

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

Issue No 2 – August 1987

Committee Members

Chairman:	Air Marshal Sir Frederick B Sowrey KCB CBE AFC
General Secretary:	B R Jutsum FCIS
Membership Secretary:	Group Captain H Neubroch OBE FBIM
Treasurer:	A S Bennell MA BLitt
Programme Sub-Committee:	Air Commodore J G Greenhill FBIM *Air Commodore H A Probert MBE MA Air Commodore A G Hicks MA CEng MIERE MRAeS T C G James CMG MA
Publications Sub Committee:	S Cox BA MA A Richardson P G Rolfe ISO
Members:	P G Cooksley ACP ARHistS *Group Captain M van der Veen MA CEng MIMechE MIEE MBIM * ex-officio members

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The opinions expressed in this publication are those of the authors concerned, and are not necessarily those held by the Royal Air Force Historical Society or any member of the committee.

EDITOR'S NOTES

Data Protection Act, 1984

To comply with the provisions of the Act as they apply to personal data processed in a computer system, the Society obtained registration on 22 November 1986 specifically for the purpose of membership administration.

A copy of the Register entry is held by the Membership Secretary, and any member may request access to his or her personal data at 19 Ivinghoe Road, Bushey Heath, Watford, Herts, WD2 3SW.

Changes in Committee membership

One wet evening last November three total strangers found themselves appointed as interim editorial committee for the Society and were hastily discussing over a cup of coffee how best to set about the work required, bearing in mind that they lived at the points of a triangle covering most of south and south-east England and needed to disperse to their respective trains within about 20 minutes! A common enthusiasm for the subject was no doubt responsible for their ability to get along together and accomplish the job in hand. It is with particular regret, therefore, that we report that one of the three, Alec Lumsden, has had, so soon afterwards, to withdraw from the Committee, due to ill-health.

On a happier note, it is pleasing to report that the Society now has a General Secretary in the person of Tony Jutsum, and that the editorial sub-committee now has the assistance of Seb Cox of the Air Historical Branch.

Correspondence

Our thanks go to all members who have taken the time to write to the Committee with comments or suggestions. Such feedback is invaluable. Through this medium we can now complete the record of questioners on page 32 of the first issue of *Proceedings*; Desmond Goch was the originator of Question 8 on that page. Comments on the style of *Proceedings* have been gratifyingly complimentary, leaving us with a reputation to uphold!

As a consequence of the changes in Committee membership, correspondence should, in future be addressed as follows:-

Correspondence on membership matters;
Group Captain H Neubroch OBE FBIM
19 Ivinghoe Road
Bushey Heath
WATFORD, WD2 3SW

Correspondence on 'Proceedings' or publicity:
A Richardson Esq
9 Brunswick Terrace
HOVE
Sussex, BN3 1HL

Correspondence on the Society's future programme:
Air Commodore J Greenhill
'Tanglewood'
52 Brackendale Road
CAMBERLEY
Surrey, GU15 2JR

Correspondence on other matters:
B R Jutsum Esq FCIS
'Karelia'
28 Clavering Walk
Cooden
BEXHILL-ON-SEA
East Sussex, TN39 TN.

1988 membership subscriptions

The 1988 membership subscription of £10 is due on 1 January, 1988. A form is supplied with this issue, which provides for both a Standing Order and a Deed of Covenant. The Committee hopes that all members will make use of this form and thus help the Society to minimise work and maximise income.

Overseas membership

We are grateful to those overseas members who have paid their initial subscription denominated in sterling, or allowed for losses the Society incurs when changing foreign currency. Our experience with dollar cheques in particular involves not only high costs – we lose on average one-third of the nominal value of each subscription – but also a great deal of lost time in getting cheques cleared. The residue

fails to cover our journal's direct production and mailing costs; *we are therefore asking for payment denominated in pounds sterling.*

Recruitment of new members

Any organisation such as ours needs constantly to acquire new members. Please do what you can to help in this connection to ensure that the Society continues to flourish. The more members we have the more events, etc can be arranged. The Membership Secretary will be pleased to supply application forms on request and reports that there were 513 members on 2 September 1987.

Additional copies of 'Proceedings'

There appears to be a demand for additional copies of *Proceedings*. Such copies may be obtained from the Membership Secretary at a cost of £3 each. This sum will be refunded if a new subscription to the Society eventuates.

Manchester Airport Archive

A Manchester Airport Archive is being established to draw together relevant material to provide a source of information for historical, academic and economic study, as well as a resource for the airport staff.

Mr Brian R Robinson, the Airport Archivist, has written to ask for material (such as records, documents and photographs) to be donated, or loaned so that copies may be taken. Members may contact Mr Robinson at Manchester Airport, Manchester, M22 5PA.

Future programme

26 October, 1987. The Society's first all-day seminar will be held at the Royal United Services Institute, Whitehall, on '*Suez – the Air Aspect*'. Details are given elsewhere in this issue, and a booking form is also supplied. If you intend to be present at the seminar please send in the booking form without delay. Advance booking is essential.

14 March, 1988. The second Annual General Meeting, followed by a talk by Cecil James on '*The impact on the RAF of the Sandys Defence Policy*'. The time and place will be announced in the next issue.

20 June, 1988. '*Policy, Command and Direction of the Luftwaffe in*

World War II, by Dr. Horst Boog, Chief Air Historian, West German Military History Research Office, Freiberg.

Further ahead. The Committee hopes to arrange a meeting to consider the Berlin Airlift, and would like to hear from any member who can contribute material on this theme, or who took part in the operation or who can suggest other persons whom the Committee might approach. Please write in the first instance to the Secretary.

Guests at Meetings

It has been decided that members may bring guests to meetings provided that an entrance fee of £5 per guest is paid on each occasion.

Donation

Denis Richards has generously donated six copies of his recent book *Portal of Hungerford* to the Society; needless to say, all six copies were sold immediately! Thank you, Denis.

Next issue

The next issue of *Proceedings* will be in mid-January 1988.

SUEZ – AIR ASPECTS

A Seminar to be held at the Royal United Services Institute on Monday, 26 October 1987

This is the first of the major seminars to be held by the Society and promises to provide authoritative speakers and thought-provoking discussion. **IT IS IMPORTANT THAT THOSE INTENDING TO BE PRESENT AT THE SEMINAR SHOULD COMPLETE THE BOOKING FORM ENCLOSED WITH THIS JOURNAL WITHOUT DELAY.** Booking is a pre-requisite to ensure that adequate seating and refreshments are provided.

At the time of writing some arrangements remain to be finalised but the programme currently envisaged is as follows:-

- 1000-1030 Registration and Coffee
- 1030-1035 Welcome
Air Marshal Sir Frederick Sowrey, Chairman,
RAFHS
- 1035-1055 Introduction by the Chairman
Mr Keith Kyle, Royal Institute of International
Affairs (Chatham House).
- 1055-1115 The View from Whitehall
Air Chief Marshal Sir David Lee, then Secretary,
Chiefs of Staff Committee.
- 1115-1130 The Scene at the Air Ministry
Sir Frank Cooper, then Head of Air Staff Secretariat
- 1130-1200 The Planners' Perspective
Air Chief Marshal Sir Dennis Smallwood, then
Group Captain (Plans) Air Task Force, and others.
- 1200-1245 Discussion.
LUNCH

- 1400-1120 Command of the Operation
Air Chief Marshal Sir Thomas Prickett, then Chief of Staff, Task Force.
- 1420-1440 A Squadron Commander's View Point
Air Vice-Marshal Paul Mallorie, then OC, 139 Squadron, Task Force.
- 1440-1540 Discussion and individual contributions by participants, including Royal Navy and French representatives.
TEA
- 1600-1645 Appraisal of the Air Campaign
- 1645-1700 Sir David Lee and others. Chairman's concluding remarks.

It is hoped that, in addition to the persons mentioned in the programme above, the following additional personalities will be present at the Seminar:-

Sir Ewen Broadbent (PS to S of S)

Air Marshal Sir Geoffrey Tuttle (DCAS)

Sir Ronald Melville (AUS[Air Staff])

Air Chief Marshal Sir Denis Barnett (Cdr Task Force)

Air Chief Marshal Sir Harry Broadhurst (AOC-in-C Bomber Command)

Air Vice-Marshal Sidney Bufton (SASO Bomber Command)

Air Chief Marshal Sir Frederick Rosier (GC Plans Fighter Command)

Air Chief Marshal Sir Kenneth Cross (AOC 3 Group)

Air Chief Marshal Sir Lewis Hodges (HQ Bomber Command)

John Terraine Lecture — 16 March, 1987.

Introducing John Terraine, the Chairman said that he was ‘... an historian who is perhaps best known for his work on World War I and he needs little introduction to us. His volumes on that war stand four-square on their style and accuracy, and also on their judgement. His linking through to the last war, which I think appears between the lines of *The Right of the Line*, gives him a perspective on the use of air power which is invaluable to us.

John Terraine could also perhaps be credited as the fertile soil on which this Society grew, because it was after his lecture at the RUSI that a straw poll was held to see whether there was likely to be support for a Society such as ours, when we knew that there was incipient response but nothing had been put practically to the test. He speaks to us tonight, not only as an historian, but as a patron and a member.’

WORLD WAR II — THE BALANCE SHEET

by John Terraine

I must say first of all that I am very sensible of the honour that the Society has done me by inviting me to address you tonight at what is only the second meeting. I am also sensible in a wryer sense, for myself, of my difficulty in following a speaker like Professor Jones who got our inaugural meeting off to such a magnificent start.

I think I should first of all make it clear what this ‘balance sheet’ is that I shall be speaking about tonight. As you may guess, it is strictly a World War II RAF balance sheet. I do not venture beyond 1945; I do not put myself forward as a crystal-ball-gazer of any kind; and the ‘balance’ in question is a balance between intention and performance, which I do not propose to measure by ledger accountancy, but simply to describe and leave the accountancy to you.

In any such computation it must, of course, be a heavy weighting factor that we – the British Empire and the Royal Air Force – emerged from World War II on the winning, and not the losing, side. It is a significant consideration. Also, I think I should add one qualifying rider to what I have just said, which may best be expressed by an illustration. A few weeks ago I opened a seminar at

the Royal United Services Institute with an historical résumé on the subject of Land/Air warfare. Each speaker was to talk for 35 minutes, and I was somewhat disturbed to find that rather more than 20 minutes' worth of my talk was taken up with World War I. Disturbed, that is to say, until I totted up (for my own benefit as well as that of the audience) the list of subjects that I had been discussing; it was this:-

- long-range reconnaissance
- short-range reconnaissance
- photographic reconnaissance
- aerial survey
- artillery co-operation
- interdiction
- the tactical use of air power.

If you add to those, naval co-operation (with particular emphasis on antisubmarine warfare), the beginnings of air supply, and appreciable development of strategic air offensives, you will see that there is not much left; World War I virtually ran the air power gamut. Sadly, however, as it turned out, the RAF never quite took the measure of its own antecedents.

Institutionally, as we all know, the RAF was born on 1 April 1918 but as an instrument of military aviation I would suggest that a better date would be 13 August 1914, when the first three squadrons of the infant Royal Flying Corps flew into the theatre of war; one of history's significant first occasions if ever there was one. When their back-up organisation, known as the Aircraft Park, also arrived, the RFC was a going concern, and since the Western Front was the decisive location of the First World War, it could not have been more effectively placed.

Equipment, of course, was always the limiting factor – there were very strict limits to what the aircraft of the day could do; but one role the RFC seized upon unhesitatingly – long-range reconnaissance. Throughout the Mons campaign in 1914 and the retreat to the Marne, the RFC established itself as the 'eye in the sky' to such an extent that British GHQ, which had originally been more than somewhat patronising, abruptly swung over to 'almost embarrassing deference'

– a condition which, of course, carries with it certain dangers of its own.

When the war settled down into trenches and became (as it very soon did) an artillery war, short-range reconnaissance in collaboration with the guns became the prime duty of the airmen, and remained so for the rest of the war. An early refinement of this function was photographic reconnaissance which made possible an accurate charting of the enemy's lines, defences, supply dumps and communications. A further refinement of this, whose 'finest hour' for the RFC came in 1917, was a meticulous aerial survey of the whole British front, which the Royal Engineers translated into the first really reliable map. This became the basis of the 'artillery boards' supplied to all the batteries. Thanks to this, and the introduction of the technique of calibration, the artillery was now able to open fire without previous registration at exact targets (instead of what I have called 'blazing away at a landscape'), thus restoring surprise and bringing precision into battle practice. These two factors, plus protection supplied by smoke, unlocked the trench-bound battlefields and restored the war of movement in 1918. That was a direct fruit of Land/Air co-operation – in fact its most valuable fruit – and it is one of history's extraordinary circumstances that it took until 1942 for the penny to drop in the next war.

But that was not all. There was interdiction, or rather, attempts at interdiction. The first (by the RFC) was the attempt to do severe damage to the railways behind the German front during the Battle of Loos in September 1915. With the aircraft and bombs of the day this could only be a pathetic failure – which it was. A later attempt, on 8 August 1918 (the opening of the highly successful Battle of Amiens, 'the black day of the German Army'), was intended to destroy the Somme bridges to prevent reinforcements from reaching the German front. It proved to be a 'black day' for the RAF also; 45 aircraft were shot down and 52 more were so badly damaged that they had to be written off. The bridges stood. It was, nevertheless, a day worth mentioning in the history of air power because on it the RAF deployed some 800 machines, and the French on their right over 1,100 – an amazing total of 1,900 aircraft bearing the clear sign that this was what great battles of the future were going to be like.

I mention air supply in my list of contributions. The scale, I need

hardly say, was trivial by the standards of the later war, but everything has to have a beginning. For the RAF this was on 4 July 1918 when aircraft dropped 100,000 rounds of small arms ammunition to Australian machine-gunners on the battlefield of le Hamel. During the advance in Flanders in October, when rain turned the old Ypres battlefields into swamps which threatened to cut off supplies to the forward troops, the RAF joined in a drop of 15,000 rations – a ludicrously small amount by comparison with, say, RAF supplies to the Fourteenth Army during the monsoon advance in Burma in 1944, but as I say, there has to be a beginning.

The same was true of close tactical support. This was always difficult, and very dangerous, to practise against forces well entrenched. During the great German advance in March 1918 the landscape suddenly filled with troops and vehicles out in the open. The British and French fliers needed no urging to ‘have a go’ and they certainly produced effects, but these were local and, in relation to the scale of the battle, insignificant. However, there was a very clear hint of what the future might hold in General Allenby’s final advance in Palestine in September. His small air contingent flung itself upon the Turks and turned their retreat into a rout, with scenes of destruction which seem to be previews of the Falaise Gap in 1944. All in all, the air performance in World War I was impressive and one might have supposed that it would leave imperishable memories and a clear example for both Army and Air Force. Alas, it did not! As Sir Maurice Dean wrote:- ‘Between 1918 and 1939 the RAF forgot how to support the Army.’ Since it turned out that the RAF had also forgotten how to support the Navy it may be said that this was a costly lapse of memory. It certainly prompts the question – What *did* the RAF think it was *for* in the 1930s? That question is, of course, no sooner asked than answered.

