment and removed his empty pipe from his mouth. ‘Good God!’, he exclaimed and strode on in silence to the Mess.

We flew those old Hurricanes against the droves of 109s for a month before the Spitfires began to arrive; and my recollection as one of Stan’s Flight Commanders in 249 is of him flying those clapped-out and cannibalised aeroplanes seemingly with the throttle permanently through the gate, bawling out at the rest of us over the R/T, ‘For Christ’s sake, you guys, can’t you even keep up!’

It was a salutary – daunting – experience, but it taught us exactly what our predecessors had been enduring for months before we arrived.

Stan Turner's remit, with all that experience behind him, was to turn the flying on the island upside down when the Spitfires arrived and bring it up to date. His contribution was unforgettable. Instantly, those dreadful VIC and line-astern formations were banished from the sky. Instead, two aircraft, flying fast, 200 yards apart, in line abreast with each pilot looking inwards towards the other, and covering the whole sky, became the basis of everything we did in the air. We would never have survived without it when the odds began to nudge 15 and 20:1 against us. Stan Turner deserves a chapter to himself in the Malta story.

Let me now try to recreate the picture which confronted us in those spring and early summer months when the enemy was making his supreme effort to neutralise the island by bombing. Set in virtually the dead centre of the Mediterranean, some 800 miles from Gibraltar and around 1,000 miles from Alexandria, with the enemy controlling the coastlines to the North and the South, and with the approaches from East and West dominated by Axis air power, this tiny piece of rock was surrounded and isolated.

There was no leave, no '48s' in Cairo or Gib, only an occasional free day down at the Rest Camp at St Paul's Bay; and if invasion – which was an ever-imminent threat – came, there would be small chance of escape. We knew and those dedicated ground crews of ours knew, just as the other two Services knew, it would be a question of fighting it out to the last man; and knowing the spirit on the island at the time, I have little doubt that that is exactly what it would have come to. But with the German 7th Airborne Division, under General Kurt Student, based in southern Europe, it was a sombre prospect.

Sixty miles across the water to the north-east in Sicily, in southern Italy and in Sardinia, Field Marshal Kesselring, with his *Luftflotte 2*, General Bruno Lorzer, with his *Fliegerkorps 2* and, to a lesser extent, General Geissler, with his *Fliegerkorps 10*, had roundly 600 front-line aircraft available – Ju 88s, 87s and Me 109s. And when, at the peak, the *Regia Aeronautica* also came significantly into play (the Italians were greatly under-rated), the front-line tally against us rose to around 850 – fighters and bombers. In March and April we were lucky if we mustered

ten or a dozen Spitfires while, across the way, at Luqa, the bombing had reduced the Wellington, Beaufort, Maryland, Baltimore and Beaufighter units to only a skeleton of their squadron strengths, and sometimes less.

The raids on the island's four targets (that's all there generally were) – Valletta and Grand Harbour and then the three airfields, Takali, Luqa and Hal Far, running from north to south – came in in waves of 80, 100 and 120+ with Teuton precision, breakfast, lunch and tea. And when the screw was really turned up tight they threw in a fourth attack at drinks time, just before last light, for good measure. The dive-bombing, pressed from 16,000 and 17,000 feet down to 3,000 and 4,000 feet, and sometimes below, through a withering barrage of heavy and light *Flak*, was generally pretty accurate, particularly against the aircraft dispersals.

In those two spring months, the Axis dropped twice the tonnage of bombs on Malta as were dropped in one whole year on London at the height of the Blitz. And Malta, remember, is rather smaller than the total area of Greater London.

Transport, such as there was, was restricted to only the most essential purposes; there was no petrol to spare from vital needs. Roadworthy bicycles were at a premium. Generally we had to walk the mile or so from our Mess – the lovely old 15th century villa called the Xara Palace, up on the hill in Mdina – down to the airfield at Takali. When it came to carrying our kit – parachute, Mae West, helmet and gloves – back up the hill again in the scorching heat of the noonday sun, we used to think enviously about the comforts we had left behind in Fighter Command.

We were always hungry, but it's a funny thing about hunger: you get used to it provided you know there is nothing more that can be done about it. I remember one morning, down at the dispersal, tackling our Station Commander, Wing Commander Jack Satchell, about it. 'Sir,' I said, after he had asked whether there was anything we needed, 'if we could get a bit more food for the ground crews and the Australians in this flight, my life would be made a lot easier.'

Jack responded quite sharply. 'Look here,' he said, 'I'm a stone and a quarter underweight and I've never felt fitter in my life.' He may have had a point, but we were all half-a-stone to a stone underweight and I don't think we felt as well as that, with the recurrent 'Malta dog' and that horrible sand-fly fever to contend with.

The seaborne convoys were, of course, the island's lifeblood. We and the islanders used to wait for them as children wait for Father Christmas. The record, despite the superhuman efforts of the Royal Navy, the Merchant Navy and the Air Forces, was, to say the least, grim. It is sufficient here to say that out of five convoys run between February and August 1942, either from Alex or Gib or both concurrently, two, or 40%, never made it. And out of the 38 merchantmen setting out on all five operations, only 10, or 26%, ever reached to the island. And of those 10, three were sunk when they got there.

