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First Published in the UK in 1996

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Printed by Hastings Printing Company Limited

Royal Air Force Historical Society

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

No 16

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RAF Museum, 20th October 1995

**AIR LEADERSHIP IN WAR
SEMINAR PROGRAMME**

Welcome by Dr Michael Fopp, Director, the RAF Museum

Welcoming Address by RAFHS Chairman,
Air Marshal Sir Frederick Sowrey

Opening Address by Symposium Chairman
Air Chief Marshal Sir Patrick Hine

The Higher Direction of War

World War II – Allied and National Command
Dr G V Orange

The Falklands – National Command
Air Vice-Marshal G A Chesworth

The Gulf War – Coalition Command
Air Chief Marshal Sir Patrick Hine

Questions to Speakers

Tactical Command

Theatre/Wing
Indonesian Confrontation – Air Vice-Marshal G C Lamb
The Gulf War – Air Marshal I D MacFadyen

Squadron
World War II – Wing Commander R P Beamont
The Falklands – Air Vice-Marshal P T Squire
The Gulf War – Group Captain G L Torpy

Questions to Speakers

Chairman's Closing Remarks

**DR MICHAEL FOPP
DIRECTOR OF THE RAF MUSEUM**

I'd like very quickly to welcome you for the Annual Seminar held here by the Royal Air Force Historical Society, which is, I believe, extremely important not only for the Society but also for the Museum. Where better to discuss Air Leadership and what better site to actually do that than here at Hendon?

We do enjoy having you here, and appreciate the results of all the RAF Historical Society Seminars, which of course go into our Library. You have a quality programme and I hope you enjoy the day with us.

**WELCOMING ADDRESS
BY AIR MARSHAL SIR FREDERICK SOWREY
CHAIRMAN OF THE ROYAL AIR FORCE
HISTORICAL SOCIETY**

Command and Leadership has exercised and engaged historians over the ages, and the Twentieth Century has brought air leadership as an entirely new dimension. It varies from the traditional type of leadership of the Douglas Baders, to the unseen, pervasive, yet extremely effective leadership such as commanders like Arthur Harris exercised in Bomber Command. Today we have a very talented team, which John Herrington has put together, who will look at this subject in some detail. This is a unique occasion: I do not think it has ever before been done on this basis and with this scope. It should stand as a yardstick for the future well-being of the Royal Air Force, and who better to chair it than Air Chief Marshal Sir Patrick Hine.

Paddy Hine was himself a charismatic leader, Formation Aerobatic Team pilot, Vice Chief of Defence Staff, CinC Strike Command, and CinC UKAIR, when he was also a coalition leader in the Gulf War. He will organise and run all today's programme.

OPENING ADDRESS BY SYMPOSIUM CHAIRMAN

AIR CHIEF MARSHAL SIR PATRICK HINE

Let me first of all say how pleased I was to be invited to chair this seminar on Air Leadership in War, a subject which I am sure you will all agree we could spend a week or more debating.

The RAF has had some great wartime leaders, at all levels, and we could have devoted the whole of today to an in-depth consideration of the different approaches to leadership of, for example, Harris and Dowding. However, their contributions in the Second World War have at least been partially covered in previous seminars, and it was therefore decided to treat the subject in a different way. This morning we shall be looking at the higher direction of war, and then after lunch we shall be examining the tactical command level, taking as examples the Second World War, Indonesian Confrontation, the Falklands Conflict and the Gulf War, and we are fortunate today in that most speakers took part in one or more of those conflicts, as commanders at different levels from Commander-in-Chief or equivalent down to Squadron Commander.

At the lower levels we shall be hearing about leadership in the air itself, whereas at the higher levels we shall be focusing more on the factors that determine the command and control – C2 from here on – and utilisation of the air forces available. Some air campaign strategies have been highly successful, others less so, and not necessarily because the leadership was found wanting, but more owing to a combination of factors, some actually beyond the control of the commander responsible.

You will all have heard of General Jan Smuts. In 1917 he commented with great prescience: ‘The day may not be far off when aerial operations become the principal operations of war, to which the older forms of military and naval operations may become secondary and subordinate.’ But if we are objective with ourselves – and airmen are always more objective than soldiers and sailors in my experience – air power has not, until quite recently, become the dominant factor in modern warfare that Smuts foresaw, and that is because technology hitherto could never quite match the adopted concepts of air operations. But there can be no doubt following the Gulf Conflict that air power, if correctly applied, can now enable wars to be won, even against enemies with strong forces, quickly, decisively and cheaply in terms of friendly lives lost. Certainly it is no longer possible to conduct effective land or naval operations without first creating air superiority – not necessarily supremacy, but superiority. Air power today is

pervasive and at last it is beginning to realise its full potential, but it still has a long way to go.

You will know that there is no single template that determines the successful commander: experience, character, leadership qualities are all obvious ingredients, but the mix can vary, as can the commander's style. Some lead from the front, with strong, forceful personalities; your Chairman mentioned Douglas Bader in this context. Others, such as 'Bomber' Harris, again mentioned, are at least equally tough and determined but attract respect and win confidence in a more thoughtful and measured way, and without exhibiting overt charisma. I personally believe that all successful air leaders must have a deep understanding of the application of air power, and a proper knowledge of the strengths and limitations of the men, aircraft and weapons under their command. The principles of air power are not difficult to understand, but you must also appreciate their application with the resources available; and you must have an understanding of the capabilities of your enemy. It is those things that determine the outcome.

Our first speaker this morning is Dr Vincent Orange, whose varied career has embraced acting, broadcasting, lecturing and writing, as well as serving three years in the Royal Air Force. He has written several biographies, including those of Sir Keith Park and Sir Arthur Coningham, and is now working on one of Lord Tedder. He thus has all the credentials to get us off to a flying start.



Left to right: Group Captain Torpy, Air Marshal MacFadyen, Wing Commander Beamont, Air Chief Marshal Sir Patrick Hine, Air Vice-Marshal (now Air Marshal) Squire, Air Vice-Marshal Lamb



WORLD WAR II: ALLIED AND NATIONAL COMMAND DR VINCENT ORANGE

(Editorial Note: *Owing to the constraints of time, Dr Orange delivered an abbreviated version of the paper he had written; his full paper is reproduced here, together with his Notes.*)

My subject is the higher direction, from an RAF viewpoint, of both national and allied operations during the Second World War. My examples focus upon Arthur Tedder, but include Portal and Freeman (his guardians above); Coningham and Elmhirst (his admirers below); Eisenhower and Spaatz (his American partners); and, not least, his chief scientific adviser, Solly Zuckerman. As for my text, dearly beloved, it is taken from the works of Dr Samuel Johnson: ‘Marriage has many pains’, that wise man wrote, ‘but celibacy has no pleasures.’¹

Even before he arrived in Cairo as deputy head of Middle East Air Command in December 1940 (succeeding Sir Arthur Longmore as head of that command five months later), Tedder knew that neither Britain’s aircraft industry nor her merchant fleet would be able to supply him with the modern fighters, bombers and transports he needed. American aircraft would be essential to survival, let alone victory, in the Desert War and therefore intimate relations with Americans would also be essential. Although getting together with them – and still more *staying* together – would prove as difficult as making and maintaining a marriage, he readily accepted Dr Johnson’s dictum as a working principle. Another Johnsonian dictum, ‘I am willing to love all mankind, *except an American*’ was best ignored, though it may occasionally have passed through his mind and those of my colleagues who are going to speak about events in the Falklands and the Gulf.²

Consequently, Tedder favoured an expedition mounted from Egypt early in 1941 to help Greece resist a German invasion, even though the British faced certain defeat there and risked losing all the gains made in the Desert at Italian expense. As he later recalled, ‘one factor was particularly strong in my mind, and that was the possible effect on the United States and their attitude towards us if we went back on our guarantee to Greece. I knew how important it was that nothing should endanger the programmes for the supply of munitions, and particularly aircraft, plans which were being very actively drawn up, and which might very well fall through if the United States lost their faith in us.’³ Without that ‘faith’, the Anglo-

American marriage would fail and a celibate Britain would lose the war.

At the end of June 1942, a small US Army Air Force was set up in the Middle East under Major General Lewis H Brereton. Nominally independent, it actually fought under Tedder's direction. 'One often hears a lot of sentimental stuff about the British and Americans being first cousins and even brothers,' Tedder told them. 'This is bunk. You are a pack of goddam Yanks. You think you speak English, but you don't. You dislike English food, but your own only *looks* better. You don't like being here, and I don't either. We're only here because we both believe certain things are worth fighting for, so let's get on with it.' All of which doubtless came as a refreshing blast to men weary of bland sermons about nobly forging a transatlantic partnership. Moreover, Tedder was never a 'remote control' commander. 'I always had to let him know when I was going out for an inspection,' Brereton recalled, 'and as like as not he would come too. He got around to every American unit damn near as often as I did.'⁴

On 9 November 1942, Tedder received the ultimate American accolade: an appearance on the cover of *Time* magazine. 'Tedder of North Africa' was made the subject of a laudatory profile – although it did describe him as 'a pale, thin gremlin'. Operation Torch (the Allied landings in Morocco and Algeria led by Eisenhower) had just begun and rapidly brought to a head questions about command and supply of air forces, also co-ordination with land and sea forces, which this gremlin had been pondering for the past two years.

Why him? Until December 1940, Tedder had not served in North Africa for more than twenty years – and then it was in a training depot, far from the action. His record between the wars suggested, in Prime Minister Winston Churchill's words, 'a man of nuts and bolts'; more accurately, 'a man of pen and ink'. A Cambridge graduate, he had actually published a book. A Staff College teacher, his history lectures achieved a very high academic standard. A training and armament expert, his advice in both fields was widely respected. In aviation research, development and production – first at the Air Ministry, later at the Ministry of Aircraft Production – he beavered away most usefully. And those permitted to see his numerous drawings in coloured pencils were rightly impressed. By contrast, he managed only two brief spells of active service between the wars: as a Squadron Commander near Constantinople during the Chanak Crisis in the early 1920s and as AOC at Singapore in the late '30s.

Married with three children, Tedder lived blamelessly and soberly off duty, listening to classical music, going to plays, pottering on beaches,

studying stars: ‘the sort of chap,’ recorded one contemporary, ‘who always wore his hat slap on the middle of his head.’⁵ He had not been a famous fighter pilot during the Great War; he had made no dramatic or pioneering flights after that war; and no endearing, let alone boisterous, anecdotes were told about him. ‘I wanted to be liked,’ he said once, ‘but I wasn’t much.’ In 1940, when this quietly amiable academic reached the ripe old age of fifty, he was properly employed, so it seemed, far from any concern with the higher direction of war. Before the end of that year, however, he had landed an exciting frontline appointment in Cairo. Could it be that he was not a ‘quietly amiable academic’ after all?

Opportunity is the mother of greatness and this is the moment at which an outstanding national and allied commander began to emerge from a thicket of nuts, bolts, pens and inks. But opportunity has to be seized and this Tedder did in at least seven ways.

In the first place, no navigator would ever land him in enemy territory because Tedder had himself mastered that science and, whenever airborne, took the closest interest in proposed routes and destinations. All that stargazing paid a practical dividend in the Desert.

Secondly, Tedder refrained from moaning on at anxious, overworked Air Ministry officials about problems of supply and reinforcement they couldn’t then solve. There are times to demand, times to make do and mend: a successful commander can tell one from the other. His boss couldn’t and was therefore sacked in May 1941.