Members of this Society are unlikely to forget that the RAF, as a separate Service, was in fact born of a strategic air offensive, launched by the German Air Force with Gotha and R.VI ‘Giant’ aeroplanes in May 1917. The attack on British cities by these aircraft was not, by our standards, very destructive of life or property but the effect on the *morale* of people and Government was enormous. As the Chief of the Imperial General Staff remarked after a Cabinet meeting following one of the raids, ‘One would have thought the

world was coming to an end.’ So, the Smuts Committee was set up, and out of its findings the RAF was born.

Already the German performance was being challenged by a British counter-offensive and in June, 1918 the Independent Force came into existence under Major-General Sir Hugh Trenchard – and that was a date in history, too. In the time given, Trenchard’s Independent Force actually caused even fewer casualties and less damage than the Germans had done, but once again the morale effect was considerable and Trenchard himself pronounced that:- ‘the moral effect of bombing stands to the material effect in a proportion of 20 to 1.’ This belief became the foundation-stone of RAF strategic thinking thereafter.

In the inter-war years the pursuit of a strategic air offensive as a substitute for the existing modes of waging war, the deep faith in war by bombing, and the equal faith that, in Mr Baldwin’s famous phrase, ‘the bomber will always get through’, took on the attributes of religious dogma. It may, indeed, be said that bombing was what the RAF was all about. *Some* Imperial policing had to be done, *some* concession had to be made to civilian fears, *some* fighter squadrons had to appear on the strength, but bombing was what the RAF understood by real air warfare, and bombing was what it chiefly intended to perform.

In the 1920s and ‘30s the constant refrain of both the champions and the enemies of air power was the prospect of what was called ‘*the knockout blow*’. It was the hope of delivering a quick crushing blow at the enemy’s heartland, instead of engaging his armed forces, that enthused the air power prophets. This, they said, would be the new style of warfare, the revolutionary language of the future. As such it was very welcome because the still fresh memory of 1914-1918, and particularly the costly battering-ram procedures of the Western Front, was viewed with intense revulsion by many people. So, the ‘anti World War I’ school lined up on the side of air power, with its promise of a short, sharp conflict in which, with luck, bricks and mortar would be the chief sufferers.

Politicians echoed the national mood as they usually do. The Treasury, always trying to cut military expenditure by every available means, approved of the Air Force as an economical alternative to a conscript army and a big battle fleet. Supporters of

disarmament and collective security through the League of Nations were quick to seize on the 'knockout blow' as a powerful argument on their side. Add to this the science-fiction output in literature and the cinema and one can see that a considerable degree of hysteria attached itself to the subject, and with it a degree of unreality. What I find hard to accept is the virtually complete failure to take note of the actual air warfare that was taking place at the time.

In 1932 the Japanese bombed Shanghai, and people paying their weekly visit to the cinema were able to see the bombs fall and the smoke go up, and a very shocking sight it was. Exact information about what was happening was, of course, just about impossible to come by – I mean figures showing how many aircraft were used, how many tons of bombs were dropped, how much damage, how many casualties, how many killed, etc. Very difficult to establish, but I wonder how hard anyone really tried. One fact about the Japanese war in China does stand out, however, and steadily made itself clearer at the time; that whatever might be happening in it, *what was not happening was a 'knockout blow'*. In the ten years that separated the Shanghai bombing from Pearl Harbour the cities of China experienced a pretty fair amount of air bombardment, but *China was still in the war*. It seems to have been a point worth noting but there is no evidence that anyone did.

There was another example too, if anything even more striking. The Spanish Civil War broke out in 1936 and for three years Madrid was a beleaguered city, under some degree of air attack for most of that time, with large international Press coverage and some very striking newsreels to illustrate the event. Barcelona was also heavily attacked, the bombing there in March 1938 causing a casualty total about the same as Britain's in the whole of the First World War. Civilian air raid deaths in the entire Spanish war would seem to have been about 14,000 in the Republican area and about another 1,000 in the Nationalist zone. That amounts to roughly 3% of the full total of people killed in the war. Once more, *there was no 'knockout blow'*.

What there was, however, was a very considerable air contribution to the land battles by each side. The Nationalists in particular compensated for a serious shortage of artillery by using German bombers, most spectacularly the Junkers 87 dive-bombers, which thus obtained a new lease of life on the threshold of

obsolescence and would be heard of again. It was in August 1938 that 'command of the air passed decisively to the Nationalists', after which the issue of the war was never in doubt. Yet the Chief of the Air Staff, Sir Cyril Newall, pronounced that this aspect of the war was a 'gross misuse of air force', and there is nothing to show that he had changed his mind by September 1939 or even May 1940. So we see that the RAF between the wars was dedicated to long-range bombing as its chief expression of air power and it is, therefore, the more curious, I think you will agree, that it was not until the Spring of 1938 that it began to make actual plans for carrying this out.

Now, when we talk of the RAF we are talking of a technical service which is not to be understood in any other sense; divorced from its aircraft the RAF, unlike the Luftwaffe of that period, ceases to exist. So it is important to remind ourselves of what comprised Bomber Command in 1938:-

17 squadrons of Fairey Battles

16 squadrons of Bristol Blenheims

5 squadrons of Handley Page Harrows

2 squadrons of Vickers Wellesleys

9 squadrons of Armstrong Whitworth Whitleys.

The Battles, Harrows and Wellesleys were recognised as obsolete and were on their way out; the Blenheims never pretended to be anything but short-range aircraft and, as I said in *The Right of the Line*, 'nine squadrons of Whitleys did not make a strategic bombing force'. Yet it was precisely at this time that the Air Staff and Bomber Command were insisting that by concentrating on 19 power plants and 26 coking plants in the Ruhr, flying 3,000 sorties at a cost of 176 aircraft, the RAF could bring German war-making capability to a standstill. The bomber mandarins seem to have existed in a 'Never-Never Land' unrelated to geographical, mechanical or numerical reality: knocking out the German war industry in a fortnight with 144 Whitleys takes some beating!

Fortunately a sharp wind of realism was about to blow. Air Chf Mshl Sir Edgar Ludlow-Hewitt became AOCinC, Bomber Command in September 1937. He had a penetrating mind and a sharp eye, and was forthright in expressing his views. It was his belief that war planning without operational efficiency is merely hypothetical, and on taking up his post he set about investigating every aspect of

Bomber Command's readiness for war. He presented two reports, which make astonishing reading after all the talk of independent air power and 'knockout blows'; they display the RAF's centrepiece, its favourite child, with merciless clarity on the very *eve* of war. It amounted to this; in Ludlow-Hewitt's opinion his Command was 'entirely unprepared for war, unable to operate except in fair weather, and extremely vulnerable both in the air and on the ground.' Well might the official historians say, on this authority, that '.... when war came in 1939, Bomber Command was not trained or equipped either to penetrate into enemy territory by day or to find its target areas, let alone its targets, by night ... This seems a strange result after twenty years of devoted work.' It does indeed. It meant, as Webster and Frankland say, that the RAF's most treasured instrument was 'incapable of carrying out the operations on which the Air Ministry had based its strategy for the last four years.' Indeed, with war immediately imminent, there was a very real difficulty in finding anything effective at all for Bomber Command to do – an extraordinary state of affairs.

And this was not all. Fighter Command, under Air Chf Mshl Sir Hugh Dowding, was a thing apart, inasmuch as it contained the two most effective weapons in the RAF's armoury, the Hawker Hurricane and the Supermarine Spitfire. Both were combat aircraft and both were unquestionably capable of performing the tasks for which they were intended, which was something you could not say for most others. Dowding's problem was very simple, to get and keep enough of them, and this brought him up against an unpalatable truth; that despite a practically nationwide aversion we were, once again, going to be engaged in a coalition war on the European continent. Once again there would be a BEF as in 1914, but unlike the 1914 article this one would require immediate large-scale air support, and this air support would have to have a fighter component. Dowding had no doubts about what that would consist of; the only RAF aircraft that could deal with modern German fighters (already seen in action in Spain) were his precious Hurricanes and Spitfires. The Spitfires he was determined not to let out of his grasp, so it would be Hurricanes, at first just four squadrons of them. But the demand from all quarters kept growing and Dowding grimly remarked 'the despatch of 4 Field Force squadrons has opened a tap

through which will run the total Hurricane output.’ His unflagging fight was to keep a hand on that tap – if it was possible.

When war came some fundamental matters were soon decided. First, there was the immediate abandonment of the anticipated strategic air offensive against Germany – a traumatic *volte-face*. Coupled with that was the discovery that daylight operations against the German mainland were out of the question, and whatever was to be done – leaflet dropping or bombing – would have to be done at night. In other words, Bomber Command would have to become a night force, which was something for which it had never been intended, equipped or trained. This was traumatic, too. Also, it was realised with much dismay that, even in attacking the more accessible targets just across the North Sea, bombers were *not* able to defend themselves against modern fighters, even in tight formation. Another trauma. And when the real fighting in the West began the lessons flowed in thick and fast, with the Battle of France in May and June, 1940 supplying the real tutorial.

It is difficult, in my opinion, to exaggerate the historical importance of the Battle of France. It was what Ronald Lewin would call the ‘pay-off’, of a whole complex of errors – political, ideological, technological and strategic – which possessed the Western world between the wars. The German triumph in France in 1940 has been attributed to various factors with more or less truth. For myself, I have no hesitation in saying that the decisive element was what I call ‘the saturation of a battle area by air power’ – and at the root of that achievement was the fighter. In France in 1940 the fighter was the sanction of all that occurred or did not occur. The Allies discovered that their weapons and their system of war were irrelevant to the 1,200 Messerschmitt 109s and 110s which saturated the battle area and made possible the operations of about 1,700 assorted bombers and ten Panzer divisions. The only weapon on the Allied side that proved to be able steadily to cope with the stresses of the battle was the RAF’s Hurricane. The Hurricane pilots never had the sense of being outclassed – but they were only too well aware of being outnumbered.

The grim outcome was, as I said in my book, that the RAF now found itself in the position of ‘looking over both shoulders at once, which is an awkward posture for a man and tends to blur his vision’.

The Air Staff and Bomber Command were still looking at Germany; Dowding was looking at Britain, which it was his duty to defend. But the decisive battle was happening in France and the hard truth is that the RAF was virtually irrelevant to it. If we are looking for a lesson it is clear enough, don't be irrelevant. The humiliating disaster of the Battle of France is one of history's great punctuation marks. It totally altered the terms of reference of the Second World War. It marked the end of an epoch – of dreams, unreality, theories and follies. It could all too easily have marked the end of Britain and the British Empire: but after June, 1940 the realities came thundering in.

After France, Britain: that was the obvious logic – but history is rarely so simple. The question in July, 1940 was whether the *Luftwaffe* could now take command of the sky over the narrow waters of the Channel as it had done in France, thus neutralising British sea power and making invasion possible. Its commander, Hermann Goering, thought it could, and Hitler allowed himself to be persuaded. What followed was the Battle of Britain, the first decisive air battle in history – decisive in all senses of the word. It was also one of history's ironies. The battle was fought and won by Fighter Command, yet the separate RAF really existed for the opposite purpose – offensive bombing. The RAF was not really about fighters at all.

In the Battle of Britain, as usual in air matters, we see technology again at the centre of the event. There were, first, the two admirable fighters, the Spitfire and the Hurricane, and there was the system of using them – a system itself based on the new technology of radar which had provided the guideline for Fighter Command since its very beginning. The Dowding battle system was one of tight control and deployment founded on the intelligence coming from the radar chain and other sources, received in Fighter Command's famous Operations Room at Stanmore, filtered and transmitted outwards to the Operations Rooms of the Groups and Sectors, and finally passed to the squadrons in the form of precise instructions about location and altitude and what to expect, through one of the most comprehensive communications networks so far seen. Control was definitely tight, all the way down. I said in *The Right of the Line*, there was no place in it for 'free-range' activity or mavericks'. I was referring, of course, to AVM Sir Trafford Leigh-Mallory, AOC 12

Group, and that distinguished flyer Sqn Ldr Douglas Bader, and the ‘big wing’ dispute which blemishes the ultimate achievement. It is my view that there was never very much reality in the ‘big wing’ theory. The whole thing was really a matter of personality – the ambitious personality of Leigh-Mallory and the eager, combative personality of Douglas Bader. The blemish lies in the apparent inability of RAF command procedure to deal with a situation which ought never to have developed at all.

The RAF’s achievement in the battle (and we should remember that both Bomber Command and Coastal Command did also play a part in it) was *victory, clear and unmistakable*: the clear defeat of the *Luftwaffe*, Germany’s first defeat in the war. And from that victory Air Chf Mshl Sir Hugh Dowding emerges as the only air commander with an unquestionable ‘battle honour’ of his own.

So, the invasion of Britain was ruled out, but by any rational military judgement Britain’s overall position was hopeless. Fortunately, rational military judgement did not decide the issue, Hitler took the astonishing, and really lunatic, course of attacking the Soviet Union with an undefeated enemy at his back. So Britain was saved after all, but her survival was nevertheless precarious. For those at the centre of affairs another threat visibly developed in 1940 which somewhat dulled the lustre of the victory in the skies.

I am, of course, referring to the U-boat campaign against Britain’s whole supply system, which took on a new dimension when the Germans occupied the European littoral from the North Cape to the Spanish frontier. We had faced a U-boat peril before, above all the ‘unrestricted U-boat warfare’ which began officially in February, 1917 and remained a serious threat until the second quarter of 1918. It was in 1917 that the Secretary of State for War told the Commander-in-Chief of the British Expeditionary Force, ‘... we have lost command of the sea.’ His words would be ominously echoed in 1942. In the event, solutions were found in 1917-1918. The U-boats were defeated but they had provided the most serious naval threat since the Spanish Armada, and probably the worst scare that the Admiralty had ever had. Amazingly, in 1937 we nevertheless find the Naval Staff asserting that ‘the submarine should never again be able to present us with the problem we were faced with in 1917’. ‘Never again’ – fatal words; call-sign of too many disastrous notions

between the wars!

The new battle against the U-boats effectively began in the summer of 1940 and for the next three years, as Churchill says, that ‘one anxiety reigned supreme’. From the western point of view the Battle of the Atlantic, fought from 1940-1943, was *the decisive battle of the war* – in two ways. It was, first of all, a decisive defensive battle on which Britain’s survival depended as surely as it did on defeating the *Luftwaffe* in the sky in 1940. This defensive phase lasted from mid-1940 until the first days of 1942. The battle ceased to be defensive when the decisions taken at the Arcadia (Anglo-American) Conference in Washington in December 1941 and January 1942 became official Allied policy. The most important of them was the American decision to take on ‘Germany first’; it was fundamental, and shaped the rest of the war. The natural corollary of ‘Germany first’ was an Allied landing in north-west Europe, which meant a massive build-up of American land and air forces in Britain (BOLERO) for an assault in 1943 (ROUNDUP). From the moment of that decision the Battle of the Atlantic became also the lynch-pin of Allied *offensive* strategy.