It was an appalling carnage, but when we remember the concurrent efforts then being made by the submarine crews – a really super lot – and those of the fast minelaying cruisers, *Manxman* and *Welshman*, bringing in precious cargoes, it was just enough to stave off starvation and keep the island barely in business.

It may well be asked: was Malta worth all the hassle and how important was the island to the Allies' grand strategy? I will answer the question in two ways. First, by reference to two messages, both sent by Winston Churchill to General Auchinleck, CinC of the land forces in the Middle East, in May 1942 at a *moment critique* in the island battle. The first was sent on 8 May:

'The Chiefs of Staff, the Defence Committee and the War Cabinet have all earnestly considered your telegram in relation to the whole war situation, having particular regard to Malta, the loss of which would be a disaster of first magnitude to the British Empire and probably fatal in the long run to the defence of the Nile valley.

We are agreed that in spite of the risks ... you would be right to fight a major battle if possible in May and the sooner the better.'

Two days later – no more – he made a second signal to Auchinleck as if to ram the message home. Here let me interpose and say that repetition for effect was one of Churchill's traits. I remember so well in the House of Commons in the early 1950s, when he was leading our Party, he used to say to us: When you get a political truth, go on repeating it and repeating it and ramming it down their throats until they swallow it. I sense something of that here.

This is what he said on 10 May:

‘The Chiefs of Staff, the Defence Committee and the War Cabinet have again considered the whole position. We are determined that Malta shall not be allowed to fall without a battle being fought by your whole army for its retention. The starving out of this fortress would involve the surrender of 30,000 men ... Its possession would give the enemy a clear and sure bridge to Africa. Its loss would sever the air route upon which you and India must depend. Besides this, it would compromise any offensive against Italy and future plans such as Acrobat and Gymnast [Gymnast would become Torch – the Allied landings in French North-West Africa] ... Compared with these disasters the risks to the safety of Egypt are definitely less, and we accept them.’

Now, secondly, I will answer the question about Malta’s importance to the Allies’ grand strategy by invoking the first-hand opinion of one of our former enemies. A little over two years ago, I had my very good German friend, Eduard Neumann, to dine in this club. Edu, an excellent man, had commanded *Jagdgeschwader 27* in the Western Desert in support of Rommel and the *Afrika Korps* throughout this critical time. ‘How much,’ I asked him during dinner, ‘did Malta count in the *Luftwaffe*’s and the *Afrika Korps*’ operations in Libya?’

Edu put his knife and fork down on his plate and held up a cautionary finger. ‘Malta,’ he said, ‘was the key.’

His explanation was very simple. The sinking of the southbound Axis convoys, carrying fuel oil, spares and other supplies, was critical to the *Afrika Korps*’ long advance – Operation Theseus, they called it – from Gazala, right across Cyrenaica, to Alamein, inside the Egyptian frontier, in the high summer of 1942. With the retreating 8th Army offering ‘targets galore’ after the fall of Tobruk, the serviceability of the *Luftwaffe Staffeln*, he said, seldom rose about 50%, if that – a figure which, I suspect, the Western Desert Air Force also had much to do with. A few more *Gruppen* from Lorzer’s *Fliegerkorps 2* in Sicily and a better service of convoys from southern Europe would have made a power of difference. But this Malta denied to the Axis. ‘Anyway,’ said Neumann, ‘read Albert Kesselring.’

I read the genial Bavarian aristocrat and this short passage, written with all the advantage of hindsight, tells its own unmistakable story. It is

taken from Part I of Kesselring's *The War in the Mediterranean*:

To guarantee supplies [to the *Afrika Korps* in Libya] the capture of Malta was necessary ... The abandonment of this project was the first death blow to the whole undertaking in North Africa ... Strategically, the one fatal blunder was the abandoning of the plan to invade Malta. When this happened, the subsequent course of events was almost inevitable.

How, then, was Malta saved, for the truth was that the island had become a glittering jewel in the Allies' grand strategy for North Africa, the Mediterranean and southern Europe?

Let me summarise my conclusions. Malta was held because the battle for it was, arguably, the most effective combined operation of World War II – and never forgetting the Army gunners in the light and heavy ack-ack batteries who stood to their posts despite bombs raining down and kept pumping the stuff up at the low-flying attackers as our pilots, out of fuel, out of ammunition and with wheels and flaps down, were desperately looking for chances to land.

Hitler made his third great blunder of the war by fudging the invasion of the island in March, April or early May when the chance was offered. The losses in Crete the previous year, and the strength of the Royal Navy's Mediterranean Fleet deterred him. But far and away the most telling stroke came when the Royal Navy, the United States Navy and the Royal Air Force joined hands in Gibraltar and undertook those remarkable carrier-borne reinforcing operations which, in the end, after some really dreadful hiccups to start with, turned the battle. The flying in from the carrier *Eagle*, and the massive US carrier *Wasp*, of close to 80 Spitfires from 650 miles west of the island, on 9 and 18 May 1942, changed the feel of things in Malta completely. When I landed with my batch of aircraft from *Eagle* on the 18th I could sense instantly that the picture had been transformed. True, the *Luftwaffe* would come back again in strength later, notably in early July and again in October, but for Kesselring and his cohorts in Sicily it was:

'Never glad confident morning again.'