Thirdly, Tedder had already impressed the Vice Chief of the Air Staff, Sir Wilfrid Freeman – a hot man, difficult to please – with his abilities. He now impressed Freeman’s friend, Sir Charles Portal: a cold man, no easier to please. Though younger than Tedder and for long his junior in rank, Portal (appointed Chief of the Air Staff in October 1940) became Tedder’s model as a high commander. Quite apart from Portal’s more distinguished background (upper-class family, *better* Oxbridge college, skilled in *falconry*, a superior pursuit to middle-class rowing, running and rugby, plus an outstanding war record), Tedder responded to Portal’s rare personal qualities. The CAS was even-tempered, quietly-spoken, concise in argument, giving subordinates the loyalty and trust he expected to receive, and had a disconcerting, ironic sense of humour that relied on straight-faced under-statement. A master of the war’s broad shape as well as its particular campaigns, Portal focused on present plans and future prospects, neither brooding nor lamenting over the past. He had the physical and mental resilience needed for endless hours of hard talking, writing or

travelling – and the confidence to relax completely whenever opportunity offered. Above all, he concealed under a calm exterior both fierce ambition and utter ruthlessness. It was at Portal's request that Tedder sent him regular, lucid, sensible and brutally frank reports on the Mediterranean scene as he saw it, to which Portal replied in kind. Each liked what the other wrote and the bond then forged helped Tedder to the top.⁶

Fourthly, he rose easily to the challenge of 'higher direction', a challenge which is as much political as military. He learned to argue cogently and forcefully – but not quarrel irrevocably – with everyone who mattered in Cairo, service or civilian, male or female. He developed (or revealed) a public capacity for expressing broad views calmly, reserving anger or disdain for private display, on paper or in person. As early as October 1941, ten months after his arrival in Cairo, he had earned the confidence of Sir Claude Auchinleck, the Army Commander. Auchinleck's support, allied to that of Portal and Freeman, proved sufficient to prevent Churchill from sacking Tedder over a dispute over Allied and Axis air strengths. Portal threatened resignation and Freeman refused, as he put it, to play either Judas or Brutus.⁷

Fifthly, Tedder found in 'Mary' Coningham a man who rose just as easily to the challenge of field command. Raymond Collishaw, a fine Canadian fighter pilot of the Great War, busied himself too much with routine duties for Tedder's liking and was unduly optimistic about what could be done with a handful of men and aircraft. Avoiding the temptation to appoint a friend in Collishaw's place, Tedder chose a man who became, in Liddell Hart's words, 'the real hero' of the Desert War.⁸ Personally, Coningham was everything Tedder was not: famous within the Service and much-decorated for his feats as a combat, air display and long-distance pilot. Not a man to wear his cap dead straight, nor to be described as 'a pale, thin gremlin', Coningham was a man of style and presence. But he was also a careful *listener* (as successful commanders usually are): taking in what was said and readily using what he heard to shape his own ideas.⁹

Sixthly, Tedder's pre-war experience with problems of aviation research, development and production opened his mind to the need for scientific analysis of operational performance, especially from the middle of 1943 when bombing raids could at last be launched from North African bases in some strength against Italian targets. He therefore 'head hunted' an eminent biologist, Solly Zuckerman, who had already made his name studying bombing effectiveness. Their partnership, which became a life-long friendship, produced in 1944 a plan that played a vital part in the

success of Operation Overlord.¹⁰

Finally and seventhly, Tedder grasped the fact that Britain, even with substantial Imperial and Commonwealth support, could at best *share* in a victory that would be achieved primarily by the men and material of her mighty American and Russian allies. Little could be done, hard as he tried, to influence Russian policies. But something could be done to influence Americans. This objective, steadily pursued and rewarded with significant success during and after the war, is at the heart of Tedder's claim to greatness.

Coningham's talents did not, unfortunately, include a sure grasp of logistics. As defined by Air Marshal Sir Kenneth Hayr, logistics is 'the science of planning and carrying out the movement and maintenance of forces'. Tedder gradually recognised Coningham's weakness in this vital area and provided him in February 1942 with an expert assistant in Thomas Elmhirst. 'On his arrival in the Desert,' wrote Kenneth Cross (at that time Coningham's most outstanding fighter leader), Elmhirst 'quickly created order where there had been disorder, supply where there had been shortage, confidence where there had been doubt and, above all, a belief amongst those doing the fighting that here was a man who understood what they needed.'¹¹ Rommel had less grasp than Coningham and – better still, from an Allied viewpoint – neither a Tedder above him nor an Elmhirst at his side to see that he gave it priority attention. 'Without logistics,' wrote Hayr, 'a force has no military utility. Of course, a force needs eyes, ears and teeth, but logistics represents the heart, lungs and lifeblood: it is the life-support system without which the whole force would grind to a halt.' Although he was writing about the recent Gulf War, his words apply equally to all wars. 'Tactics,' Hayr concluded, are 'the art of the logistically possible.'¹²

With Tedder's approval, Coningham had made it his personal business to appoint subordinate commanders, promising them the same absence of interference, the same positive support and the same threat of speedy removal in the event of failure that hovered over his own head. It would not be until August 1942 that similar methods took hold in the British 8th Army. Churchill's doctor (Charles Wilson, later Lord Moran) observed the confident tone of Coningham's HQ at this time. 'These fellows,' he wrote, 'were not groomed in a mess before the war. Their thoughts are not borrowed from others and their speech is forthright. They are critical of the Army, and they say what is in their minds without batting an eyelid.' As for Tedder, Wilson was sure that he would 'speak for them if the PM is in

doubt' about the Army's command. Wilson learned that Tedder's father, 'a rough diamond, fought his way from the bottom to become head of the Excise. In the son the facets have been polished, but the hard stone is left . . . He seems quite unlike anyone in the service I have met – a quick mind and a sharp tongue. He admires Smuts, thinks he is a greater man than the Prime Minister, and says so.'¹³ As Wilson guessed, Tedder told Churchill that the selection, promotion and removal of commanders should in future be made on the basis of *performance* rather than seniority, friendship, regimental or family connections. The advent of Sir Bernard Montgomery ensured that Tedder's advice was taken.¹⁴

In January 1943, Roosevelt and Churchill approved a new air organisation for the Mediterranean theatre during their meeting in Casablanca. Tedder was to head it, from February onwards, subordinate only to an American Supreme Commander, Dwight D Eisenhower. As Sir Christopher Foxley-Norris rightly observed, Tedder 'readily accepted full subordination of the command and himself to the comparatively unproved direction of Eisenhower.' Why? Because Tedder was still following Dr Johnson's dictum about marriage being preferable to celibacy: one takes one's partner for better or worse and if, as in this case, one's partner proves to be a most exceptional person, that is merely a bonus. 'Eisenhower was quick to appreciate this,' added Foxley-Norris, 'and insisted in turn on total international integration of his forces; his own partnership with Tedder was perhaps the most closely integrated of all.'¹⁵

Tedder had spoken to a group of American and British officers in the residence of Carl A Spaatz (senior American airman in the theatre) in February 1943, expressing the hope that the new structure would also serve for the much greater challenge of liberating Occupied Europe. We are proud of our air force, he said, but 'it will be the fusion of us, the British, with you, the Americans, that is going to make the very best Air Force in the world.' He then promised never again to speak of *us* British or *you* Americans. 'From now on it is 'we' together who will function as Allies, even better than either of us alone.'¹⁶ His words were particularly welcome because Spaatz and his staff (including RAF officers) had recently heard Churchill announce the new structure over BBC radio without mentioning a single American officer. Tedder shared Eisenhower's famous enthusiasm for Allied principles, but some of their political masters and military colleagues, as well as some journalists and radio broadcasters on both sides of the Atlantic deliberately soured Anglo-American relations:¹⁷

While lecturing at Staff College, Tedder came across some anonymous

verses which he often quoted to his children; later to his subordinates and perhaps also to Spaatz (who would have approved wholeheartedly):

If you've got a thought that's happy -
Boil it down.
Make it short and crisp and snappy -
Boil it down.
When your brain its coin has minted,
Down the page your pen has sprinted,
If you want your effort printed -
Boil it down.
Take out every surplus letter -
Boil it down.
Fewer syllables the better -
Boil it down.
Make your meaning plain, express it,
So we'll know, not merely guess it;
Then, my friend, ere you address it -
Boil it down.
Cut out all the extra trimmings -
Boil it down.
Skim it well, then skim the skimmings -
Boil it down.
When you're sure 'twould be a sin to
Cut another sentence into,
Send it on – and *we'll* begin to
BOIL IT DOWN!¹⁸

Tedder and Spaatz got about, lightly attended, to see for themselves. Though very much in command, they were informal in manner and wasted no time on spit or polish. They kept temperatures down, refusing to fuss or get visibly excited. Like Spaatz, Tedder had a dry wit which appealed to many Americans, among them Harry Butcher (Eisenhower's naval aide) who felt its edge one day when Tedder said to him: 'Butch, if General Ike ever gives you up as his aide, I just want you to know that I don't want you either.'¹⁹

On 24 May 1943, after victory in Tunisia, Spaatz sent Arnold his thoughts on the structure agreed in January. It had 'served its purpose', he grudgingly admitted, but in his opinion was 'too dependent on personalities to be sound as a permanent set up.' Two years later, after victory in Europe, Spaatz had changed his mind about the dependence on personalities. The

organisation adopted for Operation Overlord, he told an American historian on 20 May 1945, 'wasn't necessary. Provided they had put into effect the same organisation up here that they had in the Mediterranean . . . I would accept Tedder as the Air Commander, and go under him as Deputy in Command of the American Air Forces.' This was not done, unfortunately. 'Eisenhower, Tedder and myself kept in such close touch with ourselves that nothing could possibly go wrong, except in our own persons . . . It worked well enough to win the war, yes, but if one of the three had been struck by heart failure it might have worked so poorly as to lose the war . . . In other words, it was a lousy organisation.' By the end of the war, then, Spaatz agreed with Tedder that personalities mattered more than structures.²⁰

After the war, two famous American Air Generals emphasised Tedder's management skills. 'Even when persuading you,' recalled Elwood R Quesada, 'he seldom worked on the actual point. He tried to influence people's minds and have *them* think straight rather than order their actions.' Laurence S Kuter added: 'His manner of operating was one of getting conflicting interests together and staying very much in the background.' Somehow, the decisions which emerged were usually the ones Tedder wanted.²¹ According to the eminent British military historian, Sir Basil Liddell Hart, 'Co-operation, sound administration and flexibility were the keynotes of Tedder's air strategy and tactics,'²² to which I would add those personal qualities developed by close association with Portal (though his waspish tongue sometimes stung more sharply than he intended).

Tedder was more than an adroit operator, however. Harold Macmillan, himself adroit enough to become Prime Minister and a man who met countless men and women of uncommon quality, said of him: 'He has that rare quality of greatness (which you can't define but you can sense). It consists partly of humour, immense common sense, and a power to concentrate on one or two simple points. But there is something more than any separate quality – you just feel it about some people the moment they come into a room. And *Tedder* is one of those people about whom you feel it.'²³ In addition to his compelling personality, he had a vision of war 'as a single problem in which the strategy, the tactics, and the technique of sea, land and air warfare respectively are inevitably and closely interlocked . . . Given mutual understanding of that, you get mutual faith; and only with mutual faith will you get the three arms working together as one great war machine', a machine capable of pulling its weight in the largest and most successful military collaboration in history. This vision, formulated in the

Mediterranean, admirably fitted that of Eisenhower and prevailed in North-west Europe despite much belly-aching from men of partisan mind, in and out of uniform.²⁴

Acutely aware that national rivalries might wreck the Allied coalition, Eisenhower and Tedder shared a determination to submerge them under a wash of official goodwill. By December 1943, their achievements in battles and conferences had prepared them well for command of Operation Overlord, the Allied attempt to liberate Occupied Europe. The question arose of how air power – specifically, heavy bombers – could best assist that venture. Harris, the British bomber commander, preferred to continue his destruction of German cities, hoping to win the war before the invasion could begin, whereas Spaatz (now the American bomber commander) wanted to employ his forces against Germany's aircraft and oil industries and the fighters defending them.

Tedder, supported by Eisenhower, successfully urged a prolonged, systematic attack on French, Belgian and west German marshalling yards controlling railway systems serving the invasion area. It would be easy for the Germans to move in reinforcements and heavy weapons quickly if they had the use of undamaged railways. Therefore, if the Allies were not to be swept back into the sea, the German build-up must be delayed and disorganised. In advocating rail targets, Tedder was influenced by his knowledge of the success achieved by Allied bombers against such targets in Sicily and southern Italy and by the advice of British railway executives. The task of preparing a detailed plan was delegated to Zuckerman. Churchill, fearing the political consequences if many French and Belgian civilians were killed or injured by attacks on railways, sought President Roosevelt's help in cancelling the plan, but Roosevelt – in a classic example of the 'higher direction' of war – supported the field commanders. In the event, although casualties proved far lighter than even Tedder had feared, his standing with Churchill was harmed by the long, bitter arguments.

Throughout this crucial episode, Eisenhower and Portal revealed their capacity for higher direction. They listened to arguments, took expert advice, became convinced that the plan should be an essential part of Overlord and gave full backing to its advocates. As Portal would tell Tedder in January 1945, in words which epitomise higher direction, 'One can only go on doing and advocating what one believes to be right.'²⁵ Here we see a vital facet of higher direction: the confidence, professional knowledge and experience to decide that one is being resolute and not

merely obstinate. And another facet: when should one compromise rather than forcing an issue to the point of resignation? For Harris and Spaatz usually followed their differing convictions about the proper employment of heavy bombers and Tedder chose to accept this.