Now, where does the RAF come in? It comes, of course, in the form of Coastal Command under a succession of able AOCinCs: Sir Frederick Bowhill, Sir Philip Joubert and Sir John Slessor. Coastal was the Cinderella of the Commands in 1939, the most obvious victim of the ‘locust years’ of pre-war neglect. Nothing illustrates its ‘Cinderella quality’ better than its armament: the core of its strength in 1939 was ten squadrons of Avro Ansons, scarcely military aircraft at all, lacking speed, lacking range and virtually unarmed. The Command as a whole had practically no combat capacity and in fact reconnaissance was just about all it was expected to do. It took a long time – until 1942 in fact – to change this deplorable state of affairs and get back to the highly effective methods of co-operation between naval and air anti-submarine forces which had become regular, standard drills in 1918. The Navy had forgotten the hard-bought lesson that what it liked to call ‘offensive tactics’ (large-scale U-boat hunts) were a sheer waste of time. The one sure place to find U-boats was near convoys and in World War II, convoy escort, derided as ‘defensive action’, was in fact the opposite. Convoy escort was where you made your kills. And for convoy escort, 1918 also taught

that the right kind of aircraft was essential.

'The right kind': Well into 1943, Coastal Command's great struggle was for the necessary equipment of all kinds: for more and better aircraft, especially VLR (in particular the Very Long Range B-24 Liberators); for weapons – illuminants and depth charges with the right fuses and fillings; for ASV (air-to-surface-vessel) radar, in fierce competition with Bomber Command. And all the time there was intense tactical study, the ceaseless perfection of techniques; methods of attack, speeds, heights and angles of approach, fuse settings, depth-charge spacings, communications with naval vessels and ships in convoys, etc.

At last the day came (in July 1942) when air action, which in the first half of the year accounted for just over *30% of a very small number* of U-boat kills, in the second half accounted for *53% of a substantial number*. That was the turning point. The moment of decision was May 1943, during which no fewer than 41 U-boats were sunk. Aircraft claimed 56% of these kills, and of the aircraft total Coastal Command claimed 69.5%. Among the various forces engaged, *it had become a major U-boat killer*. And it remained an outstanding scourge of the U-boats for the rest of the war. D-Day in 1944 put the crown on Coastal Command's efforts, as it did on the Atlantic battle as a whole: 30 Coastal Command squadrons covered the south-western approaches to the D-Day convoy routes, quartering every square mile of sea every 30 minutes by day and night, with the result that the U-boats proved totally ineffective against the great combined operation.

The D-Day landings and the Battle of Normandy were the supreme offensive action of the Western Allies in the war, contributing incalculably to the defeat of Germany. The victory in the West could not have taken place without the victory in the Atlantic, which thus rates as an *offensive* victory of maximum importance. It is fair to say that Coastal Command had restored the lost art of naval co-operation with a vengeance!

So Britain, at the end of 1940, had won one fight for survival and was firmly locked in another. But what was she doing – what *could* she do at that stage – about actually defeating Germany? It is clear that the Royal Navy with all its merits cannot be the direct element in winning victory over a major land power based in central Europe.

The Army, after Dunkirk, took a long time to rebuild its strength, and from June 1940 until the end of 1942 (with the exception of the brief, disastrous campaign in Greece) it saw little of its main enemy. Its chief opponent, the *Afrika Korps*, never numbered more than four weak divisions out of a German battle order of 471 divisions in the spring of 1942. That left the RAF Bomber Command could at least have a go at what it was always intended for: the attack on communications, military installations and war industry in the enemy's homeland, and at the same time a blow at the *morale* of his population. And so, with a force which, until 1943, was almost entirely composed of Wellingtons, Hampdens and the ancient Whitleys (and which very rarely in 1941 numbered more than 200 operational aircraft) Bomber Command set out to do just that, because there was absolutely nothing else that Britain could do to damage Germany. Bomber Command thus shared the hard experience of the BEF in 1915 and 1916, lacking weapons, lacking necessary equipment of all kinds, lacking experience and training for the new style of war, but forced by *inexorable circumstance* to engage a powerful and determined enemy.

We should always remember that the strategic air offensive, as it developed between 1940-1945, was born of *defeat*. Without utter defeat in France, if the front in the West had continued to exist, I do not see how there could have been a strategic air offensive; the RAF would have been far too busy supporting armies which would have had their work cut out to survive. However, there *was* such an offensive, and a vast enterprise it ultimately became. I must freely admit that my admiration for the aircrews of Bomber Command, British, Dominion and Allied, is so deep as to be virtually inexpressible: theirs was 'the right of the line' indeed and a damned uncomfortable place it can be, as they found out. The strategic offensive is always associated – understandably – with Bomber Command's most famous AOCinC, Sir Arthur Harris. It was *not* his brain-child, nor was it ever his sole responsibility; it was not even the sole responsibility of the Air Staff. It was the responsibility of the Chiefs of Staff (and later the Combined Chiefs of Staff) and of the British and American Governments with, let it be said, the warm approval of the overwhelming majority of their peoples. The form of it, which aroused considerable dismay later, was above all dictated

by the distressing discovery in 1941 that the only target that Bomber Command could be trusted to hit by night was *a large German town*. At that stage of technology, in other words, its only reliable technique was *area bombing*, a name that would gather evil associations.

Area bombing had the attraction that it offered a fair chance of hitting some sort of military or industrial target, and at the same time of striking at that German *morale* which Bomber Command, inspired by Lord Trenchard, believed to be the weak spot in Germany's armour. There is no point in being mealy-mouthed about the attack on morale; in my book I said this:- "Morale" is a cosmetic word. Attacking morale, whatever phrases it may be dressed up in, really means only one thing: putting the fear of death into individuals. On a collective scale it means threatening a massacre.' The scale of the proposed massacre is somewhat breathtaking. In November, 1942 the Chief of the Air Staff, Air Chf Mshl Sir Charles Portal, stated that, given enough aircraft, it would be possible in 1943 and 1944 to drop one and a quarter million tons of bombs on Germany. He outlined the material damage that could be expected from this and added:- 'Twenty-five million Germans would be rendered homeless, 900,000 would be killed, and one million seriously injured.' 'One thing', I said, 'emerges with absolute clarity: this was a prescription for massacre, nothing more or less.'

Hindsight, of course, can be a trap; we have to remember that this was November 1942, near the close of a very bad year littered with disasters; none of the hopeful things that came in 1943 had yet appeared. The war was still dominated by German strength, and as Dr Noble Frankland insisted, 'The great immorality open to us ... was to lose the war against Hitler's Germany. To have abandoned the only means of direct attack which we had at our disposal would have been a long step in that direction'. One thing, I believe, is as certain as anything in human history can be: that *some* form of bombing offensive by the RAF was inevitable between 1940 and 1944 and was also *essential* if Britain's continued participation in the war was to have credibility in the eyes of the British people, in the eyes of the Germans and in the eyes of Britain's allies. It is also my belief, however, that *morale*, so far from being Germany's weak spot, was just about the worst target to attack *explicitly*.

Once more, a bad misreading of World War I was having a serious delayed effect. The British at all levels, in their horrified recoil from the heavy losses between 1914 and 1918, had come to believe that these were due mainly to the idiocy of their generals. They were nothing of the kind; *our losses were caused by the German army*, whose main body the BEF had engaged for three hard years. It was an army which, for most of that time, displayed very high quality indeed, and most of which maintained its morale to the end under fearful pressures. And it was a conscript army, which means that it reflected the character of the people from whom it sprang. The same was true of its successor between 1940 and 1945; the morale of German civilians, like the morale of the German army, remained steadfast to a point beyond all expectation.

There is, I fear, one more aspect of the bombing offensive which grates on me. Both the Air Staff and successive AOCinCs of Bomber Command – but none more loudly than Sir Arthur Harris – complained constantly of what they called ‘diversions’ of the Command to what they seem truly to have believed were fringe activities. Harris, at the end of 1942, suggested to Churchill in all seriousness that all British bombers should be brought back from the Middle East, and that every possible bomber should be obtained from America (irrespective of American needs). He even proposed that Stalin should be urged to send the Soviet bomber force across to operate from Britain. And worst of all, because it was marginally more practicable, he demanded that all suitable aircraft should be transferred from Coastal Command, which he chose to call ‘merely an obstacle to victory’ – and this, you will note, at precisely the moment when Coastal Command was at last becoming an effective U-boat killer. I made a list of the chief ‘diversions’ that the bomber prophets so strongly objected to, giving reasons for each one of them – and I concluded that you could sum them up succinctly and accurately as ‘the war itself’. Indeed, I felt compelled to remark, ‘... it is at times difficult, taking into account the ineffectiveness of Bomber Command’s ‘proper’ activity, and its strong resistance to all ‘improper’ activity, to decide whether it is more correct to say that Bomber Command was irrelevant to the war, or the war was irrelevant to Bomber Command.’ I have already drawn attention to the undesirability of being irrelevant.

I now come to a very different but highly effective style of warfare which its most distinguished practitioner called 'air warfare in its own right'. He was Sir Arthur Tedder, who emerges to me as the outstanding airman of the war, with the largest view of its conduct. This is not surprising; Tedder's Middle East Command was quite unlike the functional metropolitan Commands – *it was itself an air force*. It contained something of everything because it had a use for everything, so naturally Tedder's view was different and generally larger than that of the Home AOCinCs. He expressed it very clearly in a letter to Admiral Cunningham, commanding the Mediterranean Fleet, in the course of a lively dispute in June 1941. Tedder said:- 'In my opinion, sea, land and air operations in the Middle East Theatre are now so closely inter-related that effective co-ordination will only be possible if the campaign is considered and controlled *as a combined operation* in the full sense of that term'. This was a view from which Tedder did not depart. In 1944 he is on record as saying:- 'I do not myself believe that any modern war can be won either at sea or on the land alone or in the air alone ... war has changed to three-dimensional, and very few people realise that.'

This perception drew Tedder towards another of the greatest importance, which crystallised in the dark days of the Middle East in 1942. I have summed it up like this:- '... the war was driving home the lesson that when critical land operations are in progress, army co-operation is not simply a specialised activity of part of an air force. It is the function of *the entire force with all its available strength*. Operation OVERLORD illustrates this perfectly. I have mentioned Coastal Command's part in it; Bomber Command (in conjunction with the United States Strategic Air Force) took on a number of vital roles, including the isolation of the whole Normandy battle area by interdiction; and the Tactical Air Forces 'saturated the battlefield with air power' as the Germans themselves had done in 1940.

These two perceptions – that the war was a combined operation, and that the combination might well require the entire available strength – seem to me to be of the highest quality. Tedder added another. From December 1941 onwards the war in the West was a *coalition war* again, subject to all the searching disciplines of such. Britain in World War II, threw up three great coalition commanders; Lord Alexander in Italy, Lord Mountbatten in South-East Asia and

Tedder, who became General Eisenhower's Deputy Supreme Allied Commander in 1944, having already shown himself a true coalition leader in the Mediterranean theatre.

I have mentioned tactical air forces, a name first heard in January, 1943. It was under Tedder and Air Mshl Sir Arthur Coningham that the long-neglected art of Army Co-operation was revived in the desert and, with the addition of some valuable work by Army Co-operation Command in England, evolved into a fairly exact science as practised by the tactical forces.

We dwell too much, I think, on D-Day and the Normandy beaches. We should think more about what made D-Day possible, and it is difficult to call to mind anything more important for that than the nine-week campaign conducted by the Allied air forces – at a cost of 12,000 casualties – before the sailors and soldiers ever approached the Normandy coast. Once the battle ashore was launched there were very few days indeed, in a very bad summer, when the tactical air forces did not fly in support of the armies. When the Germans made their last counter-attack – at Mortain in August, 1944 – the tactical forces, in Coningham's proud words, 'made air history'. The counter-attack was smashed and it was, he said, 'proved that a tactical air force may be a decisive battle winning factor.'

What the RAF achieved in Normandy was an outstanding triumph of air power within a combined operation. I said in my conclusion:- '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.' So we see how, *per ardua*, the RAF returned to its original purposes; how it lent wings to the victories of the Navy and the Army, and in so doing, I firmly contend, placed itself at 'the right of the line'.

QUESTION TIME

Question 1

Anon: Sir, you mentioned a little earlier on that in 1938 the Air Ministry had planned a strategic air force with comparatively few Whitleys, in 4 Group, but I think it would have been fairer to mention that in 1938 the manufacturers were making in increasing numbers of Wellingtons and Hampdens; they weren't aircraft that the Air Ministry liked very much but they'd been told by the manufacturers that if they wanted a lot of bombers they'd have to have the ones on the stocks – those were Wellingtons and Hampdens and the old Whitleys. But furthermore in 1938 the Stirling and the Halifax and the Manchester (as opposed to the Lancaster) had been designed, and approved and their manufacture was planned, and Air Ministry based their strategic air force not on what they had but what they expected to get, and what they did in fact get in very large numbers.

Terraine: Yes, I wouldn't dispute that at all. My only query is that when you base your strategy on a long-term production programme, and I fear that some of them took an astonishingly long time to complete, you just have to hope that you'll still be there able to use the stuff when it begins to roll off.

Question 2

Desmond Goch: I was fascinated, first of all, to listen to your appraisal, and you said that you would present us with the factors and leave us to some extent to weigh up, but I felt that running through your lecture was the strong argument, you may not have expressed it precisely, that the contribution, or the potential contribution, of Coastal Command was sadly neglected and it's a view that I have read in other histories of the war, one which with hindsight is a very strong argument and one has to throw into that balance to cost the economic effects of diverting a large proportion of the country's resources in wartime to the operating of the bomber force. It was of course at the cost of neglecting other areas and Coastal Command which did a marvellous job, but it was only by the skin of our teeth in fact that we survived the U-boat campaign and when one reads histories of that campaign and of Churchill's own

history the argument that I think you were making, perhaps, leaving it to us to make the final judgement was a very interesting and fascinating one. One can't of course re-run campaigns but were one able to do so and conduct it in a rather different way it would be interesting to see whether the war might perhaps have been shortened by concentrating efforts on Coastal Command.

Terraine: Well of course the shortening of a war by extra emphasis on any particular aspect of it is always a highly debatable question. Certainly a certain amount of cutting corners could have taken place with advantage. I became very much aware of that when I was doing the research for *The Right of the Line* – I was going through one of the July issues of *Coastal Command Review* and an officer was writing to say that during a recent leave he'd managed to find, quite by accident on a bookstall, a little pamphlet that had been brought out on precisely what he was doing, that is to say Naval/Air co-operation against U-boats, in 1918. He naturally picked it up and read it with interest and to his horror discovered that it was outlining the techniques which Coastal Command were just re-discovering in 1942 and he told them 'Why didn't we know all this before? Why weren't we told all this? This is where we should have started, not where we should be getting to now after three years of war'. Which is a very material point. It is also quite interesting to notice, if you look at the order of battle of Coastal Command at various stages of the war, it is astonishing the difference that comes over it. One of the things that was always profoundly irritating to Sir Arthur Harris was that it *had* to have some longer-range aircraft and the only longer-range aircraft that were available were bombers, I mean aircraft that were designed as bombers. I suppose one of the sad stories was that the Short Sunderland, which I formed the impression was a magnificent aircraft, which served us extremely well right through the war, was just about the only really effective aircraft that Coastal Command had at the outbreak of the war, and the production line was actually dismantled in order to build Stirlings; the Stirlings were never brilliant and were not a famous aircraft and that Sunderland production line had to be re-created from scratch; that's not very clever.