This, in turn, enabled us to regroup our multi-engine strength at Luqa and establish again a really potent striking presence which, with those

gallant submariners on Manoel Island, was to deal such devastating blows at Rommel, the *Luftwaffe* and the *Afrika Korps*.

We had also in the roughest times a quite exceptional and rugged Air Officer Commanding in Hugh Pughe Lloyd. A combination of Lloyd in Malta and Sir Arthur Tedder in Cairo represented a John Bull front and a splendidly agile, yet composed, intellect behind – a blend which I remember we thought at the time came close to being invincible.

Keith Park, of course, came later, in mid-July and with his celebrated Forward Interception Policy and a serviceability of 130 Spitfires – a strength unheard of in those earlier spring and summer days – made his own immaculate contribution by changing the ethos of the island from defence to offence. But Park did not win the Battle of Malta. The air battle had been turned and won by Lloyd and Tedder, backed 100% by successive Governors – Sir William Dobbie and Lord Gort, holder of the Victoria Cross – before Park arrived.

Lloyd's 10-minute addresses to the aircrews in our Mess in Mdina in the evenings, spoken without a note, with a whisky and soda in one hand and a cigarette smoked through a long tortoiseshell holder in the other, were theatrical affairs – models of their kind. The curtain might have been going up on a First Night. 'Win this Malta battle,' I heard him say to a large group of us one night, "and all the rest of your life you will be able to look back and say with pride, 'I was there'."

The Australians never let anyone forget it. As they left the bedside of some poor stricken comrade lying wounded in hospital, they would tap him gently on the head and murmur, "Never mind, sport, you will still be able to look back and say with pride, 'I was there'!"

We had one other winner on our side at Air Headquarters in Valletta – Group Captain A B Woodhall, Group Captain in charge of Operations. Woody was quite simply, in my judgement, and in that of others much better qualified than I, the Royal Air Force's outstanding day-fighter controller of the war. A World War I pilot with an uncanny tactical eye and an acute sense of timing and – this was so important – a deep, sonorous, totally confident voice, he would never go in for all that rubbish of vectoring eight or ten Spitfires straight onto a raid of 80 or 100+ to bring about a neat and precise interception. Instead, he would look at the plots on the Ops table, size them up, and then put the defending section or

sections 5,000 or 6,000 feet above, up sun and miles away to the side – and ahead of – the incoming raid. Then he would give the leader a running commentary on the attackers' progress culminating, perhaps, with the words: 'Tiger leader, big jobs 10 o'clock from you now, 5,000 feet below. You should soon see them approaching St Paul's Bay. Come in now and come in fast, but watch your tails. There are a lot of little jobs about.'

It was all that an alert and opportunist leader needed.

Woody had learnt it all with Douglas Bader at Duxford in the Battle of Britain and then again with him afterwards at Tangmere when Woody was commanding the sector. But he was a genius in his own right and I do not personally believe that in those awful spring days, when the odds were stacked so heavily against us, we could have held the line as we did without him.

We had one other attribute which gave us the edge over our adversaries. Whereas the Axis powers' intelligence-gathering was, I believe, weak in the extreme – almost abysmal – we, on the other hand, had the over-riding advantage of ULTRA and the Y Service's listening arrangements. The busting of the enemy's Enigma ciphers which we, of course, in the squadrons knew nothing about, gave a privileged few at the top not only advance warning regarding the movement of Kesselring's units in Sicily (and, therefore, an intimation of Hitler's intentions regarding invasion), but also early notice of the sailings of virtually all the major convoys bound for German-held ports in Libya. It was a priceless asset in our balance sheet.

As for the Y Service and the devoted staffs who listened by day and night with their head-sets in those damp and stuffy underground tunnels to the transmissions passing between enemy bases and air and surface craft, I will finish with one enduring personal memory.

It was first light on 6 June 1942 and my flight in 249 Squadron had just come to readiness at Takali. Bill Fames – Wing Commander W R Fames – another first-rate controller, working under Woodhall, came on the Ops line in our dispersal. 'Listen,' he said, 'there's nothing on the table – no plots – but Y thinks there may be a bit of activity 50 or 60 miles south-east of the island. Could be a shipping reconnaissance or something of that sort. How about taking a section of four out at 1,000 feet on a heading of 130° for 25 minutes? If you see nothing, come straight back but don't

get annoyed if there's nothing about.'

I had just come to the end of the 25-minute run with three of the squadron's first-rate Canadians when my trusted No 2, Frank Jones, a product of the Montreal commodity market and the Biggin Hill Wing, spotted them with his exceptionally sharp eyesight.

'Tiger leader,' he said, 'two Ju 88s at 11 o'clock down on the water.' They had already seen us silhouetted against the brightening morning sky. With throttles wide open they had closed up into tight line-abreast to get protection from the rear gunners' crossfire.