Eisenhower was often accused by fellow-countrymen of being Britain's best General and Tedder might well be dubbed America's best Air Marshal. During the war, Tedder tried hard to weaken an American conviction that Britons were publicly patronising and privately insulting. After the war, helped by Russian aggression, his example modified the belief, long inculcated at American Army and Navy War Colleges, that Britons were dangerous rivals.²⁶ To get a friend, he knew, you have to be one. Walter Bedell Smith (a man at least as difficult to please as Wilfrid Freeman or Peter Portal) told Tedder in July 1945: 'I feel closer to men like you . . . than I have ever been to friends that I have known all my life . . . Give my love to Topsy [Tedder's wife]. Both you and she will always be at home wherever I am.'²⁷

The last word, however, must remain with a greater man than Smith; one greater, indeed, than Portal, Freeman or Tedder; one in whose friendship Tedder rejoiced until he died and one who admired my 'pale, thin goblin' as a man fit for the higher direction of armed forces in peace as well as war. 'Humility,' said Dwight D Eisenhower in a memorable address at London's Guildhall on 12 June 1945, 'must always be the portion of any man who receives acclaim earned in the blood of his followers and sacrifices of his friends.' These magnificent words are engraved in the Chapel of Remembrance at the Eisenhower Center in Abilene, Kansas, and Arthur Tedder loved him for them.

Notes:

¹ Samuel Johnson, *The History of Rasselas, Prince of Abyssinia* (ed Geoffrey Tillotson & Brian Jenkins, Oxford University Press, 1971), chapter XXVI, p69.

² James Boswell, *The Life of Samuel Johnson* (Everyman's Library, J M Dent, London, 1906), vol. 2, p209: 15 April 1778. This paper draws upon my essays "Getting Together": Tedder, Coningham and Americans in the Desert and Tunisia, 1940-1943' in Daniel R Mortensen (ed), *Air Power and Ground Armies, Essays on Anglo-American Air Doctrine, 1940-1945* (Center for Air Force History, Washington, DC, forthcoming) and 'The Commanders and the Command System' in *The End of the Beginning: A Symposium on the Land/Air Co-operation in the Mediterranean War, 1940-43* (RAF Historical Society, London, 1992) pp34-45.

³ Lord Tedder, *With Prejudice: the War Memoirs of Marshal of the Royal Air Force Lord Tedder, GCB* (Cassell, London, 1966) p32.

⁴ Roderic Owen, *Tedder* (Collins, London, 1952), pp165-7, 190; Tedder, *With Prejudice*, pp354-5; unpublished Tedder papers in the present writer's possession.

- ⁵ Air Chief Marshal Sir Christopher Foxley-Norris, 'Marshal of the Royal Air Force Lord Tedder' in Field Marshal Sir Michael Carver (ed), *The War Lords: Military Commanders of the Twentieth Century* (Little Brown & Co, Boston, 1976) pp486-7.
- ⁶ Denis Richards, *Portal of Hungerford* (Heinemann, London, 1977), pp230246.
- ⁷ Richards, *Portal of Hungerford*, p.236 (Judas); Tedder, *With Prejudice*, p184 (Brutus); Sebastian Cox, 'The Difference between White and Black': Churchill, Imperial Politics and Intelligence before the 1941 Crusader Offensive' in *Intelligence and National Security*, vol 9, no 3 (July 1994) pp405-447.
- ⁸ Liddell Hart to Cassell's, 26 April 1966, Liddell Hart Correspondence, 1/339/20, Liddell Hart Centre for Military Archives, King's College, London.
- ⁹ Vincent Orange, *Coningham* (Methuen, London, 1990; Office of Air Force History, Washington DC, 1992) pp66-7, 78.
- ¹⁰ Solly Zuckerman, *From Apes to Warlords* (Hamish Hamilton, London, 1978) and *Six Men Out of the Ordinary* (Peter Owen, London, 1992).
- ¹¹ Orange, *Coningham*, p89.
- ¹² Air Marshal Sir Kenneth Hayr, 'Logistics in the Gulf War' in *RUSI Journal*, vol 136 (1991) pp14 and 19.
- ¹³ Lord Moran, *Winston Churchill: The Struggle for Survival, 1940-1965* (Constable, London, 1966) pp50-51.
- ¹⁴ Orange, *Coningham*, p106.
- ¹⁵ Foxley Norris, 'Tedder', p495.
- ¹⁶ Tedder, *With Prejudice*, pp397-8.
- ¹⁷ Spaatz Papers, Box 23, February 1943, Library of Congress, Washington DC.
- ¹⁸ John O'London (compiler), *Treasure Trove: Being Good Things Lost and Found* (George Newnes, London, 1925), pp137-8.
- ¹⁹ Richard G Davis, *Tempering the Blade: General Carl A Spaatz and American Tactical Air Power in North Africa, November 8, 1942-May 14, 1943* (Office of Air Force History, Washington DC, 1989) p2; Harry C Butcher, *Three Years with Eisenhower: The Personal Diary of Captain Harry C Butcher, USNR, Naval Aide to General Eisenhower, 1942-1945* (William Heinemann, London, 1946) p343.
- ²⁰ Spaatz Papers, Box 136, Library of Congress, Washington DC.
- ²¹ Owen, *Tedder*, pp207 and 216; interview with Kuter, September-October 1974: K239.0512-810, Bolling AFB, Washington DC.
- ²² Liddell Hart to Cassell's, 26 April 1966, *loc cit*.
- ²³ Harold Macmillan, *The Blast of War, 1939-1945* (Macmillan, London, 1967) vol 2, pp273-4.
- ²⁴ MRAF The Lord Tedder, *Air Power in War* (The Lees Knowles Lectures, a series of four lectures delivered at Cambridge University, February-March 1946; published by the Air Ministry, London, September 1947) p11; MRAF The Lord Tedder, 'Air, Land and Sea Warfare' in *RUSI Journal*, vol 91 (1946) p64.
- ²⁵ Richards, *Portal of Hungerford*, p244.
- ²⁶ John Gooch, 'Hidden in the Rock': American Military Perceptions of Great Britain, 1919-1940' in *War, Strategy and International Politics: Essays in Honour of Sir Michael Howard*, ed Lawrence Freeman & others (Clarendon Press, Oxford, 1992) pp172-3.
- ²⁷ W B Smith Papers, Personal Correspondence, Box 10: Eisenhower Library, Abilene, Kansas.

CHAIRMAN

Our second speaker, who is going to address the question of national command in the Falklands Conflict, is Air Vice-Marshal George Chesworth. George is a very experienced airman in maritime air operations. He flew Sunderlands on operations in Malaya and Korea and was later a Flight Commander on Shackletons. He commanded the first Nimrod squadron, No 201, and was then Station Commander at Kinloss between 1972 and 1975, so you can see the kind of impeccable kipper-fleet pedigree that he has. Then on promotion to air commodore he became the Air Officer i/c Central Tactics and Trials Organisation, High Wycombe, and on further promotion to air vice-marshal he became the Chief of Staff of No 18 (Maritime) Group, a job he held for almost four years. During that period he was Chief of Staff to the AOC, Air Marshal Sir John Curtiss, and so was ideally placed to see how the Air was commanded during the Falklands Conflict.



THE FALKLANDS – NATIONAL COMMAND

AIR-VICE MARSHAL G A CHESWORTH

I must make it clear to start with that it is not my intention to talk about the direction of the Falklands campaign above the Northwood level. The CAS of the day is here, as is ACAS (Ops), and no doubt there are other distinguished members who also had a finger in that particular pie and I might have got it wrong!

Dr Orange said that personalities matter more than structures; nowhere was this more apparent and true than during the Falklands. The campaign was unique in that it was something which I suspect nobody thought we would ever have to enter into, and there was certainly no real contingency planning in place when the Argentinians invaded on 2 April 1982. It was a very short campaign: victory was achieved in Stanley on 14 June – not long at all. And the fact that the campaign was really directed entirely from Northwood says an awful lot for the flexibility that existed in the higher command.

It is interesting to read the Franks Report which gives the background to

the invasion, the attempted seizure of the islands, because one of the things it highlights is the fact that even right up until the end there were hopes that success would be achieved diplomatically. In the event, of course, it did not happen that way at all, and since it was perceived to be a task for the Navy in the first instance, the command went to CinC Fleet.

Northwood was a joint-Service national and also an international headquarters. On the national side it was the HQ of 18 Group, under Air Marshal Sir John Curtiss. CinC Fleet, Admiral Sir John Fieldhouse, had his HQ there, and he was the commander of all the operational ships, world-wide. It was also the HQ of Flag Officer Submarines (FOSM), Admiral Herbert. At the same time it was a NATO headquarters housing CinC Channel, also under Admiral Fieldhouse; CinC Eastern Atlantic, Admiral Fieldhouse again; COMMAIRCHAN, John Curtiss; and Commander Air Eastern Atlantic, also John Curtiss. So we had, if you like, an immediate joint-Service HQ there.

So for our campaign we had John Fieldhouse as the CinC and John Curtiss as the AOC; later General Moore, the Marine General, came aboard, and when he went south we had General Trent. They were all very good people, good friends who got on very well together, and as the campaign went on Admiral Fieldhouse looked more and more to the AOC for all his air advice, for it was natural that shortly after the real action started John Curtiss was appointed the Air Commander.

It is useful to summarise CAS's directive to Air Marshal Curtiss, issued on 12 April. It made him responsible to the CinC for operational command and control of all aircraft, air operations, equipment and personnel given under his authority by CinC Strike Command for Operation CORPORATE, which was the collective name for the campaign. He was allowed to have direct contact with the Air Force Department and other RN, Army and Air Commanders, while keeping MOD and Strike Command informed. This did not apply as far as the Air Transport Force was concerned; this remained essentially under control of 38 Group.

We must now remind ourselves of the chain of command which existed under normal conditions; it was really quite simple, leading from MOD, through Strike Command, to the four operational groups and the aeroplanes they had under their command and control and which eventually were involved in CORPORATE. Within 18 Group were the two subordinate air formations, Southern Maritime Air Region and Northern Maritime Air Region; the fact that they existed allowed for the normal day-to-day functions of Northwood and HQ 18 Group to be delegated, allowing us to

get on with the Falklands.

With the advent of Commander Task Force 317 (Admiral Fieldhouse), and the appointment of Air Marshal Curtiss as Air Commander, things changed in that Strike Command was no longer directly in the chain of command as far as the Air Force units were concerned, and neither indeed were the Groups and Group Commanders. It says an awful lot that this worked, and that the CinC and the other AOCs were content to let it happen. In effect you can almost say that Air Commander 317 became to all intents and purposes the AOCinC for the campaign. The other thing was that 18 Group, strictly maritime and very specialised, had quite a narrow sphere of interest. Although we did not appreciate it at the time, we were going to have to take on board a lot of other people who had the specialist knowledge required to direct the operations of the different types of aircraft involved.

It is worthwhile dwelling a little on exactly what it was like at Northwood. While this was a big organisation geographically, the part we were able to use was really quite small. Most of the infrastructure belonged to NATO, and since this was a national exercise we didn't have access to it. So whilst the Fleet were able to conduct matters from their normal, reasonably large Ops Room the Air side had to make do with a relatively small office, and in fact Air Marshal Curtiss wrote afterwards that it was a room which most Squadron Commanders would have not even considered using as a squadron coffee bar! So this presented some constraints, but by the same token it meant that all the specialists were operating together and so you soon learnt the job, because the chaps were talking about what was going on, all around you, all the time.

A word here about Sir John Curtiss, for in him we had a unique animal. He had served in Bomber Command during World War II, and he had been involved in the Berlin Airlift, so that made him a bomber and a transport man. Then he had been in the night-fighter world, a Station Commander in 2 TAF, and Commandant of the Staff College. Finally he had seen the light and come to 18 Group to finish off his education by becoming steeped in matters maritime. So we had a commander with a very broad spectrum of knowledge and experience. Equally there was a great advantage in that he was an Air Marshal and all the other AOCs were AVMS. So all the ingredients were there for a successful commander. He and John Fieldhouse were great friends who had a great respect for one another.

The normal pattern of events was for the senior Air, Field and Flag Officers to have a meeting every morning immediately after CinC's

briefing, for sorting out what had happened the night before. The higher direction was discussed there and that was passed down to the rest of us to put into action. It worked well.

Ascension, of course, was really the key to the whole Operation. UK to the Falklands was 8,000 miles and Ascension was about half-way down the track. It is said that if we had not had Ascension it would have had to be invented. The Prime Minister, on one of her regular visits to Northwood, went so far as to say that if we had not had Ascension she would have been prepared to re-negotiate the Simonstown Agreement. So it was regarded very favourably from whichever way you looked at it.

Ascension is a pimple sticking up just south of the Equator at the tip of one of the Atlantic ridges, with a runway of 10,000 feet and not much else. It's a very inhospitable place, the home of a major Cable and Wireless station, and one of the properties that were leased to the Americans during World War II in exchange for fifty destroyers. So whilst it was a British possession it was very much in the hands of the Americans, a US Air Force base, operated by PanAm. They were responsible, through the USAF Commander, a half-colonel, for keeping the airfield in a good state to service the handful of normal movements that the USAF had through it with their supplies. It didn't have very much water or very much fuel, and it had, to all intents and purposes, no accommodation at all. It was seen by everybody in the early days as a logistics base, so it was put under the command of a man who was answerable to the Vice-Chief of Defence Staff (Personnel and Logistics) in MOD. This was, if you like, one of the great failures of the campaign, in that we had split command. More and more we leant on it for air operations, and that split command became extremely difficult. Despite all Northwood's efforts that situation was not changed until quite late on, just before Stanley was retaken.