Christina Goulter: I enjoyed your paper very much and I want to

take up this point of the predominance of the strategic bombing theory in the Air Staff's thinking. I would argue that Coastal Command's contribution to the war effort was a great deal more than the bombing advocates would care to have admitted. I'm working at present in the field of Coastal Command's anti-shipping operations, looking at the strike wings, and it seems to me that the basis of the strike wings' operations was far more sound than the bombing ones in many instances. If you look at the attacks on iron ore shipping, Hitler referred to that particular zone as the zone of destiny and the German iron industry was geared to its production. I was interested to hear you speak about Coastal Command. I think you were perhaps concentrating solely on the anti-submarine aspect and the long-range reconnaissance and I noticed in your excellent book *The Right of the Line* you seemed to imply that the anti-shipping effort was perhaps greatest in the laying of mines and I just wondered since that book whether you'd been working in the field of the actual attacks on shipping.

Terraine: No, I haven't gone further into that but my over-riding impression of the anti-shipping strikes was that they were a very expensive business. It was a very hard bit of war, that, I am somewhat sceptical of the degree of dependence of German industry on sea-borne supplies (except sea-borne supplies directly across the Baltic from Sweden – that I would accept to be an important factor). Sea-borne supplies that Coastal Command could actually get at I'm somewhat dubious about; I'm not saying that they were not of value but I would question just what the extent of the value was. Sir Arthur Harris was quite adamant that mine-laying was a much more productive operation and obviously far less expensive, which is interesting inasmuch as it was taking away one of the bomber types, admittedly one that Bomber Command no longer had much use for, but then, when Coastal Command was using Whitleys as a long-range aircraft over the Atlantic (Whitleys or Wellingtons for that matter) he was constantly moaning about it saying that he wanted them back.

Maurice Harding: You may feel that my question is slightly left of the line in that it concerns naval aviation but as it's a situation for which the RAF was responsible I plead your indulgence. Up until

1936 the RAF controlled naval aviation; it was only after that that it went over to the Fleet Air Arm. Thus we entered the Second World War with a motley collection of converted aircraft carriers and very obsolete aircraft such as the Skua and the Sea Gladiator. As a result of this, in certain areas (Norway for example) we were almost totally prevented from bringing air power to bear in an area in which air power was decisive. To what extent do you think the RAF's legacy to the Fleet Air Arm contributed to some of these early disasters? Do you agree with Sir John Slessor that the Fleet Air Arm was unable to accomplish anything which land air power couldn't do better?

Terraine: Well, I think Sir John Slessor was missing a rather important point. Mainly that the main naval warfare of World War II was not in the European theatre. It was in the Pacific theatre, and if you can imagine that warfare being conducted without a very considerable force of aircraft carriers with all the strike capacity that they had you've got a better imagination than I have. I think he was wrong there, quite simply. I also, though, think that the whole wrangle about the Fleet Air Arm was a most miserable affair and it had very bad consequences which possibly need never have arisen, because the Navy's view of the Fleet Air Arm, and I think it was a valid view, was that it was there to support the battle fleet in all sorts of ways, to perform reconnaissance for it, to protect it, to give it an extra strike capability beyond the range of its guns. That I think was proved to be correct. Proper aircraft carriers, fleet carriers, used in other ways (for example, anti-submarine operations) as they were very early in the war, produced only the most disastrous results, for instance the *Courageous* and the explosion of the *Glorious*. They weren't the right thing for that at all. I think that because of the fight over the Fleet Air Arm, the whole focus of attention was on that type of air activity and the land-based air activity which was already a fairly well developed, though obviously short-range exercise in 1918 was completely lost to view. People just didn't see that land-based aircraft were going to play any particularly large part and all that the Navy could think of to ask Coastal Command to do in 1939 was to keep a sharp eye on the North Sea. That was about it.

Saxon: May I just raise two points. The first is perhaps peripheral to your fine exposition tonight but regarding the title of your book, in

your foreword you remark about Crecy and the Black Prince and I wondered if you have any views on the origins of the phrase. My own view is that it goes back to about 35 BC when Alexander the Great decided to advance his line of battle obliquely and it so happened by chance or because he had his finest troops on the right that his right of the line came into contact with the enemy first and so heavily engaged the enemy that he had to weaken other parts of his battle line when he pushed his cavalry through to break the line, so there's a very early precedent for the right of the line seeing the heat of the battle. The other point you made, I think I would agree exactly on what you said about Tedder. Regarding your view of Portal who clearly had some blind spots, you raised one about his view of long-range fighters, would you not agree that he was, perhaps, the finest of our Chiefs of Staff during the war and served the country extremely well in the Chiefs of Staff Committee and with his influence on Churchill in that respect?

Terraine: Yes. I am somewhat inhibited by the sight of Denis Richards sitting there in the second row with a beady eye on us this evening, let's start with 'The Right of the Line' first. I quite agree with you, it's a phrase which belongs way back beyond Crecy, it's just that I did find a very good translation of it, as it were, in relation to the Battle of Crecy. Somebody suggested to me that an origin of it was in distant days when it was customary before a battle for the Commander, the King or whoever it was, to draw the whole lot up, harangue them for a while and give them some other morale building exercise of that description. Normally speaking they were then marched off by the right, so that the chaps on the right were the ones who would be in action first and probably get more of it than the others. I don't know, it's about as plausible as any of the other ones, but it certainly does go back a long way. On Portal, I don't think anyone can dispute that he was an extremely able Chief of Staff and that we'd have been very hard-pressed without him and, as is so often the case it's not very easy to see who would have replaced him if something had gone wrong. I wouldn't go quite so far as you do; I have a very strong feeling for Alanbrooke myself. He was a man of enormous capability and perhaps slightly wider view than Portal.

Leonard Dixon: In the earlier part of your talk you mentioned the

effect on senior commanders in the late 1930s, perhaps because of the carnage of the first world war. Would you say that in your research you found perhaps any other traits of those senior people. I'm thinking, perhaps, of the works of other writers like Barnett on the collapse of British power, Malcolm Dean on making an industrial society which perhaps in our national trait influence some of the very difficult decisions; had they gone completely against us we might have lost the war.

Terraine: Well, you've lured me into a very tempting and dangerous position. I'd be quite happy if my voice held out to go on for the rest of the night about the interpretations of the first world war. I think that the misinterpretations were unbelievably damaging to us, to the people who contributed to them, making me feel very discontented and at times very contemptuous. What people failed to realise – obviously it was going to hit us – a traumatic business for England to have casualties of that description, because we had never at any time been involved in land warfare on that sort of scale. What people were unable to realise and what not many people even now have really got to grips with is the fact that during the second half of that war which was when most of our casualties occurred, 1916-1918, we were in fact engaging the main body of the main enemy in a European war for the one and only time in our history. The army in World War II never saw anything like that array of enemy strength that the army had to face in World War I. The only comparisons that you can make are with people that had to do a similar job at either the same time or so shortly afterwards that a good parallel exists. They are, of course, the French from 1914-1916, who suffered appalling casualties, and the Russians from 1941-1945, whose casualties were unbelievably dreadful, doing exactly the same thing, engaging the main body of the German Army. As I've said before now, it would be a miracle requiring a positively supernatural explanation if the British had not had the casualties that they had, doing the job that they were doing. It is a great pity that this is not understood more clearly.

Henry Probert: John, you and I have spoken at some length about many aspects of your book and I think you agree with me that there was one very unfortunate omission from *The Right of the Line*, namely all that the RAF did in the Far-Eastern war and, of course,

it's an omission from your talk tonight. Understandably the constraints of time and space simply precluded that. Nevertheless, I do feel very strongly from my standpoint that the RAF's contribution in the Far East was enormous, that if one is trying to appraise all the constraints upon those who had to direct our policy during the war one needs to take account of the pressures of the Far East. I very much hope that one of these days somebody like yourself will be prepared to turn his attention to those particular campaigns, but I wonder if we were to ask you where you would put the Far Eastern campaigns in your balance sheet, what were the great things that came out of it? Air transport, air supply?

Terraine: Yes, I would say that was it. It is with some sorrow that one has to evaluate very hard, very bitter campaigns against the general picture of the war itself. I personally have virtually limitless admiration for Lord Slim, I think he was a tremendous chap and a tremendous general, but the fact remains that the great Burma victory of 1944-45 was obtained against something like the equivalent of about 9 not very strong Japanese divisions out of an order of battle of 130 to 140 divisions. We have to be a bit careful how we put a frame around the Far Eastern war, but within that frame I'm convinced that the air element was vital. It would have been impossible for Slim to carry out his advance through the monsoon and the advance through central Burma in 1944-45 without an absolutely incredible effort by the RAF. They gave a really staggering performance. You've only got to look at film and stills of landing grounds and airfields absolutely awash with about three feet of water on them and you've only got to reflect on the fact that the monsoon had been a full-stop to fighting until that campaign, and then you begin to get the measure of that incredible air transportation story. One also has to reflect of course that there could not have been an incredible transportation story unless we had command of the air, because with a lot of Japanese fighters of the quality of the famous Zero floating about that would not have been a very profitable exercise. So there is a big story there, and there is yet another one which I think is not quite on that scale but is a very interesting and significant one. That was the business of lifting a complete large military formation, a division in other words, a force of all arms, by air from one

battlefield to another, as was done when one of the Indian divisions was lifted out of Arakan and put down at Imphal. It's quite a story.

Charles Crichton: It seems to me that there were three military organisations in World War II who performed outstandingly better than the rest – our own service (despite what I could call the bombing problem), the *Wehrmacht* (despite the lunacies of Operation Barbarossa) and the United States Navy (despite Pearl Harbour). Is there, in your opinion, any common thread in their recruitment, training and control which makes these three much better services than the rest?

Terraine: Thank you very much. I'm going to leave that one to you! It's a very interesting question but it's not one to which I can offer any off-the-cuff answer. Let's all think about it – a very interesting one indeed.

Anon: I would agree entirely that, for co-operation, Field Marshal Alexander and Earl Mountbatten were great co-operators – would you not also agree that Field Marshal Montgomery understood, probably better than those two, how to use air power? Whether he co-operated correctly is not for me to say.

Terraine: Montgomery seems to me, in this connection, to be an enigmatic character inasmuch as he produced and I re-produced in considerable length one of the most admirable statements about land/air co-operation, Army Co-operation, air support, call it what you like, in which he seemed to have got the whole thing absolutely dead right. The next question is, why didn't he do it then? The words were fine, it's just that after Alamein the performance seemed to die away; he didn't seem to operate the same view of army co-operation/air support as he'd enunciated and framed theoretically so extremely clearly. It was possibly, I suppose, a personality matter; it's quite clear that after a good start, relations between him and Sir Arthur Coningham deteriorated. Also, I feel that it was due to what one can only call a personality defect on the part of Montgomery. He was very, very grudging in sharing any praise with people. He liked to let it be known that any success was entirely due to him and nobody else, and of course that didn't go down at all well with people who were well aware that there were other contributions.

Humphrey Wynn: Would you not agree that it's ironic that many of the things the RAF did in the 1920's and '30's bore no relevance at all to the things it was called upon to do in 1939-45? Some of its greatest successes were the results of brilliant extemporisations in aircraft and personnel. I'm thinking for example of the use of Lysanders in those outstanding SOE operations, an aircraft which was never designed for that kind of thing, and then the Mosquito and the rocket-firing Typhoons. Aside from that, you mentioned Bomber Command, but you didn't mention the wonderful training that the RAF gave during the war and the fact that so many hundreds of young men in Bomber Command had never seen an aeroplane before the war – never been up in the air – and yet they were trained to fly these four-engined bombers in all kinds of weather over Europe for 6 or 7 hours. It was an extraordinary achievement by the RAF. What cannot really be evaluated is the way, somehow, the RAF spirit got infused in all those young men who joined the RAF during the war and flew in Bomber Command. It was a wonderful achievement, you didn't refer to training because it wasn't within your scope but I think it's a very powerful ingredient in the RAF, 1939-1945.

Terraine: It's borne in on me all the time, really in relation to both wars, but in regard to World War II very emphatically, the Germans from beginning to end went into very thorough training and if you are looking for reasons why the German Army was so astonishingly successful, why U-boats were so admirably handled, and various other attributes, a great deal of the *Luftwaffe* as well (I would find it hard to fault the performance of its aircrew) then, generally speaking, what it will come down to is a really rigorous, severe, lengthy training programme. It's been said that the British don't train easily; the British Army for instance has a bad reputation for being trained, it doesn't take exercises and field days and things like that seriously; they are generally regarded as good occasions for mucking about! That isn't a very wise way of going about things. However, when you are projected into the air in a large, dangerous piece of machinery and it's got to get you down again in one piece, then it behoves you to take a great deal of care about what you're being told and what your instructors have got to say. I think you've probably put your finger on something there, the RAF training was probably

the best of the whole lot, from that point of view; certainly from the point of view, as you said, of getting hold of a lot of chaps who have had no previous experience of the thing and turning them into fliers.

Van der Veen: You've made a very convincing case, I think, for the utility of history to the military art but quite clearly that's not enough in the sense that technology marches on and that what's useful militarily in one decade is not necessarily useful in the next, and quite clearly one also has to take into account the order of battle of one's potential enemy. These days of course we do try hard to use mathematical modelling and simulation and operational analysis to try to resolve these problems so as to avoid the many pitfalls that you illustrated in your talk. Operational analysis had its origins in the last war, particularly in the Air Force field. I just wonder whether I could press you to give some sort of assessment of its utility during the last war on our operations and how you see its utility today?

Terraine: I don't want to wander into the contemporary minefield, if you don't mind, but certainly during the last war operational analysis became an extremely valuable attribute of all the commands of the RAF and the Royal Navy. The Army too, having a certain amount of time on its hands, was also doing a certain amount of thinking during the course of that time. I think that Coastal Command may perhaps once again offer some of the best examples of the effects of operational analysis. Professor Blackett's name comes very much to mind. The whole business of trying to engage U-boats until late 1941-1942 was a pretty mysterious affair and it wasn't really until hard analytical thinking about what actually happened when you try to engage a U-boat was done that any real progress was made. It interests me that one of the people who was very much concerned with that was the narrator of the Air Historical Branch's narrative of the maritime war, Captain D V Peyton-Ward, RN, who was the naval liaison officer at Coastal Command Headquarters. He made it his business to debrief every aircrew that had a contact with a U-boat, if he could possibly get at them, to do it as early as possible, and sometimes to do it two or three times. Out of this mass of experience that was built up, and using all the other sources that he could lay his hands on and that the scientists could bring to bear on the thing (for example, the most satisfactory colour for Coastal Command aircraft),

was evolved a reasonably exact science of attacking a U-boat. First of all, what you attack it with; the rejection of the bomb in favour of the depth charge. The refinement of the depth charge, then the stick spacing and the setting for the explosion. None of this just happened. It had to be carefully thought out on the basis of analysis which could only be operational analysis. Bomber Command, too, was also drawing on the same sort of approach.

Sidney Goldberg: I wonder if you'd be kind enough to comment on the suggestion by Nigel Hamilton in the last volume of his 'Monty' memoirs that you helped to collude in a cover-up of the events of 20th December, 1944 in the Ardennes when the 9th and 29th American Tactical Air Commands were transferred to the control of Air Marshal Coningham and that somehow this was covered up to avoid hurting American susceptibilities. It's a footnote to page 207 in which he single's you out as not mentioning it.

Terraine: Does he really? Well, he's absolutely right, I didn't! I don't know what point he's trying to make.