It was all over in a couple of minutes, no more. As we climbed up to 3,000 or 4,000 feet and headed back for Malta, I switched my R/T on to transmit. I guessed Bill Fames would be anxious for news. 'Bill,' I said, 'you win game, set and match.'

'Good show,' he replied, deadpan. But we both knew that victory belonged not to ground control or to Red Section of 249 Squadron, but to a nameless operator working in a tunnel many feet under Valletta.

DISCUSSION

Tony Spooner:

Like Laddie, I was in Malta in 1941-1942 and I would first like to say that Laddie has omitted one outstanding feature of his own career there. I am quite certain that he was the only man who could have made Screwball Beurling. Beurling was a rebel, a complete individualist who came to 249 Squadron after Laddie picked him and showed no respect for anybody. Laddie should always remember that he is the man who made Beurling, who, without any doubt, was the outstanding fighter pilot of World War Two.

Laddie has given us a marvellous account of the importance of Malta in the Mediterranean theatre of war but I would like to suggest that the importance of Malta went far beyond the Mediterranean.

It all goes back to the last three months of 1941 when the aircraft operating from Malta, of which I was very proud to have been one, managed to sink well over 50% of the convoys going to Tripoli. It was a

German Vice-Admiral who wrote: ‘The battle of Cyrenaica was lost in the last three months of 1941.’ As a result, Rommel put in desperate pleas for Hitler to do something about Malta because its aircraft and ships had decimated his supplies. So Hitler moved the entire *Luftflotte 2* under Field Marshal Kesselring from the central Russian front to Sicily. I maintain that this was one of the most significant moves of the entire war. Hitler had three air armies facing the Russians and he had to move one to Sicily to preserve Rommel and his *Afrika Korps*. The repercussions of that move went on for the next year and more. Not only did Malta hold but Malta consistently fought back. In terms of numbers – and the battle for Malta lasted a lot longer than the Battle of Britain – approximately 1,800 enemy aircraft were destroyed in the Battle of Britain and approximately 1,300 around Malta during the 18 months that the battle lasted. What’s more, for every bomber the 8th Army had to fight in the desert, two were based in Sicily and this had a profound effect in the desert war. After the end of 1941 when *Luftflotte 2* was moved to Sicily, the *Luftwaffe* was always over-stretched on every front and this had profound effects on the battle for Russia, on Bomber Command’s battle over Germany, as well as on the Mediterranean war itself.

Laddie Lucas:

‘Screwball’ Beurling was certainly an extraordinary character, and there was another one in Malta: Adrian Warburton. Warburton, I think, was made for Malta and Malta was made for him. He was the only officer that I knew in the Royal Air Force who wrote his own ticket; no one knew where he was going. ‘Screwball’ Beurling would have been no good at all in a wing in Fighter Command; I remember Johnnie Johnson telling me that Beurling had joined his wing and he was useless as he used to go off on his own. I could have told Johnnie that before he joined him. Beurling was an individualist with exceptional eyesight – essential for a Number Two – and was so much a separate man from the rest of the squadron that one really had to look after him. I was fortunate because when he arrived, as one of 16 flying off *Eagle*, I think, it was our turn in 249 to select from them. Stan Turner, our super Squadron Commander, had left it to me as the senior Flight Commander to pick the people for us and I believe the remainder went to 603. When I saw Beurling’s name, I asked one of our chaps if he knew him. ‘Yes,’ he said, ‘he flew with us in the Tangmere Wing.’ ‘What’s he like?’. ‘Well, he used to come back on his own having

shot a couple down but nobody believed him. He might shoot a lot down; otherwise he'll get it himself.' I said, 'That's just the sort of chap we can use in 249.' So he came to us and immediately started in the same way. So I said to him, 'Now look here, Screwball, if you are going to go on flying with us you've got to be fair, that is fair to the rest of the fellows, because if you go off on your own someone is going to be left naked and that's no good. If you don't stick to somebody and make a pair or get someone to stick with you as a pair, you're on the next aeroplane to the Middle East.' 'Boss,' he replied (he never called me 'Sir') 'that's good enough for me,' and he was marvellous for the rest of the time.

On Tony's other point, the importance of Malta in grand strategy, I entirely agree. I didn't want to overplay it but if you think of Malta falling there would have been a chain reaction. Rommel would have taken Gazala and gone on to the Alamein line and the Nile delta and beyond. The Battle of Alamein would not have been fought at that time and there would have been a knock-on effect on the landings in North Africa, the invasion of Sicily and the mainland of Italy, and quite possibly the D-Day landings in Normandy. The truth of the matter was that Malta was the key.

Sir Michael Beetham:

Could I ask about the German tactics? Given that they had a huge force of some 600 to 800 aircraft, what did you think of their bombing tactics against this small island? With that size of force they should surely have succeeded.