These limitations had to be addressed as they arose, and one I haven't mentioned is that there was very little parking, just enough to cater for three C-141 movements a month. We did not envisage too many problems initially because its main use would be as a logistics base for the re-supply of the Task Force by VC10s and Hercules. Inevitably, as the Navy were involved, there would also be a Nimrod presence. But as time went on, owing to the distances involved, we could not support the Fleet as they wished without the use of air-to-air refuelling.

Whilst we were working at Northwood we had one very great comfort in that we knew we were being very well supported by the Ministry. Good ideas were the order of the day and not all came from Northwood; a lot of

them came from all round the Air Force. The fact that ACAS (Ops) was driving this meant that everything had an operational bias, again influenced greatly by Sir John Curtiss.

I was particularly asked to mention the air threat to the Fleet in the area around the Falklands, and we need to remember that the only defence against the Argentinian aircraft based on the mainland and in the Falklands was indigenous in the Fleet itself: the Sea Harriers, eventually augmented by Harriers, and of course the ships' own defences. On the Falklands there was an airstrip at Stanley, not a very long one, but assessed to be capable of operating A-4s, certainly, and perhaps others if the enemy did a bit of work on it. Therefore everybody was very keen that we should do our best to take it out. It was a problem which exercised the Command at all levels. The only aeroplane judged capable of doing anything to the runway at Stanley was of course the Vulcan, which could go no more than 1,400 miles down the track. It meant that some very serious work had to be done to get Vulcans down there, and the complex in-flight refuellings of the Vulcans and of the Victor refuellers themselves reflect well both on the command and leadership in attempting such an operation, and also on the competence of those who actually flew it. To achieve it eighteen Victors and two Vulcans were used, with only one Vulcan actually doing the raid. It was a great step forward. One bomb in particular did land on the runway despite all that has been said. The people of Stanley were much relieved, and the CinC and, of course, Admiral Woodward at sea, were also helped in their running of the battle.

Whilst this was a national exercise there were still of course many other commitments that the Services had to maintain. But what we were doing used the whole air-to-air refuelling resources of the RAF. Almost all the Victors of the force took part in the operation, because of the distances involved, and as the war developed and the Argentinians were obviously going to make a fight of it and we weren't going to win diplomatically then the Force had to go ashore, as you will be hearing this afternoon.

Intelligence was one of the items of which we were very short. The South Atlantic is a vast area of sea, and the Argentinians were known to have some good forces apart from aircraft – submarines, surface ships and an aircraft carrier. Therefore the Commander of the Task Group, Sandy Woodward, who was actually going to put people ashore, wanted to know what was happening. Also we had to try to provide anti-submarine support to the Fleet while it was en route to the south. The first maritime radar reconnaissance was provided by Victors operating out of Ascension; they

were involved in surveillance of the Atlantic for the recapture of South Georgia, which was important because it was to be the mounting base for the actual invasion of the Falklands.

So the Victors did almost their bread-and-butter work, the in-flight refuelling that was their normal role. They had to re-train with the use of the radar in the aeroplane, and this was done by augmenting their crews with people from the Vulcan force who had previously performed that role. That was very successful. It meant that the Force were able to go ashore and recapture South Georgia and also know that there appeared to be no surface ships in that area to threaten the main Task Force as it went south.

After that we began to see the real ingenuity and far-sightedness all round, and perhaps the best example of that was the air-to-air refuelling modifications for the Nimrod. The Nimrod Mk 2 had a radar which was capable of classifying surface contacts, which meant that if you could get the aeroplanes fairly well down towards the islands they would be able to carry out a surveillance and give the commander some assurance that the area was clear. The aircraft deployed to Ascension with its refuelling probe, with its crews trained, 21 days after MOD decided it should be used. Among the people who were not actually present at Northwood during the necessary preparations were the financiers on the one hand, the people at Boscombe Down on the other, and as a result the aeroplane was provided with a piece of equipment that did the job. It wasn't Rolls-Royce – indeed it was anything but! It was a refuelling probe off a Vulcan that was bolted on to the pilot's escape hatch; then some pipelines out of ordinary bowsers went from the probe down into the tanks. Here again it was the leadership that prevailed – military and political as well as air – ensuring that financial constraints were not as all-pervasive as they usually are.

So as the capability built up we were able to support the Force at sea, not just with weapons and offensive operations but also essential supplies, spares and indeed people who were dropped by Hercules to the Force as it went south. All this effort allowed the Commander to assemble his troops and transfer all his people in relative safety. Remember that the Task Force had sailed with about four days' notice; while lots of ships were going south the mix was wrong, and there was a lot of trans-shipping to be done, initially at Ascension and then at South Georgia before they went ashore.

All the time we were worried that Ascension, with all its importance, represented a prime target for the Argentinians. They were fairly ingenious adversaries: they equipped their C-130s to drop bombs on ships, they had a couple of 707s, and all the time there were merchant ships around that we

had to keep a sharp eye on. Also – something we worried about and were never really quite sure of – there was always a Soviet intelligence-gathering ship sitting three miles off the end of the runway at Wideawake in Ascension. Therefore it was felt necessary to prepare to defend Ascension as well as retake the Falklands. The Defence Intelligence Staff, as far as I can gather, did not rate this threat very highly at all. Our Commanders at Northwood had a different view; this prevailed, and the island was given some sort of defensive capability. A radar was mounted on the top of Green Mountain, Harriers waiting to deploy were given a night capability to defend against air attacks, and eventually some RAF Regiment forces arrived to provide ground defence. The forces were continually at sea around the island doing guardship duties, and while these measures proved unnecessary, our Commanders felt it was important because we couldn't afford to lose Ascension.

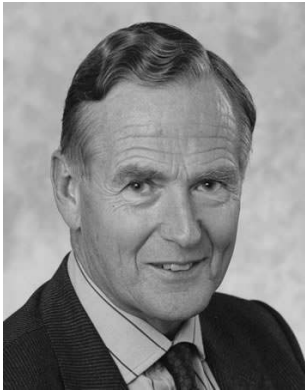
The parking problem there was such that with all the air-to-air refuelling forces assembled we could only plan operations one day at a time. As the Task Force got further south and the air support it required had to spend longer in the air, we could only support one aeroplane on operations, one day at a time. So the decision had to be made: should it be air transport, to drop supplies; should it be the Nimrod, for surface surveillance; or should it be the Vulcan, to carry out attacks on Stanley and surrounding areas? You can imagine this represented a major headache for the force there.

Once the Falklands had been recaptured that wasn't the end of matters either in terms of air effort or the job of Northwood. The actual return to the full normal structure was slow because so many of our assets were down there, and because of the work which had to be done to make the islands habitable and capable of being defended. Although the Argies had been given a bloody nose and driven out, there was the continual risk that they would be coming back. With the return of the Governor towards the end of June, control of air defence operations and the build-up switched to the Falklands, but we still retained the specialist staff at Northwood for some time to ensure that the planning of operations was carried out properly.

Let me summarise. At the start of the Falklands campaign the Air Force did not have a command structure which could swing immediately into action to cope with whatever sort of battle was to come. But the inherent flexibility of airmen and commanders was such that we very soon had one. The Air Commander, with his CinC, knew that we were being supported by all departments of the Ministry and we were therefore able to concentrate

on our job – the re-taking of the Falklands.

Much has been said about inter-Service rivalries, and no-one knows more about rivalries between the Air Force and Navy than I do, but I can honestly say that they were not present then. Everybody had a common objective and any single-Service aspirations were swallowed to enable us to get on with the job. I think that that was usually the watchword of Northwood anyway, which brings me back to where I started, to say that Northwood was the right place from which the air battle and the sea battle should be commanded.



THE GULF WAR – COALITION COMMAND

AIR CHIEF MARSHAL SIR PATRICK HINE

By the end of the Gulf War – Operation GRANBY – the UK had about 45,000 servicemen and women in theatre – the third largest contribution behind the USA and Saudi Arabia – and undoubtedly the second best in terms of fighting effectiveness. I will describe higher direction of the Gulf War from my perspective as the United Kingdom Joint

Commander.

It is important though to fit the British contribution into proper perspective. The military alliance was dominated by the USA who eventually had over 500,000 men and women in theatre. That the Americans were able to lead such a disparate coalition so successfully throughout a lengthy crisis and a major conflict was a tribute to skilful diplomacy and to General Norman Schwarzkopf's leadership qualities.

My own involvement in the Gulf crisis began in Berlin with a telephone call from my COS, Air Marshal 'Kip' Kembell, who informed me that the Government had decided to despatch a squadron of Tornado F3s and a squadron of Jaguars to Dhahran and Thumrait (Oman) respectively. High Wycombe was to be the 4-star JHQ and I was to be the Joint Commander. Shortly thereafter, the decision was taken to deploy three Nimrods to Seeb in Oman as part of the UK's contribution towards enforcement of UN economic sanctions against Iraq, as well as a squadron of Tornado GR1s to

Muharrag in Bahrain.

Initially during the Gulf crisis, MOD decided that operational command (OPCOM) and control (OPCON) of RN forces should remain with CinC Fleet and the senior naval officer Middle East (SNO ME), and so, although nominally Joint Commander, my only combat forces were from the RAF. I therefore appointed AOC 1 Group, Air Vice-Marshal Sandy Wilson, to be Air Commander British Forces Arabian Peninsula. He very quickly set up his HQ in Riyadh alongside the Americans and Saudis, and established excellent working relationships with both.

My first visit to the Gulf at the end of August ended with a two-hour meeting with General Norman Schwarzkopf, who had only recently arrived in theatre. It was a most productive meeting and set the tone for our close relationship throughout the Gulf crisis and war. At that first meeting, I asked Schwarzkopf for his thoughts on how to evict Saddam from Kuwait if political pressure and economic sanctions failed – as we both felt they would. He replied that he would insist on having sufficient forces in theatre, with proper logistic support, before he initiated any ground operations against Kuwait, and that he would require the air forces, *inter alia*, to reduce the combat effectiveness of the Iraqi army in Kuwait – by this he meant tanks and artillery in particular – down to a level of 50%. Schwarzkopf also said that having got his operational plan agreed by the President, he would insist on minimum political interference. Schwarzkopf's priorities for an extended British contribution were armoured forces and more Tornado GR1s with their airfield denial weapons, JP233. After some initial reservations, Her Majesty's Government agreed.

The decision to commit army combat units prompted a review of the command and control of RN forces, and led CDS to decide that all UK forces assigned to the Gulf should come under the OPCOM of the Joint Commander and OPCON of a 3-star Joint Force Commander in theatre. Accordingly, High Wycombe became a true 'purple' Joint HQ (JHQ) with effect from 1 October, and General Peter de la Billière assumed the post of British Forces Commander Middle East (BFCME) in Riyadh from the same date. Sandy Wilson then became his deputy and the Air Commander until replaced by AVM Bill Wratten in November.

There was also the need to resolve our command and control (C2) arrangements *vis-a-vis* the Americans and the Saudis. CDS and I had obtained Cabinet agreement that while all British Forces would remain under national C2, tactical control (TACON) could be passed to the

appropriate American commanders once we were satisfied that the tasks and roles envisaged for our forces lay within their capabilities and were consistent with my directive from CDS. Schwarzkopf was grateful for this willingness to give TACON of our forces to him and his subordinate commanders, and I in turn sought and got his agreement to my theatre commander attending his daily conference and to British officers being included in the American operational planning teams. This meant that our own ideas and requests could be fed in to the planning process. In the event, we worked in almost total harmony with the Americans throughout the six months crisis. The UK certainly held a unique position within the Coalition in this respect, and our Air Commander had a very close working relationship with General Chuck Horner, who was Schwarzkopf's Joint Force Air Component Commander.

This proposed C2 arrangement with the Americans caused some initial difficulty with the Saudis, but by mid-September I had obtained Defence Minister, Prince Sultan's agreement that our forces would indeed remain under national C2 whilst being subject to 'the overall strategic guidance of the Keeper of the Two Holy Mosques (King Fahd)' – and that the 7th Armoured Brigade Group would come under the TACON of the Americans. This was a bit of a breakthrough, for the Saudis at that time were insisting that every national ground force contingent, other than the Americans, should come under C2 of Prince Khalid Bin Sultan, the Saudi CinC. But the Saudis never contested the C2 of Air and Naval forces and were prepared from the outset to have their Air Force tasked by General Homer. Similarly, with the exception of the French for the first few months of the crisis, all the other Coalition nations contributing air assets were content with *de facto* TACON by Horner.

It is worth mentioning that there was some debate in MOD early on about the need for a 4-star JHQ at all, given that our forces in the Gulf were part of a much larger Coalition effort, dominated by the Americans who had their 4-star commander in theatre. I believe strongly that the decision to form and retain one was right, for a number of reasons.