Denis Richards: A couple of points. One is an historical niggler. It's a long time since I read the Smuts report which led to the foundation of a separate Air Force, but it was my impression that there were two main driving forces forming the thrust of the argument for a separate air force. One, as John said, the mounting of independent offensive air operations, which you could hardly expect the Army or Navy to take much heart in (although the Navy had a shot). The second, and equally important, was the defence of this country against German air attack. I think John implied that the creation of Fighter Command and its victory was ironic in the sense that the RAF was not created for this purpose, but primarily for bombing; I think it was created for the defence of this country as well as for bombing.

Terraine: I think it all revolves round the word 'created'. That it was concerned with defending this country is absolutely true; of course the country had to be defended and Fighter Command is a name that only came into existence in 1936, prior to which the whole thing was called Air Defence of Great Britain, which I think tells its own story.

Chairman: Would it be true to say that it was the breakdown in co-operation between the various agencies which were involved in the

defence of the UK at that particular time which so exasperated the politicians and led to the Smuts report and that it was the defence of Great Britain which was the catalyst, even if it may not have been the driving force behind it. (**Richards**, I think it was – yes).

Terraine: I would have been surprised to learn that the Royal Flying Corps was not much concerned with defending Britain, too. It was just a question of whether it had any aircraft to do it with.

Richards: The point was, if an Army was engaged so intensely on the Western Front it could not think of this other thing and there was a tremendous outcry at home, as you said. The moral effect of the German raids was enormous and this did lead on to a demand for better protection which it was thought would come from a separate organisation. The other thing is quite unrelated to that, but it's about one aspect of bombing that I do think deserves mentioning. John, you say it was inevitable and bravely done and you mentioned area attacks, which you think were bad. Then you mentioned the very good stuff just before the invasion. But, what about the year and a half of combined Anglo-American bombing offensive against Germany with the Americans taking on the more precise targets? It was the combination of those two things which very gravely weakened Germany. I don't for a moment believe that the invasion of the continent could have taken place in 1944 without that preliminary year or more of the Anglo-American bomber offensive. It tied down so many resources in Germany; it made the training of *Luftwaffe* pilots very difficult for lack of petrol; and I think that this is something that deserves to be recorded among the successes. I think that you don't agree with me on this but I think it's an aspect of the war which has not received adequate praise recently.

Terraine: I think that's probably true that that aspect has not been given prominence and that obviously there are certain good reasons why that should be so. Among others would be the fact that Sir Arthur Harris himself would not be disposed to make too much of it, because he had bitterly opposed a great deal of what was done during that last very productive phase. Surely the interesting thing, Denis, about that last phase of the war for Bomber Command and its American equivalent which dates really from about the beginning of

1944 itself through to the end, is that in order to make this very effective and powerful attack on the enemy's economy, his heartland, as effective as it was, we'd had to do the old classic thing –we'd had to defeat the armed force – we had to win air superiority – we had to defeat the German fighter arm – which we did to the point where, in conjunction with the new technology, Bomber Command could operate as effectively by day as by night. This was a transformation of the whole scene and was at last the fulfilment of the kind of scenario that people had been hopefully envisaging before the war, but which was quite out of the question until that thing had been done.

John Peacey: It links with the last question to some extent. Although he didn't mean it as a compliment, one historian who shall be nameless but whose initials are AJP, referred to Sir Arthur Harris as the Haig of the Second World War. Would you agree?

Terraine: Well, no I wouldn't. It's not a sensible comparison.... Sir Arthur Harris was engaged in a very long and very arduous and very important campaign but you could not say that he was engaging the main body of the Third Reich at any point, and Sir Douglas Haig was engaging the main body of the German Empire for 2 years between 1916 and 1918. It's a different ball game altogether.

TWO SHORT TALKS – 1 JUNE 1987
Chairman – T C G James CMG MA

Chairman's introduction to the talk by the
Head of the Air Historical Branch

My own association with the Air Historical Branch goes back quite a long time. Leaving aside the British Army, the Air Historical Branch were the first people ever to pay me. When I joined it at the end of 1942, it was through the good offices of somebody whose association with the Branch was even longer than mine, that is Denis Richards, who is here now.

If I thought that I was joining the Air Historical Branch just to write nice things about the Royal Air Force I would soon have had another think coming because I found myself very quickly in a Branch which really had a great concern to write sound history about the Royal Air Force, sound as regards accuracy, events and facts, and also readable. That tradition was started, I think, by the histories of the Royal Flying Corps and the Royal Air Force in the first world war. I think Denis Richards carried on that tradition admirably in his short history of the Royal Air Force in the last war. It was a well organised Branch, showing great concern from the beginning of the war to ensure that operational and other records were preserved for historians and others to work on. Most of the records were moved out of London fairly early in the war and we found ourselves in a rather pleasant spot in the National Library at Aberystwyth looking after the records and working on them. As I was rather war-worn at the time it was a rather nice place to be for about two years of the war. Every now and again the head of the Branch used to come up from London with a car-load of documents, all in the interest of ensuring that there was the best possible record on which historians could base their narratives.

It was very typical of the Branch in those days that towards the end of the war when we were worried about how accurately we would be able to represent German aircraft losses, the Branch took good care to select a very special officer to go into Germany to see what kind of records we could find. This was a very special officer indeed; of his six languages I think English was probably the weakest. Europe was his backyard. He came back from this trip with

the records of the *Luftwaffe* quartermaster-general on aircraft losses, not quite complete but absolutely magnificent records, not of what we *thought* we'd shot down but of what we had *actually* shot down. It was a tribute to the Royal Air Force that there was never the slightest difficulty over the work that was done to establish what the true German losses were. And one was at the end of the line when on a famous day in 1947, sitting in the Official Box in the House of Commons, I was able to hear the Secretary of State for Air say what the German losses were, for example, in the Battle of Britain – less than we had claimed at the time – for very good reasons. The facts were established, but it was typical of the Air Historical Branch that it went to that sort of trouble to establish the facts and get the record right. So one has a very warm regard for the Branch and it is with great interest that we look forward to Henry Probert talking about its present work.

THE WORK OF THE AIR HISTORICAL BRANCH

by Air Commodore H A Probert MBE MA

After that introduction it makes me feel particularly humble realising of course that Denis and Cecil were both working in the Branch many, many years before I had even heard of it, and it also makes me realise how privileged I am that I was appointed to this job some nine years ago. I still feel that I know far too little about it.

When I'm asked to define briefly the role of my Branch I often do so in the words of my predecessor, Teddy Haslam, who used to call it 'the official memory of the Royal Air Force'. That seems to me to put it in a nutshell. The Branch is almost as old as the Air Force itself, set up soon after the end of the first world war to oversee the writing of the official history of the war in the air, a history which is always referred to as 'Raleigh and Jones'. Sir Walter Raleigh wrote the first volume but sadly died before he was able to press on with the work, and the remainder of it was completed by the then head of the Air Historical Branch, H A Jones. He was DPR during World War II and sadly was killed over the Atlantic towards the end of the war.

I don't want, this evening, to tell you about the history of the Branch but rather to tell you what it does today, and here it fits in

with other organisations in the same sort of business. Obviously, there have to be close links between our own historical society and AHB. I think it's very important that our members should know just what my Branch can, and cannot do.

Essentially we have three functions. First, we have to collect and maintain the archives. Secondly we provide information and advice which is based upon that archive. Then, as far as our resources permit, we research and write the ongoing history of the Royal Air Force. It follows that our main concern is with documentary records, and particularly with official ones. We are not a library, although we do in fact acquire quite a lot of published books, usually by donation. We are not involved with private papers, except on the few occasions where they remain particularly sensitive. Artefacts are not our business; they are, of course, the business of the Royal Air Force Museum.

First, the archives. There are two main elements. Well known to a great many of you (I suspect that many of you have actually written the things in your time) are the Forms 540, or Operations Record Books. They are monthly diaries, compiled by all Royal Air Force units, and hopefully they contain all the essential information about the activities of those units. In fact, of course, as we all know, they are just as good, or as bad, as the way in which they were actually written by the people that were there at the time. We do what we can these days to encourage people to write them well. That system has been in use since the late 1920s and even today we have some 300 Royal Air Force units – Squadrons, Stations, Hospitals, Training Schools, Maintenance Units, Command Headquarters, Group Headquarters and so on – which are submitting Forms 540 every month. The sheer acquisition, filing and control of those (bearing in mind that a number of them are very highly classified) is a fair old task.

Now the other main element of the archives is composed of certain types of official file, usually those relating to policy and operations, which come to us mainly from certain Branches of the Air Force Department (the current name for the old Air Ministry) but also from the Command Headquarters and elsewhere. These files form only a very small proportion of the total quantity of files that exist throughout the Royal Air Force, but in practice we find that

they do cover the most important issues. Since we maintain a topic index, which has been going on since AHB was started, we are able to use them quite extensively for our other work.

I don't want you to run away with the idea that we have an ever-growing mountain of documents. You might imagine that if we are acquiring three hundred lots of Forms 540 every month we must be running out of space. The things we receive, the files and 540s, are subject to the provisions of the Public Record Act, they are official documents and we have to hand them over to the Public Record Office at Kew, once they approach the thirty-year point. That means that our main holdings nowadays do not go back further than round about 1960. As they are usually classified, they are only available for official use. On the other hand, the great mass of the older material which is now in the PRO, and which includes the World War II records on which so much interest is still concentrated, are open for public research and all we do if asked is to offer a spot of guidance as to where to look and how to go about it. We don't do the work ourselves.

I've mentioned the two main archival sources but we have others also. There is a large library of still photographs, covering mainly the inter-war and post-war years. Although these are mainly used for official purposes they can also be drawn upon by private authors and publishers. The main wartime collection is in the Imperial War Museum, not with us, and not with the Royal Air Force Museum, although they do have a very large and growing photographic collection of their own. We also have a collection of aircraft and aircraft accident cards which we need for official work, but which we also open to approved private researchers. Then there are the wartime casualty records. These, because they are personally sensitive, are not open to the public but are fundamental to a great deal of our enquiry work. Then we have lots of general reference material, published books, potted histories, Air Force Lists, AMOs, copies of lots of wartime summaries whose originals are in the PRO, a great variety of things. AHB, like most historical organisations, has a fair bit of the squirrel in it but there are limits to what *we* can hang on to.

So much then for the archives. I hope I've made it plain that AHB is essentially a temporary resting place. Most of our material ends up

at Kew; when we need to dispose of other items which Kew does not want they usually go to the Royal Air Force Museum at Hendon.

Now a quick word about our research and writing programme. AHB has always been involved in one way or another with official histories. I mentioned *The War in the Air*, and *The Royal Air Force in the Second World War* by Saunders and Richards, but the Branch, like our opposite numbers in the other two Services, has also been very closely connected with all the official histories which come out under the Cabinet Office programme. Most of the World War II histories were finished many years ago, although the history of Intelligence is still not complete and we have had a fair amount of work in connection with that. Our main concern these days is with post-war histories. Several of these have been published by HMSO. My predecessor's history of Cranwell is one, Sir David Lee has done two (the history of the Royal Air Force in the Middle East and the history of the Royal Air Force in the Far East) and he is currently working on the history of the Royal Air Force in the Mediterranean (which will probably appear in about eighteen months' time on commercial sale). Quite often we are not able to make proper use of the available documents and produce unclassified histories. A number of the histories that we write have to remain closed under the thirty-year rule for long periods if they are to be comprehensive and of use to the Service of today. Humphrey Wynn who is here tonight worked for a long time on the history of the post-war bomber role but because it is in full detail and has drawn on highly classified material that is a closed history and will remain so for quite a long time, rather like the World War II narratives which have only recently been opened in the Public Record Office. Another example which shows that we are working on the events of the immediate yesterday is the Falklands, in which we have acquired virtually all the archive, devoted a lot of time to it, basing our work not only on the documentary record but also on oral interviews, and as a result we have almost completed an official narrative of the Falklands, but that, I'm afraid, is going to be closed for a long time for obvious reasons but it will be available to the Royal Air Force of today.

Now, briefly, let me turn to the third aspect of our work, answering enquiries and providing advice. In this area there is obviously a degree of overlap with the Royal Air Force Museum, but

on the whole I think there is a fairly clear division. On the enquiry side our primary responsibilities are to deal with those that relate to closed records, from wherever they come, and with those that come from official sources on whatever subject. The most sensitive that we get are quite often the political questions. Sometimes they emanate from the Ministry, sometimes the media, sometimes our air advisors and attachés abroad. The controversy surrounding the Royal Air Force bomber offensive in World War II is always a major source of questions; the fortieth anniversary of the bombing of Dresden brought a lot of work; Hiroshima, although the Royal Air Force was not involved; post-war topics include the controversy surrounding the atomic tests; plenty of questions about the Battle of Britain; a case we had recently arose from the alleged shooting down of three Royal Air Force Liberators over Indo-China in early 1945 (the allegation was that they had been shot down by the United States Army Air Force; they had been dropping supplies to that part of the resistance movement in Indo-China which was supporting the French. The allegation by the American author who dreamed this up was that the Americans were not keen on having the colonial regime supported; they were far keener on supporting the local Nationalists led by Ho Chi Minh, but on checking the records, as far as we could tell there was no foundation for the charge that three Liberators had been shot down over Indo-China. Our records indicated that the remains of two of them were found very soon afterwards in the mountains of western Burma, where they could not possibly have been shot down. There was no indication of fire, they had simply run out of fuel in extremely bad weather and crashed into the mountains. Questions of that sort, with political overtones or freedom of information overtones, come our way quite often. Questions like ‘What happened to Glenn Miller? What about the Wellington alleged to be off Greece laden with gold intended for the Greek partisans in 1941?’ come our way and all need careful handling to make sure that we get the facts right and don’t cause embarrassment.

There is an enormous and continuing interest from next-of-kin and others in what happened to father, uncle, brother, husband during World War II. People say ‘The records ought now to be open, we never heard what happened, can you tell us?’ The amount of correspondence that we continue to get, probably ten or twenty

letters a week, not all from this country, relating to casualty matters shows no signs of abating, indeed if anything it is increasing.

My final point. As well as providing information and answering enquiries we try to offer advice to outside historians. There is often no great need for authors these days to consult us in AHB on matters relating to World War II, but a lot do if only to obtain our guidance on which sources to consult. There are obviously limits to the amount of time that we can devote to them and quite often there is nobody on our staff with any real expertise in the particular subject of interest. One thing that always amazes me is that when somebody comes to visit me, and he is researching some highly specialised subject, he assumes that because I am head of the Air Historical Branch I am going to be at least up with him, if not ahead, on his particular subject. Usually I am not and usually there is nobody else in the Branch either who is. We attempt always to be helpful, we want to encourage good, accurate writing about Royal Air Force history, where our interest and the interest of this society coincide. I would dare to claim that a great many authors have been grateful for our assistance over the years.

I could say very much more about our work but it's high time I handed over to John Tanner to tell us about the Royal Air Force Museum, and then the two of us will take a joint question and discussion period.