Laddie Lucas:

You would hardly believe it, but the Germans under Kesselring, with all his ability, did not have a systematic plan to knock out one target and then come back for another. They also made an extraordinary mistake when, I think it was on 8 May, Kesselring made a signal to the High Command in Berlin that his mission to Malta was complete; he said he had neutralised the island. On that particular day he probably thought correctly, for although the *Wasp* had delivered the first lot of Spitfires, they had got into terrible trouble when they landed. On the following day, however, came the first major fly-off from the *Wasp* and *Eagle*, and it was that plus the fly-in on 18 May, which I was on, that really turned the battle. Kesselring got it wrong and turned away at exactly the wrong time. Although he had all those aeroplanes he simply did not use them

systematically and I cannot understand why. Mind you, I believe their intelligence-gathering was very poor. I would like to see an in-depth study made of the German intelligence effort in southern Europe, the Mediterranean and North Africa in those critical years. I believe, though I could be wrong, that it would show a marked paucity of intelligence, which was one of the principal reasons why they let Malta go for a month in June when the Italians came in.

Group Captain Hugh Verity:

I can't possibly compete with Laddie Lucas's marvellous story as I was only in Malta for about three weeks in April and May 1941. At that time the airfield at Luqa was only being bombed twice a day and our Officers' Mess in Valletta twice a night. We were there with a squadron of Beaufighters, No 252 of Coastal Command, because of Operation Tiger, in which a desperately-needed consignment of tanks for Egypt was to be fought in a convoy beyond the range of the Hurricanes based in Malta. It was quite a hairy operation in that three weeks later our original 12 aircraft were down to eight, of which four were so badly damaged on the ground by bomb fragments that we had to try to fly them back to England for a refit.

Laddie Lucas:

In my time the Beaufighters were used as long-range escorts to the Beauforts on their torpedo strikes. It would have been impossible for the Beauforts to do these strikes without the Beaufighters because the Germans were using Junkers 88s as long-range fighters to escort the convoys. The Beaufort strikes were critical to the denial of supplies to the *Afrika Korps* and I have a particularly soft spot for the work that they did.

Tony Spooner:

I am sure that you share my view that the real heroes of Malta were the RAF ground crews. We pilots were there for six or nine months getting what food there was going and whatever decorations were being handed out, but for the poor bloody 'Erks' there was no way off the island. They were there for two, three or four years, got the worst of the food and the worst of the accommodation, and had all the bombing; they took it all and went on taking it week after week and month after month, year after year. I think they were the most heroic bunch of men that I have ever seen.

Laddie Lucas:

In commenting on that I would like to associate the Army personnel with that sentiment. The soldiery were not fighting as such; they couldn't get at the enemy. But they were critical to the repair of the airfields and many other things. There is no doubt about it, the ground crews were superb; there they were, stripped to the waist, never flinching, never looking to the shelters – they were a most extraordinary lot. After Jack Satchell, we had 'Jumbo' Gracie as the Station Commander at Takali. Now 'Jumbo', whose eyesight was bad, had been CO of 126 and he led the Spitfires off the *Wasp*. He flew on a reciprocal and a New Zealand Sergeant Pilot at the back called, 'Say, skip, when are we setting course for base?' Poor old 'Jumbo' never lived it down! But he was a far better Station Commander. He had the idea of arming the ground crews and he set up some machine-gun posts around Takali, saying, 'Any of you fellows doing nothing? Get on the guns and have a go.' Of course, they never hit anything, but it made them feel marvellous; it was a tremendous psychological move. Another was designed to stop the Maltese who worked on the airfield from stealing our large petrol cans: he put up a number of gallows round the airfield and of course a photograph was taken of them, whereupon it got back to the *Mirror* at home and there was a terrible row. 'Jumbo' had some marvellous ideas; he was a man who understood the ground crews as well as any Station Commander that I have ever served under.

You are of course quite right, Tony, the ground crews were superb. One reason why they were so good was that we had absolutely first-class senior NCOs. Some of them had come up from Halton and were pre-war trained; they had gone off to Malta in 1940 when the Italians came into the war and remained there until at least late '43 or '44 with no leave or anything of that sort. It was the senior NCOs who kept the fellows together and taught them; their leadership made a vast contribution to our successes and I am glad this has been brought out.

The Army, too, were extraordinary, not only the fellows on the heavy ack-ack sites all around the island but the fellows on the airfields. They were rationed for ammunition; there was a chap that I was at university with who was commanding the gunners at Takali who told me one day when he came into dispersal that they were rationed to 15 rounds per

battery and he hoped the incoming convoy would bring some relief. When I told our fellows, they said, ‘Oh Lord,’ because the Bofors were at least keeping the 109s up. When Sir Arthur Tedder was visiting on one occasion, we were all having a drink up at our Mess at Mdina, looking down over the airfield – I can see the CinC now with a large-size pink gin, and I don’t blame him at all for that – here were these Me 109s coming down just squirting at our fellows with their wheels and flaps down and if it hadn’t been for the Bofors batteries all round just pumping off as hard as they could go, I think we should have lost far more aeroplanes. They were a wonderful lot.

Sir Lewis Hodges:

My own personal experience of Malta at that time was during Torch, probably about November 1942, when in Bomber Command we were asked to fly out to both Malta and Cairo bringing out Spitfire spares, and I recall very well that we had to arrive at Luqa in the middle of the night, unload, refuel and depart before dawn because of the bombing. My question relates to the heavy expenditure of bombs and ammunition; with all the shipping being sunk in those convoys, was there ever a stage when you were desperately worried about running out of ammunition?