First, it is necessary to understand the difference between the American and British C2 arrangements for what we in the UK call out-of-area (OOA – outside NATO) operations. At one time – up until the mid-1970s – the UK had unified geographical commands in much the same way that the US still do. As you know, we had such commands in the Near East, Middle East and Far East, with each CinC reporting to CDS as today's American regional Cs-in-C report to the Chairman of the Joint Chiefs of Staff in

Washington. But following the UK's withdrawal from Empire, and our almost exclusive concentration on NATO, the unified overseas commands disappeared and a C2 structure for OOA operations was devised whereby OPCOM was given to a 4-star commander in the UK, who in turn delegated OPCON to a (normally) 2-star joint forces commander (JFC) in the operational theatre. This C2 system was applied during the Falklands conflict in 1982, with Admiral Sir John Fieldhouse being the Joint Commander at Fleet HQ Northwood, and it worked well.

It had been improved and refined since then and tested annually on either a live or command post exercise (CPX). Indeed, one such CPX had just been completed, with High Wycombe as the 4-star JHQ and myself as Joint Commander, two weeks before the Gulf crisis broke. In short, then, both war and exercise experience had shown that our C2 arrangements, whereby the MOD (and ultimately the War Cabinet) decided on policy and issued directives, and operational commanders in the UK and theatre then implemented them, worked very well. The issue in September 1990 was: should we seek to change them because the American 4-star commander was in theatre whereas ours was in the UK?

The Secretary of State for Defence, Tom King, whose style was very much 'hands on', initially saw the JHQ as an unnecessary link in the UK command chain, believing that High Wycombe's role should be restricted to co-ordinating the movement and logistic support of our forces and nothing else, despite the fact that my PWHQ was built, equipped, established, staffed and trained to command NATO and national forces in war. I do not believe that MOD is well organised or trained to command forces *directly* in war. Moreover, the Chief of the Defence Staff is precisely that, he is not in that guise an operational commander. Nor is the Chiefs of Staff Committee the right forum to be making detailed decisions concerning the operational employment of our forces. You simply cannot exercise overall command of operations by a committee: that responsibility needs to be vested in one man and it should not be separated from the responsibility for the forces' deployment and logistic support. Keeping the two together is, in my view, a vital principle of effective operational command.

In the event, better logic prevailed and High Wycombe was properly set up under MOD as a 4-star 'purple' JHQ. The C2 arrangements and relationships between the JHQ and HQ BFME, and with the Americans, worked extremely well, and I and my staff were able to shield General de la Billière and his commanders and staff from most of the constant staffing

activity with MOD (which at times was overly bureaucratic, time-consuming and frustrating).

My directive as Joint Commander was quite specific in its statement of military aims which flowed directly from clear political objectives agreed between Washington and London, a process with which I was personally involved. I cannot over-emphasise the importance of getting the political objectives right, something in my view the UN has failed to do in the case of Bosnia. The role of our Forces in the Gulf could be succinctly summarised as contributing to the unconditional withdrawal of Iraq from Kuwait and to the removal of the threat posed by Iraq's nuclear, biological and chemical weapons and her long-range missile capability. Very much to the point, you might say, but having stated the broad objectives my directive then ran to 28 pages of close signal-type including annexes. Apart from spelling out in detail precise limits on the military objectives, it covered everything imaginable from logistics, through prisoner-of-war handling policy, to the employment of padres. The final version of my directive was issue No 10. I also received altogether twelve different sets of rules of engagement (ROE). By comparison, the Duke of Wellington's directive before the Battle of Waterloo ran to only two paragraphs. Haven't times changed!

As Joint Commander, I used to visit the Gulf for three-four days every two-three weeks; first to visit our operational units and to get a better feel for the operating environment, secondly to exchange views with General Schwarzkopf and Prince Khalid, and thirdly to enable me to hold face-to-face talks with General de la Billière and his staff. These visits were invaluable because effective command at that level is essentially based on personal relationships and mutual trust and respect. Such relationships cannot be built up on the telephone, although very extensive use was made by myself and my staff at the JHQ of the secure speech and telegraph satellite communications links. One has to be able to look one's peers and subordinates directly in the eye to create the empathy that is so essential in crisis and war.

Within the JHQ at High Wycombe there were single-Service operational cells, and joint cells for intelligence, logistics, CIS and planning. I shall mention later the joint planning group that was set up as an operational 'think tank' but there was also the joint plans co-ordination cell which provided JHQ submissions and responses to the MOD, and directives and responses to HQ BFME. The heads of these cells, officers of group captain or air commodore level or their equivalents in the other services, formed

the battle management group (BMG) which was chaired by the 2-star Director of Operations (AVM Dick Johns). The BMG had a vital role to play in making decisions or making recommendations to the command group which I chaired as the Joint Commander. The other members were the land and naval deputies, the COS, the Director of Operations and the DCOS for support.

As war approached, I set up a situation room where I and my senior staff were briefed on the latest intelligence, disposition of Coalition and enemy forces, progress of the battle, forthcoming operations, logistic support requirements, etc. Throughout the war all meetings of the command group were held in the situation room. My own regular contacts were with SofS, CDS and DCDS(C) in MOD, and Peter de la Billière, Bill Wratten and Norman Schwarzkopf in theatre. I was also meticulous in always calling on Prince Khalid whenever I was in Riyadh, which helped bilateral relations generally but also enabled me to enlist his aid whenever we were encountering particular difficulty with Saudi bureaucracy, which was quite frequently.

During the war itself I spoke at length to Peter de la Billière and Bill Wratten twice a day and occasionally more often. I also spoke daily to Schwarzkopf. This regular dialogue was invaluable, gave me a good feel for what was going on and why, and for American thinking, and enabled me to make my own inputs. It was also very useful in helping to keep SofS, CDS and at times the Prime Minister up to speed and to allay their concerns and answer their queries. There was a Top Secret video-conferencing link between my office in the PWHQ and the JOC in MOD, which I used for many of my briefings to Tom King and CDS, especially when we needed to show graphics and maps.

Planning of an air campaign to defeat Iraq and to oust Saddam's forces from Kuwait began very early on and by the end of August was well advanced. The objectives of the ACP were simply stated but very clear:

1. Establish air superiority.
2. Isolate and incapacitate the Iraqi leadership.
3. Destroy Iraq's nuclear, biological and chemical warfare capability.
4. Eliminate Iraqi offensive military capability.
5. Eject the Iraqi army from Kuwait.

The aim was to create a strategic paralysis by making it impossible or very difficult for the Iraqi leadership to communicate with or influence either its military forces or its civilian population, followed by the destruction of the enemy's capacity and will to fight. Successful

prosecution of that aim through intensive air attacks, day and night, would, it was thought, limit the war to no more than 60 days. There was no intention, unlike in Vietnam, of applying air power (or any other military power) against Iraq incrementally – force would be used massively from the outset in order to maximise the shock effect. It was the Iraqi regime that was targeted, not the Iraqi people with whom the Coalition had no quarrel. In fact, the planners went to great lengths to minimise civilian casualties and collateral damage. Finally, it was important to pit allied strengths against Iraqi weaknesses, and by observing Sun Tzu's 7th Century guidelines for warfare, not to allow the enemy to fight the battle he wanted.

It is interesting to observe that the focus of the air campaign planners was entirely consistent with some of the principles of air power drawn up by Sir Hugh Trenchard when he became the RAF's first Chief of Air Staff in 1918:

1. Obtain mastery of the air, and . . . keep it.
2. Destroy the enemy's means of production and communications by strategic bombing.
3. Maintain the battle without any interference by the enemy.
4. Prevent the enemy from being able to maintain the battle.

Iraq's critical nodes were judged to be its leadership, military and infrastructure. Large and quite well-equipped armed forces, and a high military infrastructure, including the capacity to develop and produce NBC weapons, had been built up over the previous decade or more, together with extensive command, control and communications (C3), and integrated air defence systems. But C2 was highly centralised under Saddam himself, which was a major weakness that was exploited to the full in the early hours and days of the air war.

It was against this background then that the Air Command Plan (ACP) was drawn up. By mid-September it was ready and had been briefed to Schwarzkopf and in Washington. It was basically a three-phased plan:

- Phase 1: Strategic air operations against Iraq
- Phase 2: Suppression of enemy air defences (SEAD) in the Kuwaiti theatre of operations (KTO)
- Phase 3: Destroying the battlefield

The ACP was to be stand-alone and not associated with any Coalition ground campaign. However, when I first met General Schwarzkopf, he briefed me in outline on an ACP that had a 4th phase: 'air support of ground operations'. He also referred to Phase 3 as 'preparation of the

battlefield’ – a small but not unimportant difference from ‘destroying’. The plan was extended and refined over the months leading up to war, but its basic structure remained the same.

Now although I knew that British forces would ultimately fight under the TACON of American commanders and that Norman Schwarzkopf would be responsible for drawing up the overall operational plan we felt it important that the JHQ should be involved in the operational planning process. I therefore set up a joint-Service operational planning group under a brigadier from the Royal Tank Regiment – Philip Sanders. This group was given the remit of recommending a plan for the recapture of Kuwait based on the ORBAT of Coalition forces that were planned to be in theatre by mid-November. The team was given some guidance on the use of air forces, although I was not permitted to give them any details of the comprehensive air campaign plan that I had already been briefed on in Riyadh. They were also advised that the key to victory was seen to lie with the neutralisation of the Iraqi Republican Guards armoured and mechanised infantry divisions. After a number of iterations, the group came up with a very sound outline plan which helped enormously to prepare me for a key meeting that I had with General Schwarzkopf in early November.

I explained to Schwarzkopf that we had been doing some serious thinking about this, and that our plan did not favour a frontal assault on these lines because we thought there were very well prepared forward defensive positions and casualties could be quite high. Instead it was much better to outflank the forward Iraqi defences and go straight for the jugular, the key Republican Guard divisions that were along the north-west and northern borders of Kuwait with Iraq. We did not favour amphibious operations although we felt that we should threaten the likelihood of those operations so as to tie down a number of Iraqi divisions.

The one problem with this plan, even when you took into account the assumption that we would have air superiority if not air supremacy, was that with the adverse force ratio – 90 brigades, the intelligence people were telling us, in the Kuwaiti theatre of operations on the Iraqi side, and probably no more than 20 brigades, 30 at the outside, on which Schwarzkopf could depend – we ran the risk of exposed flanks with an armoured thrust. Then of course the immediate Iraqi tactical reserve armoured divisions could drive into the side and we could become bogged down in a battle of attrition, mounting casualties and all the difficulties that would bring. Other than that it was the most imaginative plan and the one designed to minimise casualties during the ground operation.

So having exposed our own thinking to Schwarzkopf, he replied that he had similar views. His staff at that stage favoured a frontal attack as opposed to the long left hook which our plan was based on. But he favoured the wide or long left hook, as he was similarly concerned about the adverse force ratio, getting bogged down in a battle of attrition, with mounting casualties, etc.

He then said there was a growing realisation in Washington that economic sanctions were very unlikely to work within a realistic time scale and any Coalition military operation would need to be mounted during the coming winter. We had a window of opportunity essentially between November and March. But he also said that the US Administration was reluctant to authorise further extensive reinforcements and the line taken by some was, 'couldn't the Air Forces weaken Saddam Hussein to the point where only mop-up operations on the ground were required?' He said to me, 'You're an airman. What's your view on this?'

I replied that air power might well defeat the Iraqis without the need for a ground campaign, but was it sensible to rely on that? Saddam Hussein had proved to be an obdurate leader who had shown that he was prepared to sustain high casualties and to use chemical weapons. He might not buckle under a heavy weight of air attack, and then the Coalition would have to go in with the ground forces available and could face mounting casualties. What would the effect then be on public support for the war, particularly in the US? Frankly, while I was confident that Allied air power *would* prove very effective, if not decisive, I felt that the risks of going to war with such an adverse ground force ratio were too high. We would almost certainly only get one shot at removing Saddam from Kuwait; we had to take advantage of the winter window of opportunity, before the religious festival of Ramadan started in March, and before the temperatures rose significantly, because we might have to fight in NBC equipment. We also had to win this war as quickly as possible, and with a minimum loss of lives.

Schwarzkopf had already come to the same conclusion; he had spoken to General Colin Powell, Chairman of the Joint Chiefs in Washington, and secured his support for a major US reinforcement of the Gulf and notably by armoured forces. In fact they brought a whole new armoured corps into theatre, with more air wings, more amphibious forces and two more aircraft carriers. As for a further British contribution, Schwarzkopf put as his top priority a second armoured brigade and yet more Tornado GR1s. The British Government agreed to both requests a few days later, and our

ground forces were brought up to divisional strength.