THE ROYAL AIR FORCE MUSEUM

by Dr John Tanner CBE MA PhD LID FRHistS FRAeS FSA

First of all I want to say that there is no significance at all in the fact that Henry's talk was prefaced by the word 'work' whereas mine is simply 'RAF Museum'. This is because this is the Royal Air Force Historical Society and I was asked to give an outline of the *history* of the Royal Air Force Museum. Usually I talk about its work, what it looks like, what it contains, what it does from day-to-day, and I don't want you to escape that particular net, so at strategic points throughout this audience there are members of the staff who are armed with leaflets which they are going to thrust upon you if you show the slightest sign of weakness. If they miss you they've located a large pile in the hall outside. This reading desk is a bit like silly-

mid-off at cricket – too close to get a catch, too far to run somebody out, and the wrong distance for both my pairs of ‘specs!

Two questions I’m often asked:-

1. Why didn’t the Royal Air Force Museum start many years ago, long before it did?
2. How on earth did a man like you manage to get a job like this?

Well, they’re both very good questions. The Royal Air Force Museum really was started in 1917 by the foresight of the first Secretary of State for Air, who, when he was told, six months ahead of time, that he would be the first Secretary of State for Air, said ‘One day the country will want a great air museum and from this moment onwards one of everything connected with the flying services is to be preserved – every aircraft, every uniform, every gun, every bomb, every bullet, every button, every shoulder-flash, every single thing.’ He attached a staff for this purpose and at the end of World War I, in the Royal Agricultural Hall at Islington, there was assembled certainly the richest collection of aeronautica the world has ever seen. All collections have to find a home – that collection couldn’t find a home. It was eventually given to a museum which was also founded in 1917, the Imperial War Museum, and it, at the time, itself did not have a home. Through no fault whatsoever of that museum, every single item in that vast collection has disappeared from the world. I’m not sure that the list of the holdings in the Royal Agricultural Hall has ever in fact been published. I believe the PRO has destroyed its file; we have a copy and perhaps this would be a subject for future research.

Now, to come up to later times. The blow which people felt when they approached inter-war museums and said (for example) ‘I have a Hawker Hart, would you like it?’ and the answer was always ‘No’, was quite considerable. We in fact owe a lot to this particular society (The Royal Aeronautical Society) in whose room we meet tonight because they took over from a Mr Nash, one of those marvellous English eccentrics who, instead of collecting postage stamps collected aircraft, his entire collection, and looked after it until it was passed to the formative Royal Air Force Museum. Thus we have the only existing complete Wellington. Another subject for research –

11,161 were built; there is only one complete one remaining. Who got rid of most of the others, our various enemies, or the Royal Air Force?

To come further on. When he ceased to be Chief of the Air Staff, Marshal of the Royal Air Force Sir Dermot Boyle was put in charge of a committee that was tasked to look at the question of whether there could and should be a national air museum. The general consensus was that it was desirable but impossible of achievement. Now, Sir Dermot frequently visited the Royal Air Force College where I had the good fortune to make a small museum, really to complete a programme to entertain the Queen when she was coming to take the Sovereign's parade. He looked at it, and I'd written a paper about making a bigger one, about the need for the nation to have a museum which reflected what the Royal Air Force had done, and how it had dragged the world into being aviation conscious. He asked me to appear before his committee for a half an hour stinging session, as he warned me it would be, of probing questions. I found that the questions were nearly all taken from the paper that I had given him, so I knew at once that that most persuasive of gentlemen had, I think, persuaded his committee that they should change their collective mind and let somebody have a go. That somebody turned out to be me.

It meant sacrificing my marvellous job at Cranwell, and although I don't know much about Cranwell today I would like to put it on my personal record that I think Cranwell, as it was when I was there from 1953-1963, had no equal that I knew of in the educational system of this country. I speak as a very proud Oxford man.

So, in 1963, I was half released by Cranwell and I moved to London and started a challenging task. I say challenging because there was no collection, there was no site, there were no buildings and there was no money, and one part of our story has not changed in all those years. Sir Dermot Boyle and I were told at the outset that there never would be any Government money for building; there wasn't in 1961 and there hasn't been any yet, although we have another very persuasive chairman now who might change that circumstance radically.

So, what do you look for first, a site, a building, or do you make a collection, or do you try and raise the money? There was only one

thing to do, go for them all at the same time. I am very grateful to Sir Denis Spotswood for affording me the assistance of Sqn Ldr F E Dymond who retired last year but was at the time of his appointment the only other member of the Royal Air Force Museum staff.

A little later stuff began to flood in. We were lucky enough to have a full page article in the old *Evening News*. Then we had a long article in the *Daily Mail*. Very appropriate newspapers in view of the first Secretary of State having done what he did in 1917, as his family started both those papers. Instantly, things started to pour in. The Royal Air Force began to take the whole matter very seriously and historic aircraft from all over the Royal Air Force, things which were thought to have long since vanished, had in fact been preserved on stations by enthusiastic Station Commanders and sometimes by the enthusiasm of NCOs, generation after generation of them. Then there were the five great packing cases at RAF Fulbeck which had been closed as an airfield for years. When they were undone they contained the best collection of German aircraft from World War II that you can find anywhere; they are now in the Battle of Britain Museum at Hendon.

So the collection started to grow apace. It showed how much the nation had needed a museum devoted to the story of the Royal Air Force. We were inundated with material and the Royal Air Force soon realised that a separate home had to be found for us while we were looking for a site. That home was RAF Henlow in that vast, cathedral-like building which is called the pickle factory. It's said it's called the pickle factory because it was a badly written order to the Ministry of Public Buildings and Works and it should actually have been built at Hendon. If that is true, and I've heard it many times and it's written in many books, then it was coming events casting their shadows before. But how big should the Museum be? The Air Ministry offered the oldest surviving Royal Flying Corps building, which was at Upavon. It was made of wood and was very small, much smaller than the hall we are in now. I explained that this was not really what we were looking for. I had to get an expert from the British Museum who came along and explained that it was a fire hazard and that to put the accumulated treasures of their history into it was to run the risk of losing them. Of course the obvious answer was made 'that it had stood there for more than 50 years, why should

it burn down now just because you're going to use it?' Well, I need hardly add that three months later it did and to this day there are people who feel that we set fire to it to make a point, but truthfully, we didn't.

Then Sir Dermot and I went to see that great man Muir, who was then running the MPBW before it became PSA, and he told his staff to find us a building in central London. I was thrilled to bits when, a week later, I was asked to go to Hyde Park and meet some representatives of his staff; they had a building for me. It was about the size of a bathing cubicle, or perhaps some smaller public convenience, but they said 'It's yours if you want it'. Well, we explained that we were dealing with large objects on the whole, please could we have something bigger? So the next offer was Hampton Court – one wing of Hampton Court Palace. Sumptuous accommodation for the Director, but not room for one aircraft; you couldn't even put a showcase in with safety, containing uniform, because if by chance you dislodged a piece of masonry and revealed something of an historic nature behind the wall, MPBW instantly sent in their archaeologists who took charge of the entire thing. We had to decline, much as I loved the wonderful set of rooms offered to me.

Then an eccentric – the history of the air is littered with eccentrics – offered to buy for us the lease of the Podium in The Mall and to pay for all the costs of setting up the museum in the Podium. Well again it was a totally unsuitable building and by then we had something like (mostly through the generosity of the Royal Air Force) nineteen aircraft to choose from. In the Podium you could just, with difficulty, get a Spitfire at an inconceivably impossible angle and everything else would have to be in model form. But it was a generous offer, a tempting offer, because after all there was a building, there was all the money, the appeal would have been finished, and you shared the address in The Mall with only one other person, and that lady lived at the end and had her guard changing two or three times a day; it was a tempting offer socially, but it was wrong and Hendon was right. Hendon had everything; it had history; if it's not the birthplace of British aviation it's certainly the cradle, so much so that it attracted even the great French aviators, Blériot and Voisin and Farman, both Maurice and Henri, came there and set up flying schools and Claude

Grahame-White set up a flying school and of course the famous aviation factory which still stands. Personally I hope it's still standing 200 years from now but that depends on all sorts of things. Hendon was a marvellous place; it had a nearby Underground station, the then brand new first motorway, the M1 came then even closer to it than it does now, and after a lot of persuasion we got that site and asked the very personal question 'Please, because it's so close to central London you never will sell the airfield, will you?' Well, of course, six months after we were irrevocably committed and the building had started and the money was being spent, the airfield was sold and moving aircraft in has now become a frightful difficulty, but one that has always been solved. There are very few problems that the Royal Air Force can't solve although getting them to the pitch of solving is sometimes a little tricky.

So, from 1961 to 1972 the years were spent in assembling things, in getting the site, in getting the building designed. Now most museum directors know exactly the kind of building they want, certainly I did, I thought. I thought I was asking for the simpler solution. We had a limited architectural competition. Five of the greatest architects, in terms of fame anyway, in this country, were asked to provide a design incorporating the two existing hangars on the site and wrapping a simple building around them. The wonderful, thrilling day came when I was to inspect their five designs and there was a huge table in the RIBA, enormous, containing five models all covered with sheets. The sheets were whipped off and I gasped, not with pleasure but with horror, because not one of the architects had allowed room for an aircraft gallery. When I expostulated a little, in my usual very quiet and polite way, the leader of the pack, a man of such distinction I feel I can name him – Sir Dennis Lasdun –stepped forward and said 'I've been elected by the group of us to tell you that we feel collectively that nobody will want to come and see an aviation museum, but people will come from all over the world to see a building like mine'. Well, I taught the history of art in a university for a few years and I recognised that Lasdun's building was in fact a copy of the Parthenon, precisely the same number of steps, and as I pointed out to him, even if I could get an aircraft up that number of steps, there was no way you could get it between the pillars when you arrived at the top.

I was sitting in my desolate office in Turnstile House feeling very mournful, when there was a knock on the door and a balding, fat chap came in whom I didn't know from Adam. We started to talk and he said 'I'm the Editor of the RAF Benevolent Fund's annual magazine – could you write me an article on this work you're engaged upon?' I said, 'Certainly, delighted.' And he said 'By the way, weren't you at the Royal Air Force College once?' I said 'Yes'. He said 'You gave me a lift to Grantham to catch a train once in your vintage Rolls Royce.' Then, of course, he was tall, lean, thin, with plenty of hair, an evident young Royal Air Force officer. He had changed enormously. He was also the head of a branch of Wimpey's. We went out to lunch. I told him what I've just told you about architects and he said 'What is it you want?' and I drew something on the back of an envelope. In less than two weeks he came back with completely finished drawings of the building which now stands at Hendon. That was luck. The whole story of the making of the museum has been luck.

I've run out of time; there are so many things I would love to tell you about luck. About the aircraft. One of the first things I did for Sir Dermot Boyle's committee, for whom I worked originally, was to draw up a list of the aircraft I felt the museum ought to have. It was 92 strong and we now have 84 of them. Most of those missing are still missing from the world – the Stirling, the Hampden and so on. If they can ever be found anywhere, I think you can rely on the Royal Air Force Museum's dedicated staff to go and find them. It's a most extraordinary story – how we came across so many of those aircraft. Little old ladies hearing about us, various newspaper articles, snippets we managed to get on television, would ring up and say 'Can you believe this? There is a Felixstowe flying-boat being lived in by an old sailor on the foreshore where my cottage is. Come and have a look at it.' You go, not believing it can be true, and it is true. So you make an offer to the sailor, 'We must have that aircraft' and he says, 'Well, I live in it. If you want it you'll have to buy me a cottage'. Fortunately, sailors must have a very low standard of living because he sold it to us for £75. Bringing the Walrus back from Australia – even a madman, to fly a Walrus back from Australia, and I had to let a madman do it. He assured me everything would be alright. Needless to say he crashed it on a Pacific atoll and it took

more than two years to find a ship that could be diverted.

These are the things that have been so marvellous. The people one has met. The extraordinary love that emanated from all quarters for the Royal Air Force. That is what enabled the Royal Air Force Museum to come into being. It is the only museum that has been made without, as it were, a mother and father. It did not have a collection, it did not have a site, it did not have buildings, it did not have money. It is the only national museum anywhere that has been built without one of those things being already in existence. This country poured money into the original Royal Air Force Museum; it was immensely generous. The Service itself responded in a fashion which I think only the armed services can find in their hearts. We have so much to be grateful for to so many people that the Royal Air Force Museum does exist. Sir Dermot Boyle and I, in good faith, announced that the first appeal would be the last appeal. Well, circumstances didn't permit of that and the second appeal was a success, and the third appeal was a success. I think the fourth appeal would have been a success had it not been launched at much the same time, almost the same day, as the South Atlantic Falklands appeal. That left us with the only real problem that we've encountered all of these years of constant begging from the world.

It isn't just this country, and in the Service that it commemorates, the Royal Air Force, American, French, Dutch and Germans have all helped. The very first invitation I had to talk about the proposed Bomber Command Museum was from a German museum group, and it was in the nautical museum at Bremerhaven, which happened to be built on an area of land which was effectively cleared, with a wonderful new port there, by Bomber Command, and I have never had a more sympathetic and understanding audience.

It's been a marvellous experience to see the Royal Air Force Museum grow and if any of you haven't been to see it, then please come along and be a statistic, because we love statistics almost as much as those who give to the museum.

QUESTIONS – 1 JUNE 1987

Anon. May I ask if there's any connection between the Royal Air Force Museum at Hendon and Cardington. I went to the latter and

was surprised to see a wooden-hulled flying boat being restored.

Tanner. That is in fact a Southampton and it is the only wooden-hulled flying-boat left in the world. We are immensely proud to have it and it took eleven years to find men with the necessary skill to rebuild the hull. It needed shipbuilding skills. Cardington is the workshop, restoration and storage centre of the Royal Air Force Museum at Hendon. Most of the staff there are wonderful craftsmen. It is my favourite bit of the Museum. Craftsmen come out of the Service – I think that with one exception everyone who has ever worked at Cardington is ex-Royal Air Force – but I thought I'd have to recruit a shipwright to rebuild the hull. The wood has to be bent and then caulked to its neighbour. Green silk from a particular place has to be used in the caulking process. It's all incredibly detailed and marvellous to watch. Lo and behold, in the space of one month (and this is why I say that serendipity and chance and luck play so great a part in making a museum) I had applications from two people who had been in the Royal Air Force, craftsmen who had served apprenticeships with shipbuilders before their little yards in East Anglia closed. They went into the Royal Air Force in order to find work, and if you saw the work they're doing at Cardington I think you would agree that there is nothing more beautiful to see in England today.

Anon. I'm on the committee of the Ex-Prisoners of War Association. We want to make a memorial to those prisoners of war who died in Germany for whatever reason. Where can I get a list?

Probert. I don't think such a list has ever been compiled. It would be possible to do it simply by working through the casualty records. The task entailed is enormous and certainly AHB doesn't have the staff to do it, and because of the nature of the records we can't open them to outsiders. The difficulty with casualty records is that there are all sorts of sensitivities surrounding them, but if you would like to come along and talk to me afterwards we can examine the problem. It might in fact be very difficult to produce an absolutely accurate list. There are lots of squadrons which are seeking to compile their own Rolls of Honour and it requires very detailed work. In theory it can be done but the work that's entailed and the sensitivity of it puts it

almost out of court.

Sowrey. This question is to John Tanner. Will you say something about the principle, from the museum point of view, of having aircraft static as opposed to flying? Where is the linkage between aircraft on the ground (as at the Royal Air Force Museum with its necessity to preserve rather than risk) and a collection like the Shuttleworth where aircraft can be seen in the air? Obviously, there is a case for both. Are they complementary or are they in competition in any way? Where ought our support as members of the public to lie?