Laddie Lucas:

The Air Chief Marshal has asked a question that I really should have touched on. In the fighter squadrons we were never rationed, though we were told that there was only three weeks’ ammunition left, cannon and .303. But although we were never rationed, the Army were, particularly the Bofors. We were saved, as I remember it, by those two ships that got in from the June convoy which kept us going until August, and then the convoy with the *Ohio* got in, but by that time I was not there. We also got some ammunition in by the submariners who were running the gauntlet as were the *Manxman* and the *Welshman*, the minelaying cruisers; they were all doing a splendid job. They would appear at first light, unload in about six hours and be away again. How they weren’t sunk, goodness only knows; they were usually disguised as French destroyers, which I think put most people off. There is no doubt it was critical and I am sure the Air Chief Marshal would have been a most popular visitor bringing all that stuff.

Air Commodore Probert:

We have been privileged this evening to listen to a superb lecture, which has given us all a real ‘feel’ for what it was like to be in Malta during those stirring days; Laddie has painted a most vivid picture and we are grateful to him.

I should like to make two closing observations. First, there was a brief mention of the importance of ‘Y’ – the radio monitoring service, and those who are interested in this aspect of our activities may like to refer to Aileen Clayton’s book *The Enemy is Listening*, where she describes, among other things, the work that she and her colleagues did during the siege of Malta.

Secondly, when we talk of the broad significance of the Battle of Malta, it is worth recalling some of the events that were taking place concurrently in other theatres, for all-too-often we concentrate our attention so much on one battle or campaign that we forget the broad picture. So let me remind you of the blow to Britain’s prestige occasioned by the Channel Dash in February 1942, when the *Scharnhorst* and *Gneisenau* sailed through the English Channel, and of the far greater disaster when Singapore surrendered, also in February. These were indeed dark days, and who can say what would have happened to British confidence had Malta fallen too. But it didn’t, and the epic story of its defence did much to maintain the morale of the nation as a whole at a time when there was little else to report but disaster.

BOOKS

THE FIRST AIR WAR

by Professor Lee Kennett

Maxwell Macmillan International.

ISBN 0-02-917301-9

Amid the plethora of books about the use of air forces in the Second World War and subsequently, it is no bad thing to be reminded from time to time how it all started. And when the reminder comes in such a compact yet comprehensive form as this, air historians should indeed be grateful.

Lee Kennett, who is Research Professor of History at the University of Georgia, does not offer us the kind of blow-by-blow account of the air war that one so often gets. Instead, he analyses it in terms of the various roles as they developed – reconnaissance, bombing, air combat, maritime – and goes on to examine the aircraft and the men who flew them and maintained them – how they were chosen and trained, how they came to be organised into their fighting units, how they behaved, how they were portrayed to the outside world. Moreover, he does this in the context of all the main air forces that took part, which enables him to point the contrasts and similarities and thus to portray the total pattern of military flying as it emerged in those four formative years on ‘both sides of the hill’. Maybe all this took place the best part of eighty years ago, but when one reads, to take just one example, of the importance of the pilot-observer relationship, the phenomenon of combat fatigue, and the effect on the squadron of the all-too-frequent death of comrades, it is not too difficult to call to mind this year’s experience of our Tornado pilots in the Gulf. *Plus ça change.*

This is a book which is so packed with information and sensible observation – and at the same time so attractively written – that it is very hard to put down. It is based on the most thorough research, which has taken the author to all the countries whose air forces he discusses; it is extremely well referenced; and it includes an invaluable essay on sources. All in all it is the sort of book that achieves two often irreconcilable objectives: to appeal strongly to the general reader, and to be of real value to the professional historian. I strongly recommend it.

Henry Probert

ACTION STATIONS OVERSEAS

by Squadron Leader Tony Fairbairn

Patrick Stephens, £15.99.

ISBN 1-85260-319-4

The *Action Stations* series of books, published by Patrick Stephens Ltd, is now widely recognised as an invaluable reference source for a major aspect of RAF history. Ask a question about a particular RAF station in the United Kingdom, and as likely as not you will find the answer in one of the dozen or so books that have appeared over recent years. But what of the many stations that have existed in other parts of the world; ought not these also to be covered? Now at last the gap has been filled – at least in part.

Squadron Leader Tony Fairbairn, a serving RAF officer and a member of our Society, has devoted much of his spare time over several years to writing brief histories of 60 of our best-known overseas airfields, ranging from Germany to Malta, the Middle East and the Far East – not to mention such far-flung outposts as Christmas island, Belize and the Falklands. All the bases are covered in some detail and there is evidence of much careful research, coupled with a proper appreciation of their importance in the history of our Service. Nobody reading this book can fail to be reminded of the world wide responsibilities that the RAF has shouldered for so many years, particularly since 1945.

Disappointingly, however, there remain many gaps. To take Germany as an example, only eight stations are included: the four ‘clutch’ stations plus Gütersloh, Gatow, Jever and Celle. What of such bases as Fassberg, Oldenburg, Wunstorf, Sundern, Wahn and Butzweilerhof, to name just a few of the omissions? Clearly it was not possible to cover everywhere – and it probably never will be, when one considers the enormous number of airfields that were used during the two World Wars, many of them for very short periods. But certainly there is scope for a further volume, one which would cover in less detail perhaps another 150. Can Tony Fairbairn be encouraged to apply his obvious talents to such a sequel?