The Allied reinforcements could not all be in theatre before mid-February, so the diplomatic activity and embargo operations continued, but predictably they failed to persuade Saddam to withdraw from Kuwait. The UN deadline of 15 January passed. There was concern that Saddam might announce a partial withdrawal or just start a slow withdrawal, which would have caused some political difficulty. So President Bush did not want to delay, and air operations began the night of 16/17 January.

The Coalition had very clear advantages in the air:

1. The Iraqi air forces had no track record.
2. The Coalition had better aircraft, weapons, C2, doctrine, tactics, training and 3:1 numerical advantage.
3. The advanced technology developed during and since the Vietnam War, particularly with regard to precision guided weapons, stealth, early warning and SEAD, was clearly going to be a big plus, together with the high reliability of allied aircraft and their round-the-clock night capability.

Despite these advantages in the air, the threat faced by the Coalition was numerically formidable. In the air at H-hour we faced a threat array twice as dense as that in Eastern Europe during the Cold War, consisting of 7,000 radar missiles, 9,000 IR missiles, 7,000 anti-aircraft guns and 800 fighter aircraft. On the ground we were up against the fourth largest army in the world, one with a chemical and biological capability and ballistic missiles. It was *not* a benign environment.

Against this threat, the Coalition had almost 1,750 fighters, ground attack and operational support aircraft. The cutting edge of the offensive element were the F-117s, F-15Es, F-111s and Tornado GR1s, while the EF-111 Ravens, F-4G Wild Weasels and Alarm-equipped Tornados were amongst the key support assets.

It is not part of my remit to describe the air operations during the Gulf War; they have been well documented and much of the detail is known to many of you. However, as far as the RAF was concerned, the primary role for our Tornado GR1s was initially offensive counter-air against some of the Iraqi main operating bases. With their JP233 airfield denial weapons, the GR1s represented a unique capability within the Coalition air forces and General Horner gave us a leading role in these initial attacks. He well knew, of course, that the JP233 had to be dropped from low level and thus that the GR1 crews, even at night, would be taking on some of the most

hazardous missions.

The main aim of these airfield attacks was to reduce the number of sorties that the Iraqi Air Force could mount against the Coalition. There was no question of neutralising the enemy airfields altogether – they were simply too large (some were at least three times the size of Heathrow or nine times the size of Coningsby) – but by dropping the JP233s on key choke points, especially the accesses to hardened aircraft shelter complexes, we were confident of severely disrupting Iraqi air operations. As you know, in the event the Iraqi Air Force hardly showed at all and it became obvious that Saddam Hussein was husbanding his air assets until the ground campaign began. As I knew that the Coalition ground operations would not start before mid-February at the earliest, there was no point in continuing with these low-level attacks against airfields, and thus Bill Wratten and I agreed that the Tornado GR1s should be switched to medium altitude, which undoubtedly came as a relief to the crews bearing in mind that four aircraft had been lost during the first week of operations. It is relevant to point out, however, that only one aircraft returned with AAA damage during these initial raids, which indicated clearly to me that there was not an impenetrable wall of AAA – very frightening as the tracer fire at night must have been to our crews.

Around November, ie two months before the war started, I had been concerned that we needed to prepare for possible medium-level operations as an alternative to the low-level option. I had proposed to Sandy Wilson and later Bill Wratten that we should deploy some of the Buccaneer laser designator aircraft to the Gulf so that the RAF had an organic capability to deliver Smart weapons. They advised against this option because the airfields in Saudi Arabia and Bahrain were already overcrowded and General Horner had assured them that American designator aircraft would be made available to us if necessary. In the event none were, mainly because of the heavy pre-occupation with hunting Scud missiles, and after a few days of rather ineffective medium-level free-fall and dive bombing, I intervened by ordering out a squadron of Buccaneers to Bahrain. Thereafter, virtually all the bombs dropped by the Tornado GR 1 force, mainly against bridges, hardened aircraft shelters and weapon storage sites, were laser-guided. The lesson was very clear to me: if one wished to conduct air operations from medium or high altitude, one could only do so effectively by using Smart munitions.

The Gulf War is sometimes referred to as the 100-hour war, but in reality it was the 1,100-hour air war that enabled the Coalition to defeat the

world's fourth largest army and sixth largest air force in only six weeks and with the loss of only 240 Allied lives. This war clearly illustrated the tremendous impact that modern air power can have in major conflict. There is no other way to keep casualties down which, given the glare of publicity today from the media, especially TV, is essential to maintain public support. Both Schwarzkopf and I were well aware of that and the overall operational plan was drawn up accordingly.

Let me conclude by saying that it was a privilege and honour to command the British Forces committed to the Gulf War, and to witness the total vindication of air power. It was applied with imagination and skill, exploiting in the process the capabilities that advanced technology has at last provided.

Some of you may have seen what was known as the 'traffic jam' created on the road north of Kuwait city leading to Basra. Some of those scenes which were shown in the United States led President Bush to the decision that we should stop the war, perhaps slightly earlier than we should have done.

The one sadness for me is that the Ministry of Defence seems to have largely ignored the lessons learned in the Gulf War in the Options for Change Review, as a result of which the Royal Air Force has lost between 30% and 40% of its combat front line.

DISCUSSION

MRAF SIR MICHAEL BEETHAM: As CAS at the time of the Falklands war I should like to make a few points about the top structure. George Chesworth brought out the point that when the Falklands episode started there was no plan for a command structure, and this was an advantage because it enabled us to set one up to meet the actual circumstances.

The Chiefs of Staff have a continuing role of reviewing all threats on a regular basis, advising the government on the options, and making the necessary plans. As far as the Falklands were concerned, they had always told the government that they were not defensible unless more resources and forces were provided down there, with extension of the runway particularly important. Otherwise defence was not a viable option if the Argentinians should invade, so the government were really given the choice: provide more resources, or get rid of them. You will realise that more resources were not readily available. Indeed one of the causes of the Falklands war was that Nicholas Ridley and the Foreign Office were trying to negotiate to get rid of them and it gave the Argentinians the impression that we didn't care.

So when the emergency actually arose it caused a bit of a furore, but the government wanted to do something. Much diplomatic activity was going on and it was hoped that it would be solved that way, but the Navy, who had been severely wounded as a result of the 1981 Defence Review, were very keen to sail and put together a Task Force, which they said they could do. The Chiefs of Staff pointed out to the government all the risks involved, but after all what was wrong with sailing a Task Force, which the government – knowing the risks – said could just sail as a deterrent, and stopping them at Ascension Island? Of course things went on, as we know, from that.

We then had to set up a structure for dealing with it, and the first thing was that Margaret Thatcher formed a War Cabinet. Interestingly, because it touches on George Chesworth's point about equipping the Nimrod for in-flight refuelling, Margaret Thatcher – who was not awfully keen on Geoffrey Howe as Chancellor of the Exchequer – said when discussing who would be in the War Cabinet, 'Well for a thing like this we don't want the Chancellor. Money cannot be considered!' That was one of the great advantages of the Falklands war.

Then the structure was set up as George Chesworth has described it. As ACM Hine stressed in relation to the Gulf War, the Chiefs of Staff are not

set up to command or run the actual war. That task must be given to a field commander; the role of the Chiefs is to advise the government, and having got political decisions as to what to do, to send directives down to the people who have got to exercise the command. So the Chiefs sent a directive to Fieldhouse and I gave a directive to the Air Commander so that Northwood could get on with the operation. There was, of course, continual dialogue between Northwood and the MOD, thanks to the quality of modern communications, though we tried as far as possible to delegate operations down the line.

The Task Force duly got to Ascension Island, which was crucial; and we then had to consider the options. You can imagine that we were then discussing what should be done at various stages, and we all know how it finished up with the recapture of the Falklands.

Personalities and inter-Service rivalries have been mentioned; these were put on one side, not only out in the field but in Whitehall as well. Rivalries can be exaggerated – they normally come during the arguing about the limited resources that are available for defence. We have got over some of the problems of World War II by developing joint-Service structures, and when we come down to operations and the forces have actually been allocated to the commander to get on with the task, people generally work very, very well together.

ACM SIR PATRICK HINE: I would endorse those comments about how well the Services do work together when the chips are down – and the further you get from Whitehall the better it gets!

JOHN DAVIES: Two questions on Tedder. Would you say that his wife had an unusually large importance in the work he did? According to my memory she did. Was it Tedder who initiated the joint aircrew messes in RAF squadrons in the Middle East?

DR VINCENT ORANGE: Tedder had two wives; the first one, Rosalind, was killed in 1943, and she was critical in his personal life for the thirty years that they were married. His second wife, Topsy, whom he married later in 1943, was equally critical. One of the things that I want to try to bring out in the biography of Tedder that I am writing is how important his wives were throughout his career. Whenever he and his first wife were apart from each other they wrote daily. He expressed his innermost thoughts to her, very frequently, and she reflected upon what he had told her, replying in the same way. From being a private, let alone a flight lieutenant, his intellectual development depended tremendously upon both

his wives.

As for joint aircrew messes in the Middle East, everything they did was different from what they did elsewhere, because it was so matey. I think I ought to pass this one to my friend Sir Kenneth Cross; he knows far more about this than I do.

ACM SIR KENNETH CROSS: Of course the rations were the same for everybody in the desert, from the lowest AC2 to the Air Commodore. As far as I remember we did retain our division of messes, but if you went to any one of the three messes, airmen's, sergeants' and officers', you would not have really noticed any difference in what you were eating. I don't remember that we had joint messes.

JOHN DAVIES: We did!

AVM JOHN HERRINGTON: In history it has been said, and I think frequently recorded, that commanders like to assess the quality of the leadership on the other side, to get some idea of what they can expect. In your case, Paddy and George, did your knowledge or reading of the respective commanders on the other side – and in the case of Iraq particularly the dictatorial side of Saddam Hussein – give you in advance any clues as to what to expect, in the one case from the Argentinian Air Force, and in the other from one of the largest and best-equipped air forces in the world?

ACM SIR PATRICK HINE: We didn't know a great deal about the then commander of the Iraqi Air Force. What we did have, of course, was evidence of how that air force had been employed during the eight-year war of attrition with Iran, and they really had no track record from that war. Their use of air power was rather ineffective overall. It was penny-packeted, lacked concentration of force, and had really pretty minimal impact on operations, including close air support over the forward lines. So we were not really worried about our ability to achieve air superiority pretty quickly. We were, however, concerned that he would have sufficient aircraft, and quite good front-line aircraft, to come our way, and that some of these would get through and perhaps drop chemical weapons in particular. We had unprotected lines of communication stretching out into the desert, with a lot of equipment arriving daily at the port of El Jubail and elsewhere and having to be moved up-country, so we were vulnerable in terms of possible Iraqi attack on the lines of communication in particular, and we were concerned about our bases.

But I didn't think we'd get a lot of opposition from the Iraqi Air Force,

and in the event they hardly mounted any offensive sorties whatsoever. That does indicate that Saddam Hussein may have overruled his air commander, saying, 'Hang on, we'll keep our offensive air assets until the ground operation begins. We can then inflict a bloody nose on the Americans (which was their primary objective), inflict casualties, break their resolve, and probably cause pressure to end the war. Even if that doesn't occur, I can withdraw then with honour.' So either the Iraqi commander was over-ruled or he really did not have the sort of determination and personality to inspire his people to get up and do something useful. But we should bear in mind that the command and control of Iraqi air operations was neutralised in effect in the very early hours of the war. So his eyes and ears were taken away from him: while there were air defence sorties mounted in the first few days of the war, they lacked any effective command and control, and were quickly despatched by the American F-15 escort fighters.

So it is very difficult to judge, but the short answer is that we didn't know a lot about the Iraqi air force commanders. They had been trained by the Russians, and we have really never been terribly impressed by the way the Russians go about training.

AVM GEORGE CHESWORTH: I think it is fair to say that at Northwood we knew very little about the Argentine commanders. You have to remember that it was being run by a junta. The government of the country was in the hands of the military, as it was in Iraq, and in that junta the Army was the principal power, with the Air Force a very close second and the Navy a very poor third. It certainly became apparent that their commanders lacked some of the principles we would have expected them to have: the Argentines had good pilots, but did not appear to have particularly good commanders. If they had concentrated their forces more they could have virtually wiped out the fleet. Certainly if they had got the fusing of their bombs right they would have wiped it out.

AIR COMMODORE HENRY PROBERT: Just a brief comment from another scenario. I well remember the late Sir John Stacey, who was CinC in Germany in the mid-'70s, making the very strong point that on his desk he always had a photograph of his Soviet opposite number. Whenever he was considering what the Soviets might do, he actually looked at this photograph and alleged that it helped him to make up his mind. He had probably taken that idea from Montgomery, who in the desert always had a picture of Rommel.

PETER SKINNER: Sir Patrick, you commented that the British and American forces in the Kuwaiti theatre of operations worked in almost total harmony. It's rather intriguing that there may have been the odd occasion when you did not. Without being specific, could you indicate what areas there may have been where your views diverged?