Tanner. If I had stuck to my notes I'm sure I would have read out a phrase that 'the primary function of all national museums is to collect and preserve'. You cannot preserve aircraft indefinitely if you go on flying them. You mentioned the Shuttleworth collection and it's a place of which I'm a member; I love it: we give it a lot of help, but it has proved my point, alas, too many times. The Bulldog, for example. I believe that if an aircraft becomes unique, the last specimen of the type, I think it should not be flown any longer but go into a static museum and be kept in perpetuity to educate future generations in what this generation and its predecessors flew. There will always be fascinating aircraft to fly and the Shuttleworth will never be short of machines to put into the air. Support both!

Sowrey. In the production of written history the facts are available but deductions and conclusions are made from those available facts. Does the AHB in its sponsorship of Royal Air Force history give any guidance or is this left entirely to the author to draw the conclusions that he sees from the facts which they portray?

Probert. It's a fascinating question and one which I came to grips with fairly early on in my job and have been aware of ever since. I'm sure that Denis Richards would have views on this! I'll stick my neck out and reflect on what from the Royal Air Force point of view is probably the most controversial of the official histories. I'm thinking of Webster and Frankland which most historians would now say was the best of the official wartime histories. Harris would not agree, never did agree. The history that Harris wanted written, the history that a lot of military commanders wanted written after World War II,

was the history that would justify what they had done. Most of them, I think, wanted a bit of a whitewash. They wanted the facts recorded but organised in such a way that they came out as reasonably good chaps, and as though, overall, the campaign that was fought was satisfactory from their point of view. Webster and Frankland looked at things much more objectively and there was the most awful controversy in officialdom when that manuscript was circulated. I became aware within weeks of coming to my job that urgent required reading was Webster and Frankland from cover to cover. I found that I could not dispute most of the logic and it seemed to me that it was a fair appraisal. They approached it from the point of view of trying to look at the facts and see where they led and if that meant that one had to be critical of certain of the things that Bomber Command had done, certain aspects of the leadership at the time, that kind of thing – alright, that is the way it should be. I think that has to be the approach. If you appoint an official historian you are giving him access to all the documents, but at the same time you cannot get an historian of quality if you are not prepared to say ‘You are free to draw your own conclusions and your own deductions as you see the facts’.

Denis Richards. I’d like to say how thoroughly I agree with what Henry Probert has said.

Anon. What is the relationship between the Royal Air Force Museum and some of the smaller collections around the country?

Tanner. Most of the small museums do approach us, usually to ask what we can give them! Where we do have surpluses we are very glad to hand them out on long-term loan. But we have to be very satisfied, as we are handling national heritage material, that the institutions are capable of caring for the material properly. Tangmere has done extremely well off its own bat. I don’t think they’ve approached us at all. They’ve had a lot of success with the private owners of Spitfires and so on. It does help a lot when the person who is primarily behind it has a great deal of personal money. We’ve helped I should think, from Torbay to Edinburgh, something like a dozen small museums.

ANNUAL GENERAL MEETING
Minutes of the first Annual General Meeting

held at 6pm on Monday, 1 June 1987
at The Royal Aeronautical Society,
4 Hamilton Place, London, W1

76 members were present

1. Chairman's Report. Sir Frederick Sowrey gave a brief resume of the founding of the Society and of its activities to date, together with the programme of events envisaged for the future, with particular reference to the Suez Seminar later in the year. He also reported that the current paid-up membership was 495, which greatly exceeded initial expectations.

2. Treasurer's Report. Mr A S Bennell summarised the background and main points of the Accountants' Report and Income and Expenditure Account for the period ended 31 December 1986 and the Balance Sheet as at 31 December 1986, as presented to the Meeting. He also advised the Meeting on the major expenses incurred by the Society's activities which had to be met by the members' subscriptions unless additional sponsorship funds were forthcoming on the lines of the generous initial response from British Aerospace in funding the first issue of *Proceedings*. He stated that it was the Committee's intention in due course to invite members to pay their subscriptions by covenanted direct debit so that the Committee could have some assurance regarding the Society's future income and take advantage of the tax concessions. The Meeting noted the Statement of Accounts for the period ended 31 December 1986 and the arrangements outlined by the Treasurer. The Meeting unanimously approved the Treasurer's employment of Messrs Pridie Brewster, Chartered Accountants, of 8, The Green, Richmond, Surrey, TW9 1PL, as Auditors to the Society.

3. Draft Constitution. The Chairman outlined the present position regarding the draft Constitution of the Society which it was hoped to adopt formally at the Annual General Meeting in 1988, once official approval had been obtained from the Charity Commission. He said the Committee were seeking the Meeting's approval for them to conduct the Society's activities in the meantime on the lines of the draft Constitution,

until the final Constitution was adopted at the 1988 AGM. He invited the Treasurer to explain briefly the provisions of the draft Constitution.

Mr Bennell stated that the draft Constitution had already been noted informally by the Charity Commission. He then explained the provisions of the draft Constitution and pointed out the taxation advantages to the Society of securing charitable status. He invited members to write to him at the Air Historical Branch if they had any substantive points which the Committee could consider and, if they thought fit, incorporate in the final Constitution. He then invited comments.

The Membership Secretary said that he had received from overseas members requests for life membership. The Chairman said that the recommendation of the Committee was that there should be only one class of membership, as now existed, particularly in view of the adverse experience that other organisations had suffered over life membership due to inflation. It was open to the Society before final adoption of the Constitution in 1988 to incorporate life membership if they so wished.

The Chairman then asked for the meeting's formal approval to the Committee running the Society's affairs on the basis of the present draft Constitution until the 1988 Annual General Meeting. This approval was given unanimously.

4. Seminar: 'Suez – Air Aspects': 26 October, 1987. Air Commodore Greenhill reported on the latest arrangements for this seminar.

5. Subsequent programme. Air Commodore Greenhill stated that the Programme Sub-Committee was planning main events for 1988 in March, June and October, dependent upon the availability of suitable venues. The subjects being considered were:-

The Berlin Airlift.

The German view of the air war.

The implications for the Royal Air Force of the period in the late 1950s and early 1960s.

He said that he had received from members suggestions for other events, and he would be in touch shortly with some members regarding the possible organisation of such events.

6. Confirmation of existing 'ad hoc' Committee. The Chairman stated that the Meeting's confirmation was required for the members of the

existing 'ad hoc' Committee to remain in office until the 1988 AGM, when nominations could be made to the Committee. He then listed the individual members of the Committee. The necessary confirmation was unanimously given.

7. Future conduct of the Society. The Chairman invited suggestions regarding the future conduct of the Society. Several suggestions were made which will be considered by the Committee.

**Accounts of the Royal Air Force Historical Society
for the period ended 31 December 1986**

Income and Expenditure Account
for the period ended 31 December, 1986

INCOME	NOTES	£	£
Subscriptions	1		4,457
Bank Interest received			23
			4,480
EXPENDITURE			
Printing		140	
Postage and Stationery		200	
Hire of Lecture Hall		195	
Accountancy		75	
Sundry Expenses		<u>276</u>	
SURPLUS FOR THE PERIOD			
transferred to accumulated fund			3,594

Balance Sheet as at 31 December 1986

CURRENT ASSETS

Bank – Current account	1,653
Bank – Deposit account	2,023
Cash in hand	<u>9</u>

CURRENT LIABILITIES

Creditors and Accruals	<u>91</u>
	<u>3,594</u>

ACCUMULATED FUND	<u>3,594</u>
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NOTES TO THE ACCOUNTS

1. Subscription income represents the actual amount received during the period. No allowance has been made for subscriptions unpaid or for the unexpired portion of subscriptions received.
2. An application is being made to the Charity Commissioners to have the Society registered as a Charity.

ACCOUNTANTS' REPORT

We have examined the Income and Expenditure Account and Balance Sheet of the Royal Air Force Historical Society for the period ended 31 December 1986 and we certify that it is in accordance with the books, bank statements and vouchers produced to us.

8 The Green
Richmond
Surrey
TW9 1PL

PRIDIE BREWSTER
CHARTERED ACCOUNTANTS

DRAFT CONSTITUTION OF THE ROYAL AIR FORCE HISTORICAL SOCIETY

1. The Society shall be called the Royal Air Force Historical Society.
2. The object of the Society shall be to advance knowledge of the history of the Royal Air Force.
3. The Society shall:-
 - (a) provide a forum for members to meet and discuss Royal Air Force history
 - (b) arrange a programme of lectures, seminars and other activities
 - (c) circulate to the membership news of the activities of the Society and other matters of interest
 - (d) encourage research and publication dealing with the history of the Royal Air Force.
4. Membership shall be open for all those in sympathy with the objects of the Society, whether or not they are past or present members of the Royal Air Force.
5. The affairs of the Society shall be managed by an Executive Committee consisting of the Chairman, Vice Chairman, Secretary, Treasurer, Editor, Programme Secretary, Membership Secretary and at least four other members. The Chairman, Secretary and Treasurer shall be elected annually by the Annual General Meeting. The Head of the Air Historical Branch, the Director of the Royal Air Force Museum and the Director of Defence Studies (RAF) shall be ex-officio members of the Committee. Four of the elected members of the Executive Committee shall always be serving or former members of the Royal Air Force. The members of the Executive Committee, other than those whose positions are ex-officio, shall be elected annually at the Annual General Meeting. The Executive Committee shall meet not less than twice each year, and a quorum shall be not less than five members. If any elected member of the Executive Committee shall be unable to complete a term of office, the Executive Committee may co-opt a member of the Society to serve until the next Annual General Meeting. Sub-committees may be appointed by the Executive Committee to deal with specific matters.

6. The Executive Committee shall recommend the annual subscription to the Society subject to confirmation by the Annual General Meeting or an Extraordinary General Meeting called for the purpose.

7. The Executive Committee shall be responsible for the administration of the Society's funds. The Executive Committee shall have power to invest funds in Trustee Securities or to place them on deposit or loan with financial institutions or to hold funds in a current account in a clearing bank. All cheques and other documents governing the finances of the Society shall be signed by two members of the Executive Committee, one of whom shall be the Treasurer or his appointed deputy. The Treasurer shall keep a regular account of receipts and payments in a manner approved by the Executive Committee and shall present to each meeting of the Committee an interim statement of the Society's finances. The Society's financial year shall end on 31st December and audited accounts shall be submitted to the Executive Committee at least fourteen days before the Annual General Meeting. Auditors shall be appointed at the Annual General Meeting.

8. The Annual General Meeting shall be held at a time and place to be decided by the Executive Committee. All members of the Society shall be given at least fourteen days notice of the meeting. The business of the Annual General Meeting shall include:-

- (a) a report of the Society's activities during the preceding year
- (b) a report on the Society's finances and the meeting's approval of the audited accounts for the preceding year
- (c) the election of the members of the Executive Committee. If there are more candidates than vacancies on the Executive Committee the Chairman shall appoint two scrutineers to hold a ballot and announce the result at the end of the meeting.

9. The Executive Committee shall have the power to call an Extraordinary General Meeting and shall be bound to do so within twenty-eight days of receiving notice in writing specifying the business and signed by not less than one-third of the membership of the Society at the time. Notice of such a meeting must be circulated to all members of the Society at least fourteen days before the meeting and the Agenda

must specify the business to be transacted. No other business may be discussed.

10. This Constitution cannot be changed except at an Annual General Meeting, or an Extraordinary General Meeting called for the purpose, and then only if the proposed alteration receives the assent of not less than two-thirds of the votes cast by the paid-up membership of the Society attending the meeting.

11. A motion for the dissolution of the Society may be submitted to the Executive Committee three months before the Annual General Meeting or in accordance with the provisions of an Extraordinary General Meeting. The motion shall be carried if it receives the assent of not less than two-thirds of the votes cast by the paid-up membership of the Society present at the meeting. If and when such a motion has been passed, so much of the assets of the Society shall be realised as may be necessary to discharge all liabilities of the Society. Any remaining assets owned by the Society shall be donated to one or more charitable institutions having objects similar to those of the Society.

BOOK REVIEW

RADAR DAYS by E G Bowen. Published by Adam Hilger, £12.50.

Despite the plethora of books that have appeared over the years about the air war, there have been surprisingly few on the technological advances that lay behind it, and personal accounts written by those most closely involved are indeed rare. When one does appear, and particularly when it is so clearly and engagingly written, it is therefore to be warmly welcomed.

Radar Days is the personal reminiscence of Dr Edward Bowen, known to his contemporaries as 'Taffy'. While he himself would disclaim the title in deference to Tizard or Watson-Watt, he can in fact be justifiably called the father of airborne radar, for it was he who led the small team that worked from 1935 onwards to solve the problem of how to intercept the night bomber. As Bowen recounts, Tizard's Committee for the Scientific Survey of Air Defence defined the problem, Watson-Watt suggested the solution, and he did the job, first at Orfordness and then from 1936 onwards at Bawdsey. As one reads his account of the various pre-war experiments and airborne trials using such aircraft as the Heyford, Anson, Battle and Blenheim, and firmly supported by men of vision like Hugh Dowding, one is reminded yet again that the charges of unpreparedness levelled against the RAF in these years do not altogether stand up. The real lesson is that, while much research was going on, the new technology could not be applied overnight.

By the beginning of the war much had indeed been done to develop airborne interception (AI) radar, together with air-to-surface vessel (ASV), but it is sad to be reminded that in the early months of the war, since Bawdsey was thought to be dangerously exposed to enemy attack, the research staff of AMRE were shunted round first to Perth, then to St Athan and next to Swanage – all in various respects totally unsuitable for the vitally important work being undertaken. Only when it was moved yet again – to Malvern – did TRE, as it then had become, find the home it needed and deserved. Despite these practical difficulties, the formation of the Fighter Interception Unit at Tangmere was a great advance, but the other major problem – the provision of an appropriate aircraft to equip with AI – had to await the arrival of the Beaufighter.

Having been closely involved in all these activities, Bowen was the obvious choice to join the Tizard Mission to the USA in September 1940

as its radar expert. The mission's object was to pass to the Americans details of the British research in the hope that their help could be obtained to exploit it, and without doubt the enormous development of many forms of radar that resulted, such as IFF, LORAN, and more advanced forms of AI and ASV, played a critical role during the rest of the war. Bowen in fact stayed on in the USA until the end of 1943, working closely with the newly formed Radiation Laboratory at the Massachusetts Institute of Technology, and then went to Australia to work in their Radiophysics Laboratory at Sydney University, where he was involved with many of the post-war advances in radar.

Dr Bowen recounts his fascinating story in a most readable style. Where he needs to go into technicalities he puts them across in layman's terms, and there are numerous anecdotes that convey effectively the atmosphere in which he and his colleagues worked, and the day-to-day problems that they had to contend with. For example, the way in which he arranged with Metropolitan Vickers to supply the alternators so essential to ensure the power supply for the first AI radar, and the saga of getting the first magnetron across to the USA are entertainingly described. Just occasionally his facts are suspect, notably his figures of *Luftwaffe* losses to AI-equipped fighters in the first half of 1941 where he has confused claims with actual kills, but this does not detract from the overall value of a book written by one of the most important back-room boys of the war. Since radar was undoubtedly one of the keys to victory and remains of incalculable importance today, Taffy Bowen well deserves his place in the history of air power.

H A Probert.