Henry Probert

MY WAR

by Andy Padbury

Merlin Books, £5.95.

ISBN 0-86303-524-X

Illustrated story of a Coastal Command W/OpAG. Written in an easy style and a particularly interesting read for those with flying boat experience.

THE LIFE AND TIMES OF PILOT OFFICER PRUNE

by Tim Hamilton

HMSO, £9.95.

ISBN 0-11-772629-X

To any ex-aircrew of wartime vintage this book will be of great interest. It gives a clear account of the style and content of the training memorandum, *Tee Emm*. The book is not heavy going and is written with a lightness of touch which is most attractive; any indulgent spouse or grandchild should regard it as a 'must' for any former aircrew's parachute bag and he will not be disappointed.

WINGS OVER BURMA

by J Helsdon Thomas

Merlin Books, £4.95.

ISBN 0-86303-547-7

A worthwhile read is this narrative by a World War Two ground crew airman.#

THAT ETERNAL SUMMER

by Ralph Barker

Collins, £15.00.

ISBN 000-215585-0

Still with the Battle of Britain; some new slants and interesting stories told in a flowing style.

OFF TO WAR WITH '054

by John Kemp

Merlin Books, £8.95.

ISBN 0-86303-459-4

This pre-war trained fighter pilot flying Spitfires with 54 Squadron during the Battle of Britain is sent North to Catterick with the squadron for a rest. Detailed as a fighter controller, he liked the work and it became his niche for the rest of the war. A fascinating insight into a not particularly well-known area of endeavour, the mobile controllers.

ERRATA

The *Battle Re-Thought*, page 79, line 4, (Noel Monks, of the *Daily Mail*).

COMMITTEE PROFILES

DESMOND GOCH FCCA FBIM

Desmond Goch joined the Air Defence Cadet Corps (the forerunner of the Air Training Corps) in 1939. He enlisted in the RAF in 1943 as a flight engineer, but failed the eyesight test and went on to train as an airframe fitter. He served with 512 and 575 Squadrons – two of the Dakota squadrons of 46 Group which were formed specifically to undertake the airborne landing and other support operations in the European invasion campaign of 1944-45. After VE-Day, he went with 512 on a detachment that took it to Palestine, Egypt and Italy before returning to the UK to be disbanded. A period with a York squadron followed before demobilisation.

On returning to civilian life, he studied to qualify as an accountant and became the Secretary/Accountant of Irving Air Chute of GB Ltd (the makers of Irvin parachutes and flying jackets). He followed this with a spell in the Fleet Street jungle as Company Secretary of *The Observer* (the Sunday newspaper). Nowadays, he is the Managing Director of the UK subsidiary of a European group of companies in the packaging industry.

He is the author of a book on finance for managers and was the President of his professional body for the year 1988/89.

Military aviation history is one of his main leisure interests and he has read widely on the subject. He is a member of the support bodies for the Hendon Museum, the Shuttleworth Collection at Old Warden in Bedfordshire and is Treasurer of the Royal Air Force Historical Society.

AIR VICE-MARSHAL G P BLACK CB OBE AFC & Bar FBIM RAF(Retd)

A member of 107 (Aberdeen) Squadron, Air Training Corps, in 1947 and a Sergeant, before leaving for National Service in 1950: awarded the first flying scholarship in Scotland, gaining his private pilot's licence at the Strathtay Aero Club, Perth.

Air Vice-Marshal Black was born in Aberdeen, Scotland on 10th July 1932 and educated at Hilton Academy. He joined the Royal Air Force in 1950 and after undergoing flying training in Canada, joined No 263 Squadron at RAF Wattisham in 1952. In 1956 he was seconded to the Fleet Air Arm with a carrier-borne attack squadron. Two years later he took a course at the Central Flying School and in 1959 became an Advanced Flying Instructor and later Flight Commander on Vampire T11s. In 1961 he was with No 74 Squadron for the introduction into service of the Lightning. This was followed by a period of staff duty at Headquarters Fighter Command. He became Commanding Officer of No 111 Squadron equipped with Lightnings in 1964. A staff tour at the Ministry of Defence followed in 1966. A flying tour as Chief Flying Instructor at the Lightning Conversion Unit was followed by another tour as Commanding Officer No 5 Squadron, also equipped with Lightnings. The Joint Services Staff College course was completed in 1970 and the following year he took up a staff appointment in the Ministry of Defence. In 1972 he was appointed Station Commander at RAF Wildenrath, which was followed by an appointment as Group Captain Operations, Headquarters 38 Group in 1974. Until 1976 he was closely involved with the policy and concept of operations for the Harrier Force, and was Field Force Commander of the RAF Germany squadrons for two years. After attending the Royal College of Defence Studies in 1977, he was appointed as Group Captain Operations No 11 (Fighter) Group. He became Commander Allied Sector One, Brockzetel in May 1980 in the rank of Air Commodore and became an Aide-de-Camp to HM The Queen in July 1981. A tour as Commandant of the Royal Observer Corps followed in February 1983 and he held this appointment until September 1984. Following promotion, he became Deputy Chief Staff Operations at Headquarters Allied Air Force Central Europe, a post he held until April 1987.