ACM SIR PATRICK HINE: Our only real difference of view, and this was really at the top with Schwarzkopf and his immediate subordinates, was over the employment of the 7th Armoured Brigade, initially, and then 1 British Armoured Division, as it became. The Brigade could obviously not be free-standing so we had to plug it in to one of the American divisions, and the one that was selected, because they had very few tanks, was one of the Marine divisions, quite close to the coast, and our Brigade's relationship with MARCENT, Central Marine Headquarters, was excellent. Then when the decision was taken to go up to divisional strength, other options opened up and Peter de la Billière and I were at one in wishing the UK division to move across to the American 7th Corps, which was the one that was going to mount the *schwerpunkt* in the wide left hook. It was the only division that we had in theatre and we wanted it to be where the main action was taking place. It was very well trained – because it had come from Germany – for a battle of mobility such as this one would be. And indeed we had exercised with the American Army on a number of occasions in Central Europe.

That caused Schwarzkopf some difficulty because the Marines were determined to make their impact in this war. In Washington they were involved in a not dissimilar study to Options for Change, and how each of the Services performed in this war was clearly going to be important in that context. So the Marines were very reluctant to give up the British armoured forces. Schwarzkopf was also concerned that we could not support our division logistically on the very rapid advance which he had in mind. So I sent out a British Army Brigadier with a couple of experts to brief him on the logistic arrangements for the division, and once he was convinced that that was not a problem, despite the difficulty it gave him in terms of inter-Service politics, he made his mind up that this was clearly an important issue for the British and that he would go along with it. So he told his subordinate commanders that he was going to move the British across to join the 7th Corps, and he did it. He was a big enough man to stand up and take the flak both from Washington and in theatre.

That was the only real difficulty I think that we gave him, and relationships were absolutely excellent. He was very friendly with Peter de

la Billière. We had as far as I can recall no real friction of any consequence at all, and Ian MacFadyen, who was Chief of Staff in HQBFME, will I think endorse that.

PHILIP SAXON: To some members of the audience it was very significant that in the Falklands for probably the first and only time the Air Commander was a navigator. While I am sure that the personality of the individual was the critical factor, did this have any significance to those of you who served in that command?

AVM GEORGE CHESWORTH: I do not think we would have dared to allow it to enter into our thinking! The vast majority of people who were involved at our end of things came from the big crew aeroplane anyway. It made no difference at all. He was a very capable man, and no matter what brevet he was wearing people just took him for what he was.

ACM SIR THOMAS KENNEDY: We have not heard much about the financial side. As CinC were you bothered in any way with such matters?

ACM SIR PATRICK HINE: From my point of view, getting money to pay for the modifications to aircraft and weapons systems and a whole host of things to support the war effort was not difficult at all. We had a financier in theatre on the HQ BFME staff who was excellent in terms of spending money, once he was convinced there was a real need for it, and he looked at it from an operational standpoint. The only real problem that I had in this respect was in getting ministerial agreement to spend up to three-quarters of a million pounds on setting up a proper in-theatre British communications system which Peter de la Billière could use to talk to all the troops, sailors and airmen – a sort of local BFBS if you like. There were experts who thought this could be done by a re-broadcast system in Cyprus, which would have been a lot cheaper. It was not. The only sensible solution was actually to do it in theatre, but it became a cause célèbre which took us several weeks to unlock. We got our way in the end, when I had to enlist Tom King's personal help in getting this authorised. Ken Hayr was in an ideal position to add something to this subject.

AM SIR KENNETH HAYR: I was a Whitehall warrior in both wars, the Falklands and then the Gulf. Many things changed in those ten years, most of them – including finance – not for the better in terms of the higher direction of defence. The aphorism about tactics being the art of the logistically possible was coined after the Gulf War, but it was very much appropriate to the Falklands, where much innovation was needed to

transform an Air Force that was designed to operate in Europe to be effective over ranges of 8,000 miles; the financial freedom that we were given was crucial to that. The devolution of financial authority was very clear. I had a civil servant who acted as a fighting wing-man, and he was as good as any fighter pilot when it came to stick, search and report. He stuck to me to see what we were developing, then searched around to see what impact it would have financially, and then reported it for after the war, but not in any way to intervene.

This was not so in the Gulf. The transformation was a matter of some concern to me and if the direction that was taken in those ten years continues into the future I think there is cause for concern for our successors. I say that because the civil servants who were part of the organisation in the time of the Falklands had an affinity to each of their Services. In the Gulf War the operation was one that naturally had moved into the Central Staffs, which was wholly a good move. There was now, however, a central staff of civil servants who according to the chain of command worked under me but felt they had a responsibility to protect PUS. That may be so, but it put a new level of challenge and response into the financial part of the system and although we managed to protect the CinC from any of this internecine strife there was a tendency for there to be four Services: Army, Navy, Air Force and Civil Service. Here to my mind lay a recipe for conflict in the future.

Most future wars, I suggest, are going to be highly political, as is reflected in the comment that Sir Patrick made about his 28-page directive, and in the directive that George mentioned. I had to draft both of them, and I would much rather have sent a short one for the Gulf, but we had to cover such a lot of political aspects, and the financial side too kept on coming into it. I think we protected the CinC, notwithstanding the 28 pages, because he didn't have to come back and ask many questions afterwards and there was never any backseat driving. There was never an order from the staff to the CinC: we were very careful about the form of words. So the CinC was treated very much *as* the CinC, notwithstanding the discussions we had to go through with Tom King when he thought that the command should be in MOD. So I remain concerned about the changes that took place between the Falklands and the Gulf. If they go in the same direction into the future then I think that MOD is likely to take on a command responsibility, and I do not think that is correct.

AM IAN MACFADYEN: Could I comment on the Civil Secretariat in Riyadh. It was an absolutely key element in the Headquarters there. We had

a very experienced civil servant, an excellent man who was instrumental in negotiation with the Saudis on the many aspects of host nation support, for instance negotiating the headquarters building that we had to move to, and his experience and background were such that we simply could not have done without him and his team. As a man who had come from Whitehall myself and knew the value of good civil servants, I also used him as a very good sounding-off board for advice from time to time. He was extremely quick with the pen, which is also very helpful, especially when time is short. There was one key area where his contribution was vital. When the American A-10s unfortunately hit some British armoured vehicles, he was instrumental in our discussion about how to address this with the media; we had a briefing to go to in a couple of hours' time, and having said that he had been involved in the Falkland Islands blue-on-blue inquiry, he firmly advised that we should come out in public at the time about what had gone on rather than trying to hide it. His value in general was a crucial element at Headquarters.

GRAHAM PAUL (ex-Whitley pilot): In my time, all pilots were navigators! Can a navigator be the captain of an aircraft?

AVM CHESWORTH: In the modern multi-seat aeroplane, whether we pilots like it or not, there is an awful lot to do, more than one person can manage. And as an illustration of whether a navigator can be a captain, when I took my squadron to convert to the Nimrod I took seven crews. Four were captained by pilots, two by navigators, and one by an air electronics officer, and as far as I was concerned as the Squadron Commander I had the seven best captains.

MR WANSBROUGH WHITE: Not a very profound question, but a matter of some curiosity. Why was it called Operation GRANBY?

AM SIR KENNETH HAYR: Codenames for British operations have to be selected from an advance list, produced by an obscure source. At the time, none of the available codenames was appropriate to a Middle East conflict. Moreover, the first selection (FAIRFAX) was turned down by the office of the Secretary-of-State. I took it that it was politically incorrect (Fairfax had signed the death warrant for Charles I). WICKHAM was then proffered instead (without much enthusiasm) but was considered to be too close to High Wycombe. By now we were in desperate need of a codename to top off the first directive, and GRANBY sounded the best of an uninspiring bunch. When I learnt that General Granby had a reputation of leading his troops bald-headed into battle (minus his wig) I decided to go

for it! It ran.

ACM SIR PATRICK HINE: Thank you, Ken. You were about the only person who could have answered that. The American code-words were much more logical, DESERT SHIELD and DESERT STORM. The shield was the defence of Saudi Arabia against any further offensive action by Saddam Hussein, so initially we were in a defensive deterrent posture. Then when we moved towards some kind of offensive operation to get Saddam out of Kuwait, because he wasn't going to leave of his own volition it turned to DESERT STORM, the code given to the actual offensive operations, both air and land.

AIR COMMODORE GRAHAM PITCHFORK: Air Marshal Chesworth mentioned the value of Sir John Curtiss's operational experience in five different roles. In today's air force, where we look for tomorrow's leaders, I suggest this would be almost impossible; indeed our young pilots and navigators are being typecast almost from the point of selection. I wonder what sort of leadership qualities they can gain in order to command future operations.

ACM SIR PATRICK HINE: You are quite right in saying there is much more specialisation today than used to be perhaps the norm. Apart from Staff College there is a Higher Command and Staff Course which the Army initiated in 1992, just after the Gulf War. This was primarily aimed at very bright up-and-coming colonels and brigadiers to prepare them properly to command at what the Army called the operational level, that is fundamentally at divisional and corps level. Our own people in the RAF, together with the Royal Navy, now join in that course. So there are opportunities at Staff College, various courses in the Air Warfare Centre as it is now known, RCDS and this Higher Command and Staff Course run by the Army for people to broaden their own knowledge of other air power roles. But, at the end of the day, if you find yourself commander overall in a situation like the Falklands and the Gulf, and you lack the expertise in any of the roles, you have to rely on the staff. You listen carefully to what they have to say, and it either makes sense to you or it doesn't. If it doesn't make sense, you query it, but the expertise is always available to you, it seems to me, on the staff. If it is not then you get hold of it from some other quarter of the air force. In the case of a joint commander such as I was in the Gulf War – I'm not a soldier, I'm not a sailor – I had to rely on the advice I was getting from my land and navy deputies and the staffs who worked underneath them. But you have a pretty good feel for operations

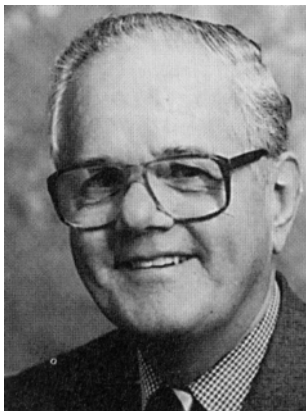
overall when you get to that stage in life, and I do not think it will be a great drawback for any of our air commanders of the future that their careers may have been focused on one or at the most two roles, provided the correct advice is available to them.

DR VINCENT ORANGE: May I make a brief comment on navigators and pilots? In November 1940, Air Marshal Owen Tudor Boyd, whom hardly anybody has ever heard of, was appointed to be Deputy Commander in the Middle East. He was flying from England to the Middle East and he allowed his navigator to land him in Sicily instead of Malta. He became a prisoner-of-war, and nobody has ever heard of him. Arthur Tedder, by contrast, whom hardly anybody had heard of in November 1940, looked after the navigating himself when he was going out to Cairo, and he became Marshal of the Royal Air Force, the Lord.

TACTICAL COMMAND

CHAIRMAN'S INTRODUCTION

Air Vice-Marshal Lamb is going to start our afternoon discussions by talking about the Indonesian Confrontation. He is A1 QFI, one of the first instrument rating examiners in the Royal Air Force and one of the first holders of a Master Green instrument rating card. He flew on the Berlin Airlift, he was Officer Commanding No 87 Sqn at Brüggen in Germany when they were flying Javelins in the all-weather fighter role, and he was the Deputy Air Commander in Borneo and is therefore very well qualified to talk about the Indonesian Confrontation. He was later the Air Commodore Operations at the newly formed Strike Command. He was COMSOUMAR, a sort of NATO hat down at Plymouth, and AOC 19 Group, and the Chief of Staff of 18 Group.



INDONESIAN CONFRONTATION

AIR VICE-MARSHAL G C LAMB

It was with some trepidation that I accepted John Herrington's invitation to address the Society on the subject of 'Air Leadership in War at Theatre Level' using my experiences in the Borneo campaign as the backdrop. Trepidation principally because my experience of exercising leadership at that level was modest in the extreme, being merely a Deputy Air Commander and subsequently a Forward Air Commander in the rank of group captain; but also because some people did not, and some still do not I suspect, see confrontation as 'war' in the sense they see the Korean, the Falklands or the Gulf conflicts as 'war'. Indeed it was not the same in so many respects, but it did follow closely on the heels of the 12-year Malayan Emergency, it lasted for almost four years, and at its peak some 17,000 men were involved in front-line operations, with a further 10,000 in support. 114 men were killed and over 200 were wounded and a Victoria Cross and many other gallantry awards were gained. To those who took part in the campaign, it bore all the hallmarks of 'war' and, when it was over, there

could be little doubt that it had preserved the independence of Malaysia and had also prevented the spread of Communism, not only in Indonesia but throughout the area. It had, on the other hand, proved to be a most unwelcome addition to the heavy world-wide commitments of an economically-strained Britain and after it ended in 1966 subsequent Defence Reviews presaged first the reduction and subsequently the withdrawal from the Far East of most of those forces which had brought Confrontation to a successful conclusion.