COMMITTEE MEMBERS

Here are four more 'potted histories', continuing the series from the first issue:-

A S Bennell MA BLitt

Tony Bennell was appointed to an Open History Scholarship at Corpus Christi College, Oxford, served in the Meteorological Service in the Royal Air Force Bomber and India Commands, was Frere Student in Indian Studies in the University of Oxford, an Assistant Principal in the Air Ministry, and served in the Ministry of Defence, the Air Force and Army Departments and the Central Staffs. He has been a Research Associate of the International Institute for Strategic Studies and a member of the Defence Policy Staff. He retired as Head of F6(Air) in 1986 and is a Historian in the Air Historical Branch undertaking research into Royal Air Force policy during the period 1961-70. He is a Vice President of the Royal Asiatic Society.

B R Jutsum FCIS

Tony Jutsum was educated at the Royal Grammar School, High Wycombe. He joined the Territorial Army in May 1939 and transferred to the Royal Air Force in October 1941.

After training in Arizona and at a Hurricane OTU in the UK, he joined 60 Squadron in East Bengal on Hurricane IIs. After a year operating over Burma, he was attached for six months to 26 Indian Division controlling close support down the Arakan coast, ultimately landing at Rangoon to join up with the 14th Army. In July 1945 he joined 30 Squadron as a Flight Commander on Thunderbolt IIs, for his second operational tour.

Tony qualified as a Chartered Secretary in 1949, and became a Fellow of the Institute in 1959. He has acted as Company Secretary in the Express Dairy Group and the Granada Group and finally as Group Secretary of Patullo, Higgs and Co Ltd, Agricultural Merchants. He retired in 1986.

A E F Richardson

Tony Richardson was born in April, 1921 and educated at Latymer Upper. He joined the Royal Air Force in 1940, was commissioned in 1943 and demobilised in 1946. After a tour on Wellington Ics of 108 Squadron as a Sergeant Air Gunner, he did further tours on Sunderland

IIIs of 228 Squadron, Walrus ASR of 277 Squadron and Sea Otters of 279 Squadron, interspersed with periods as an instructor at 11 OTU, Cottesmore, 26 OTU, Wing and 4(C) OTU, Alness and a Gunnery Leaders Course at Catfoss.

After the war, Tony joined the Rank Organisation as a Theatre Manager and then moved on to sales and management appointments in the tyre industry, with Michelin and Firestone. He became a Member of the Institute of Marketing in 1958 and was ultimately Public Relations Manager for Firestone with particular responsibility for their motor racing involvement. With the demise of Firestone as a manufacturer in the UK, Tony became a freelance Public Relations Consultant and Managing Director of Eurolink International Ltd, (public relations and promoters of events).

P G Rolfe ISO

Peter Rolfe's education was principally obtained at Worcester Royal Grammar School. He joined the Air Training Corps in 1941, and volunteered for flying duties in the Royal Air Force in 1943. He qualified as an Air Gunner in Southern Rhodesia, under the Empire Air Training Scheme, in March 1945 and was demobilised in 1947.

Peter joined the Inland Revenue in Birmingham and in 1960 qualified as HM Inspector of Taxes. He was transferred to Head Office in 1963 to write many of the instructions issued to Revenue staff, including the instructions for the Revenue's first computer system. This led to qualification as a systems analyst and was followed by a period in charge of local tax offices. Finally, he returned to Head Office to take responsibility for the operation of much of the Pay-as-you-Earn system of taxation and to devise and implement new taxation methods. He is now retired and trying to find time to develop his hobbies of photography and amateur radio operation (callsign G4CBE).

AIR CHIEF MARSHAL SIR AUGUSTUS WALKER

The following is a transcript of the address given by MRAF Sir Michael Beetham at the Memorial Service on 30th January 1987:-

We are here to give thanks for the life and work of Air Chief Marshal Sir Augustus Walker. Seldom did we ever hear him called that. Widely known in the Air Force and beyond, at its most formal as Sir Gus Walker, more commonly as Sir Gus, and to many of us just as 'Gus' – always with great affection. For I do not believe there has ever been a senior Air Force officer held in such universal respect and affection. He had a marvellous touch with people at all levels. When he was in Ely hospital last year he received a 'Get Well' card from the dustmen in Brancaster, and when he died last month a card of condolence came from the tea ladies in the railway buffet at Kings Lynn station.

Born in Leeds just 2 years before the outbreak of the First World War he was educated at St Bees School and at St Catherine's College, Cambridge where he gained a Second in the Natural Sciences Tripos.

Rugby was his abiding passion from an early age. He captained his school and played for Cambridge several times, but he was unfortunate there to coincide with Cliff Jones, one of those Welsh geniuses that come with such regularity from the Principality, and only thus did not get a Blue.

He was not in the University Air Squadron – too busy with rugby probably – but he joined the Air Force on a University Commission in 1931. He did his training at 5 FTS, Sealand. One of the instructors posted there when Gus was in the senior term was Air Chief Marshal Sir Bing Cross. He told me that he arrived to find Gus as the senior student being very much in control of both Senior and Junior terms and most of Sealand as well – everyone on the station knew him. In those years before the outbreak of war he became a bomber pilot on 99 Squadron flying Heyfords and then specialised, as a GD officer had to in those days, in armament duties.

It was during those years that his rugby career reached its zenith. He captained the RAF team and played for Blackheath, Yorkshire, Eastern Counties, the Barbarians and England. As a fly half he made up for his small stature by dash and courage – in defence often across the field in a flash with a tackle to astonish the opposing 3s. In attack, as *The Times* correspondent once wrote, 'he is inclined to attempt too much' but he

was a great tactician and one of the best to get a line moving. But it was really as a captain and leader that he excelled. He transformed the spirit in the RAF team and turned them into a winning combination. And he got the team he wanted by the skilled technique of separating the members of the Selection Committee, buzzing from one to the other non-stop, convincing each in turn that the others 'believe this' or 'believe that' –of course what he was really doing was convincing each of what Gus thought!

War came and nothing was going to hold him back from the action. He did a conversion course on to Hampdens and joined 83 Squadron in October 1940. Within 2 months he was given command of 50 Squadron at Waddington.

Those were the days when night bombing was in its infancy and finding specific military targets in a hostile environment in Germany, with often poor weather and only rudimentary navigation aids was a formidable task. Gus set his squadron the finest of examples – when necessary descending below cloud to make sure he identified the target before releasing his bombs. Indeed on one occasion he found himself inside a balloon barrage, and it was a miracle he got away with it under intense AA fire and searchlight activity. He won both the DSO and DFC on 50 Squadron, a measure of his courage and determination.

Gus was promoted to group captain in April, 1942 and made Station Commander, Syerston. It was here that he lost an arm in an act of selfless bravery which is well known to you all. When the Lancaster and its load of bombs exploded, Gus, first on the scene, had been thrown in the air but picked himself up with his right arm missing and stumbled to the fire engine to see if anyone was hurt, before he finally collapsed – his whole action entirely in character. In his book *Enemy Coast Ahead*, Guy Gibson, who was one of his Squadron Commanders, recalls that Gus asked him, before being taken off to Rauceby Hospital, if he would look for his arm as it had a brand new glove on it, and told him to ring the AOC and ask him if he would take a one-armed Station Commander in 2 months' time. In hospital, it was at first thought unlikely that Gus would live, but he fought back and returned in that time to the day.

For an assessment of him as a wartime bomber Station Commander I would like to quote from an unpublished manuscript by John Searby which is held in the Air Historical Branch. John was serving on Guy Gibson's squadron at the time. He wrote:-

'Gus belonged to our own generation. He possessed first hand knowledge of the fears, frustrations and fatigue which were the almost daily portion of the bomber crews. He spoke our language and dealt with our problems accordingly. He could be strict, setting a high personal standard, yet he was tolerant, appreciating that most have to screw up courage on occasions, and a second chance is seldom thrown away.

Gus Walker was a familiar figure on his bicycle making the rounds of the Station – visiting dispersal pans where Lancasters were positioned on the far side of the airfield – where men worked all night and in all weathers changing engines or performing some similar task to get their aircraft ready for operations. He attended every briefing yet left it to the responsible Squadron Commander – only speaking when he had something to contribute. Yet he was always firmly in control of events. For example, on occasions one needed some patience to handle Guy Gibson, and Gus had just the right touch. When Guy was sounding off on the wisdom or otherwise of the night's plans from Group Headquarters, a quiet word from Gus was enough. Guy Gibson had an enormous respect for him'.

After his return to duty Gus was quickly promoted to Air Commodore and made Base Commander at Pocklington, controlling three Halifax stations. In this period Gus was particularly proud of one operation quite out of the run of normal tasks for the bomber force. The Armoured Division of the 21st Army Group was advancing so rapidly up the Nijmegen road that it ran out of MT fuel and ground to a halt. Gus, as Base Commander, was ordered to organise an airlift of fuel. Gus personally went to Belgium to see the reception area was safe for his crews, and then turning Nelson's blind eye to the regulations forbidding carriage of containers of fuel in bomber aircraft, hundreds of jerry cans of MT fuel were loaded in both the fuselages and bomb bays of his Halifaxes. In 8 days, 580 sorties were flown to deliver 140,000 gallons of fuel – Gus himself flew on 7 of these sorties, and the Armoured Division was on the move again.

After the war and a welcome break in Rhodesia as SASO of the Rhodesian Air Training Group he returned briefly to the bomber world in the early 1950s as Station Commander, Coningsby, before becoming

Commandant of the RAF Flying College at Manby. In those days the Flying College was developing techniques to obtain the best performance from the new jet aircraft entering service. Gus greatly enjoyed flying the Canberra – as well as the Meteor and the Vampire. He flew all the aircraft solo thus, as always, leading from the front. He used to fit an artificial arm/claw to his right stump. He could then clamp the claw to the control column in order to hold the column steady whilst using his left arm to manipulate the throttles and switches, etc – very tricky in those aircraft with throttles on the right of the pilot's seat – but he managed!

He was particularly interested in polar flying and its associated navigation techniques, and led several detachments to Bodo in northern Norway for the first jet flights over the North Pole from Europe. Gus loved to take part in these flights which stretched the Canberra's range to the limit and his infectious enthusiasm pervaded any detachment in which he took part. For his contribution to the development of jet operations and polar flights he was awarded in 1956 the AFC – a unique award for an Air Officer.

He was also, in this post-war period, able to return to the Rugby world, no longer, sadly as a player, but much in demand as a referee – indeed he continued to referee at the highest level until well over 50. His contribution to RAF, Club, County and International Rugby was immense, being not only on the RAFRU Committee for years, but also on the English Rugby Union Committee, becoming President of the Rugby Union in 1965/66 – a great honour.

A tribute to his touch as a referee comes from the Chairman of the British Limbless Ex-Servicemen's Association, who last year was on a visit to the RAF in Northern Ireland to collect a cheque for the Association. He met a burly RAF Police sergeant who remembered Gus as a referee when he, the police sergeant, was charging down the field and about to do a mischief to the opposing full-back, when a voice said in his ear 'I wouldn't'. It was Gus, as always in the right place at the right time.

The Chairman of BLESMA at the same time paid a tribute to Gus for his work for the limbless. On the Advisory and Appeal Committee he did wonders in encouraging those who had lost limbs to ignore their infirmity – as indeed he did himself.

He and Douglas Bader were a tough combination on the golf course –

I often played with Gus myself at Brancaster, and it was quite remarkable how he could hit the ball – and be quite impatient with anyone who tried to help him or suggest he play off the forward tees. And on the tennis court it was astonishing to see him hold ball and racquet in his left hand, throw the ball in the air, adjust his grip on the racquet and then hit the ball over the net – with very few double faults.

After his tour at Manby he was promoted AVM and made AOC 1 Group when the Vulcans were entering service. He tackled their training and operations with his usual vigour – flying himself and leading a detachment to the World Congress of Flight in the United States, where these new delta-wing bombers made a tremendous impression – as did Gus, stepping out of the aircraft from the pilot's seat in his flying kit and minus an arm.

His career thereafter made steady upward progress, becoming C-in-C Flying Training Command in 1961. Miss Fuller, now working in the Air Historical Branch, who was an SACW at the Headquarters at the time recalls that – and I quote:-

‘We had beautiful green lawns with notices ‘Keep off the grass’. On occasions, the C-in-C, or as we affectionately called him ‘the one-armed bandit’, could be seen taking a short cut to the Officers’ Mess. On another occasion, Station Sports Day, he entered the over 40s race and could be seen to ‘cut corners’, leaving his fellow racers well behind amid roars of laughter’.

Could you possibly think of a person better suited to be Inspector General of the RAF than Gus Walker? He filled this post from 1961 to 1966. I was Station Commander, Khormaksar in Aden at the time and well remember his regular visits. Conditions were fairly tough out there with a war in the Radfan and a tense security situation in Aden itself. Accommodation was grossly overcrowded and very sub-standard. Gus always came out at the hottest time of year when things were at their most uncomfortable. He would always address the airmen, the Corporals, the SNCOs and the Officers in their respective Messes and Clubs. Such was his understanding of their problems and his encouragement for what they were doing, he would invariably get a standing ovation. He made everyone's day.

His last Service appointment was a NATO one, as Deputy C-in-C for the Central Region. He was there responsible not only for the RAF, but

also for the Belgian, Dutch and German forces. It was at the time when the German Air Force was having the most appalling accident rate with its Starfighters, and morale in the German Air Force squadrons was at a low ebb. Gus visited the Starfighter squadrons on the Germans' main base and having spent much time talking to the crews he insisted on flying with them – not for a couple of quick circuits, but for a very full operational training exercise. When the aircraft landed it was possible to sense the change in atmosphere – the boost to morale was remarkable.

Retiring from the RAF in 1970, you would hardly expect Gus to do other than throw himself into a wide range of activities. Apart from his Rugby and his work for the limbless, he became amongst other things, a director of Phillips, Commandant of the Church Lads Brigade, Chairman of the National Sporting Club and, surely unique for an RAF officer, honorary Colonel of 33 Signals Regiment.

All these responsibilities Gus took very seriously but he probably devoted most time to what gave him the closest links with the Royal Air Force – the Royal Air Forces Association.

He served the Association for the best part of 20 years as Vice-President, Chairman of the Council, President of the Association, and finally, Life Vice-President. I doubt if there has ever been a single member of the Association who was so widely known and who, in turn, genuinely knew so many of its 100,000 members.

His ability to remember people who he had met only a few times and had not seen for many years was probably his most endearing and remarkable characteristic. It was not done by staff work – I don't think he ever cared much for staff work – it was just that he had a passionate interest in people and a phenomenal memory for all he ever saw or heard about them.

Our thoughts at this time of course are with his wife Brenda and the family. In particular with Brenda, who gave Gus the most splendid support over their 44 years of married life. It cannot always have been easy for her – even Gus had some limitations with one arm, and to keep pace with his boundless vigour and enthusiasm must have required at times superhuman effort. But Brenda partnered him during those years in a way that can only fill us with admiration. Not only was she his devoted wife, she was his right arm and his right hand.

And Gus was sustained too by his strong religious beliefs. He was a regular churchgoer and his faith helped him to find the love he had for

humanity; a love that enabled him always to see the good in people. He had the happy knack too of bringing out the best in all of us.

We have lost a great man and a great leader. I doubt that we shall ever see the like of him again.