The Air Vice-Marshal has over 5,000 flying hours on about 100

different types of aircraft. He is married and has two sons, both of whom serve as officers in the Royal Air Force. He retired from the Royal Air Force in July 1987.

WING COMMANDER B DOVE AFC RAF

Wing Commander Barry Dove was educated at Gosport County Grammar School and joined the RAF in 1961 on a Direct Entry Commission. Initial and navigator training was followed by a tour flying Canberras with 249 Squadron at RAF Akrotiri, Cyprus from 1963-66. Selected for loan service with the RN, he flew Buccaneers with 800 Squadron in HMS *Eagle* 1967/68 and, following the staff navigation course in 1969, instructed on 736 Squadron at Lossiemouth from 1969-71. The next six years were spent as a staff officer at HQ 1 Group and HQ RAF Germany respectively, followed by a Flight Commander tour with 12 Squadron Buccaneers at Honington from 1978-80. He was promoted wing commander and awarded the AFC in 1981 and following the NDC course at Latimer, spent a year at HQ AAFCE Ramstein as a TACEVAL team chief. In 1982 he was selected as the first navigator to command a Tornado squadron and commanded XV Squadron from 1983-86. A tour as DS at the RAF Staff College, Bracknell from 1986-89 preceded his current post on the MOD Air Staff.

GROUP CAPTAIN I MADELIN

Ian Madelin joined the Royal Air Force in 1951 and did his pilot training and post-graduate fighter weapons training with the USAF. He then served for about 10 years with fighter squadrons in the UK, Germany and the Middle East, and from 1965-68 commanded No 73 (Strike/Ground Attack) Squadron, then based in Cyprus.

He was in the Harrier Officer of the Department of Operational Requirements MOD during the time the aircraft was released to service, and held an appointment in the Plans and Policy Division of SHAPE in the mid-'70s, with responsibility for the ACE Mobile Force.

He is a graduate of the RAF Staff College, where he later served on the Directing Staff, the RAF College of Air Warfare, and the USAF Air War

College, where he was also a member of the Faculty from 1979-81. He has lectured and published articles on a variety of air power-related topics in both the US and the UK, with a bias towards aspects of offensive air support operations and the history of the RAF.

His last job in the Service was as Air Attaché, Rome. He took over as Head of the Air Historical Branch in autumn 1989, an appointment which carries with it *ex-officio* membership of the Committee of the Society.

MR DENIS RICHARDS OBE

We offer our warmest congratulations to Mr Denis Richards, who was awarded the OBE in the 1990 Birthday Honours List. To the best of our knowledge, this is the first occasion on which the designation ‘Air Historian’ has ever been applied in such circumstances and we are delighted that his signal contributions to the cause of RAF history should have been so recognised.

Denis was Senior Narrator in the Air Historical Branch during the later part of the Second World War and afterwards he and Hilary St George Saunders wrote jointly the three-volume official history of the Royal Air Force from 1939 to 1945; revised by Denis in 1970, this remains a standard work. He was then commissioned to write the biography of Lord Portal and this book, published in 1977, is recognised as the definitive study of the RAF’s wartime leader. Much more recently, he has co-authored with Richard Hough the *Jubilee History of the Battle of Britain*, a most scholarly and authoritative account which has added much to the understanding of this ever important subject.

Not surprisingly, Denis gave warm support to the formation of the RAF Historical Society and, as a founder member, has taken part in many of our activities. That ‘one of ours’ has been so honoured gives all of us the greatest pleasure.

FUTURE PROGRAMMES

We shall be at the Royal Air Force Staff College again this Autumn when the next in the 'Bracknell' series of joint endeavours will be staged.

'THE BATTLE OF THE ATLANTIC' on Monday 21st October 1991 is planned to start promptly at 10.15 am at the Royal Air Force Staff College, Bracknell. Numbers will be limited and so you are asked to return the form of application as soon as possible.

The 1992 Bracknell seminar moves to the early part of the year to fit more easily into the programme of the Staff College. For your diary, 'THE MEDITERRANEAN WAR' will be 20th March 1992 at the Royal Air Force Staff College, Bracknell, commencing at 10.15 am. Again, numbers will be limited, and we shall be sending out booking forms late December this year.

The Annual General Meeting and lecture will probably take place in June 1992 with a guest speaker to be arranged.

General Secretary:

B R Jutsum FCIS
28 Clavering Walk
Cooden
Bexhill-on-Sea
East Sussex TN39 4TN

Membership Secretary:

Cdr P O Montgomery VRD & Bar RNR
28 Shirley Drive
Worthing
West Sussex BN14 9AY

Treasurer:

D Goch Esq FCAA
4 Paddock Wood
Harpenden
Herts AL5 1JX

**Matters concerning
Proceedings:**

A E F Richardson
The Hollies
Highsted Park
Peacehaven
Sussex BN10 7UP