I have one other reservation as I stand before you this afternoon and that is the fear – or if fear is too strong a word – the reluctance to label that which I did in my daily round and common task in Borneo as requiring over-much in the way of ‘leadership’. As I look back now on my career – as a war-time entrant – I am not particularly conscious of being taught anything specific about the art of leadership in my formative years, much less of having to apply such skills to each and every situation with which I have been confronted. One can argue till the cows come home whether leaders are born or made, what components are to be found in those described as leaders, and how their leadership skills were acquired, but that is outside the scope of my talk. I do, however, believe that people of my generation were, initially at least, influenced more by role models, many thrown up by World War II, who had not only exercised high command in war but had also been highly successful, than we were by formal tuition in the subject. The temptation to equate leadership with success is thus strong and it is only now, with the benefit of a deal of hindsight, that we realise some of our World War II heroes indeed had feet of clay and that for success to be the sole, or even the principal determinant of a leader is indeed at best facile and at worst dangerous. But without success, how is leadership to be assessed? To few commanders is it given to be originators of specifics. John Terraine in his book *The Right of the Line*, speaking of one particular pre-war CAS, said, ‘Not all these matters were his personal inspirations, yet he presided over the whole, and the whole is impressive. For what he did, for what he permitted, for what he gave his blessing to, his country should be grateful.’ Speaking for myself, if I could be judged as a leader on those criteria I would rest content.

Few of those I have in mind have recorded their doctrine of command in war. One of those who did was Field Marshal Montgomery who explained that it could be summed up in one word, ‘leadership’. Accepting the concept as complex, he defined it as ‘the capacity and the will to rally men and women to a common purpose, and the character which inspires

confidence.’ It is a definition which is close to the one used in today’s business world by the Dale Carnegie Institute in its courses on ‘Leadership Training for Managers’. Their version has the virtue of being slightly shorter, ie ‘the ability to enlist the willing co-operation of people to achieve desired results’. Sir John Harvey Jones put it another way. ‘The boss cannot be directly involved in everything and a way has to be found to transfer his belief and commitment to others. That’s leadership.’ Each of these three authorities has laid down certain concepts and principles which they argue must be understood and performed consistently by leaders if they wish to maximise their effectiveness and their chances of success. From these principles I have selected the three I deem to be most relevant to this subject today. There are of course others. My ‘top three’ are:

- a. The ability of a leader to exercise influence through the force of his personality.
- b. The creation by that leader of a command structure within which exist focal points of decision to ensure the efficient execution of his plans.
- c. The establishment of performance standards so as to help the leader’s subordinates to be successful.

From this you will deduce that in describing the exercise of command I see the demonstration of leadership as being both direct and intensely personal but this narrow definition need not trouble those of you who yearn for a more all-embracing thread in this complex subject, for Winston Churchill in his study of his kinsman Marlborough wrote, ‘Success by a commander will not arise from following rules or models. It requires an absolutely new comprehension of the dominant facts of the situation at the time. There is no surer road to disaster than to imitate the plans of bygone heroes and fit them to novel situations’.

And that authoritative statement seems to me to be a suitable starting point to examine the Borneo campaign; to see whether those involved comprehended ‘the dominant facts of the situation’ and whether they had novel plans to meet it or whether they simply relied on bygone plans or doctrines. May I briefly set the scene for those unfamiliar with the origins of the Confrontation and its denouement and in so doing may I gratefully acknowledge my indebtedness to Sir David Lee’s book *Eastward* and to the contributions of other speakers at the 1993 symposium on Confrontation.

In 1962 preparations were afoot to set up Greater Malaysia by incorporating within the Commonwealth the Crown Colony of British North Borneo, Singapore island and Malaya into one federated state.

Indonesia, having long cherished ambitions to dominate Borneo, opposed the concept and actively supported the small, principally Communist and anti-colonialist internal opposition parties within the Crown Colonies and the oil-rich independent state of Brunei. In December 1962 some 15 or 20 subversive groups, each of approximately 150 men, attacked various police stations in Brunei and threatened to take over the tiny state. Sympathetic uprisings occurred at the same time in parts of Sarawak. This initial revolt was quickly crushed in Brunei but the Indonesians launched, shortly afterwards, a series of cross-border raids into Sabah and Sarawak using guerrillas trained and based in Kalimantan.

Borneo is, of course, one of the biggest islands in the world, almost half a million square miles in area. Sparsely populated, its interior covered by dense jungle, its terrain forbidding, its climate hot and humid, it was a trying environment in which to live and operate. The tortuous boundary between Kalimantan and the neighbouring states of Sabah and Sarawak was roughly equal to the distance from London to Warsaw. The formal proclamation of the Federation of Malaysia in September 1963 was the signal for a marked increase in cross-border raids by armed guerrillas to spread terror and so sap the will of local populations to support the new state. The task of our forces was thus not only to maintain internal law and order but to watch this long frontier in order to deter or intercept these raiders. As long as Indonesian regular forces were not deployed we hoped in those early days to hold the ring, albeit in conditions of considerable discomfort, and in general we did. As 1963 gave way to 1964 and the long-expected introduction of Indonesian regular troops did not materialise, guerrilla incursions increased and were maintained. The failure of an international conference in Tokyo in June 1964 was, however, the signal for Indonesia to intensify her efforts and introduce regular troops. Confrontation was now entering a more dangerous phase. In July alone 34 full-scale attacks took place on our forward fortified positions. Shortly after this upsurge, armed incursions from seaborne forces took place in Western Malaysia and these continued into 1965. The effects were not serious but caused some dislocation. The Indonesians continued to reinforce their forces in Kalimantan and their various incursions by land, sea and air were maintained. An abortive Communist coup in Djakarta led to the overthrow of President Sukarno in September 1965 but despite this, confrontation continued but did not escalate. It finally ceased in May 1966.

How then did our forces and our air forces in particular react to this developing situation and did those involved demonstrate any notable

capacity for leadership?

BRUNEI REVOLT

The outbreak of hostilities in December 1962 was met by the authorities in Singapore with commendable vigour and speed by the flying in to Brunei of two companies of soldiers. By pressing into service every available transport aircraft, a further 3,000 troops, 100+ vehicles and over 620,000 lbs of stores were flown in over the next 10 days. This prevented the rebels from consolidating their earlier gains before Indonesian support was forthcoming. The first essential had been to get enough fighting troops into immediate action to mop up the centres of revolt and in view of the paucity of major airfields in the area it was a remarkable feat to deploy such a large force so rapidly. The few hours of warning we had been given had been put to good use and HQ FEAF must take considerable credit for their rapid implementation of the air contingency plan designed to cover such an eventuality. A plus for FEAF under Sir Hector McGregor and 224 Group under AVM Headlam.

1963

It soon became clear that we were facing a threat requiring the efforts of all three Services and that a Joint Force Headquarters was needed to control and co-ordinate operations. This was soon in being with the obvious need for the Director of Operations (DOBOPS) to be a soldier. The task fell to a counter-insurgency expert, General Walter Walker – a determined and forceful man. If the concept of a Joint Force Headquarters followed standard Old Sarum SLAW doctrine there was a rapid appreciation by General Walker that if the loyalties of the indigenous populations along the border with Kalimantan were not to be stretched to breaking point and beyond and thus compound his problems, mere exhortation was not enough. The subsequent ‘hearts and minds’ campaign, involving all three Services, was a bold initiative which undoubtedly steadied the resolve of the native peoples. It is clearly to the credit of all commanders under General Walker that they were persuaded by him of the long-term advantages of ‘hearts and minds’, despite the undoubted extra burdens imposed particularly on the flying units of both the RAF and RN. At no time, even when the operational picture was far from bright, was there any serious suggestion that ‘hearts and minds’ should be put on the back burner, let alone called off. Here was, in Churchill’s words, ‘an absolutely new comprehension of a dominant fact’ and it also, in my view, reflects Monty’s requirement for the Commander (in this case a soldier) to exercise influence through the force of his personality. The JFHQ and its Air

Tasking Operations Centre – ATOC – represented the focal point in the daily process of decision taking at which disagreements over priorities and counter proposals for the use of airlift could have been aired had anyone wished to do so, but few did. In the leadership stakes this was a clear plus for DOBOPS and his senior subordinates.

1963 also saw the establishment of strongpoints or ‘forts’ behind an outpost picquet screen near the frontier. Because this area was virtually unmapped, photographic Canberra PR7s did much useful work at this stage identifying tracks, river crossing points and native settlements. The lack of roads meant that virtually every element essential to the construction of these forts (except for wood) and the subsequent conduct of operations from them had to be flown in by air. MRT aircraft dropped supplies, helicopters provided local communication, casevac and local reinforcement. This heavy programme of ferrying, air supply and search and rescue was to be the pattern of squadron life for many arduous months. Its highly successful routine and its regularity masked miracles of improvisation, high standards of training, uncomplaining acceptance of long hours of work – all indicative of sound if unspectacular leadership at all levels. Delegation of authority and support by senior commanders encouraged subordinates to succeed – and succeed they did as the statistics of men moved and supplies lifted and/or dropped and the reinforcements ferried in, and the minimal accident rate, proved.

1964-65

As 1964 dawned guerrilla incursions increased and so the air supply had to match the reactive build-up of the security forces. The airfields at Labuan and Kuching received the bulk supplies from Singapore but it proved necessary for a number of forward airstrips to be constructed to accept SRT aircraft. As the pressure mounted, detachments of helicopters were deployed even further forward to economise on transit time from the main bases and to supply more rapidly the day-to-day needs of the troops on the ground. But eventually these deployments came to be regarded as the permanent private transport force of the particular battalion and many low priority tasks used up precious fuel and flying hours. A great deal of tactful persuasion had to be exercised to extract them and put them back under centralised control – a change which rapidly proved its worth over a six-month period by almost tripling the lift from the same force of ‘choppers’. If I were to be press ganged into highlighting any one aspect of my own achievements in Borneo and attributing it to the encomium of good leadership, it would be my success in persuading some half dozen highly

sceptical Battalion Commanders and four Brigade Commanders of the virtues of centralised control. It has to be said here that my AOC, Chris Foxley-Norris, and the Air Commander Borneo, Sandy Johnstone, just let me get on with this task, neither counselling caution nor insisting on excessive zeal – which again supports Montgomery’s theory that Commanders should help subordinates to be successful – in this case they did so by keeping quiet! Air supply was the lynchpin of success, however, and it is right that its role is thus given pride of place. Time alone, rather than a lack of appreciation of their importance, precludes but the briefest of mentions of our air defence and strike /attack activities. Suffice it to say that whilst few targets were engaged, the very presence of these specialist aircraft served to deter incursions into either territory or air space by the enemy air or attacks by his strike aircraft on our ground forces. Similarly with maritime reconnaissance. The presence of detachments of V-bombers in Singapore reminded Indonesia of the dangers of flexing their muscles too strongly.

But of all the lessons learned in these days, the interdependence of the three Services stood out. It was not a new lesson and it needed confirming frequently. The well-tryed joint operations structure was employed at the outset and from the beginning one Commander controlled active operations. Under him the RAF effort was directed by a senior airman. Any decentralisation of control was part of an agreed and co-ordinated policy for a short time and for a specific purpose. This chain of command from CINCFE, through FEAF, 224 Group, DOBOPS and COMAIRBOR right down to the squadron level worked well and co-operation, in the main, and certainly by the time I arrived in 1965, was excellent. Here could be seen daily unobtrusive leadership in action. When the top brass were united as they were in Borneo, or at least did not air disagreements in public, any awkward ‘cuss’ down the line had little hope of survival. There were a few of these latter but in general the degree of co-operation at all levels, and hence the standard of leadership, rates a double plus for station, squadron and individual detachment commanders – in Borneo principally at Labuan and Kuching but also in Singapore at Changi, Seletar and Tengah. A measure of Labuan’s achievements, for example, was the handling of a 25-fold increase in movements by early 1965 compared with December 1962.

1965-66

Variations on a theme were now practised by Indonesia; some 20 incursions by small groups of regular troops on the mainland of Western Malaysia took place in early 1965. Possible air attacks on Singapore could

not be discounted. Aircraft, civil and military, flying into and out of Singapore were fired on by AA guns as they passed near the Riau Islands to the south, and sabotage was attempted, if unsuccessfully. Authority was finally given to allow our troops to cross further into Kalimantan than had previously been permitted either in hot pursuit or for our own purposes from 3,000 to 10,000 yards. The quality of our junior helicopter pilots – often operating alone, far from their main bases – was well demonstrated in these ‘CLARET’ operations and their leadership qualities were well tested because the risks were considerably greater than elsewhere along the border. It was in such circumstances that the quality of even the most junior ranks stood out, non-commissioned as well as commissioned, and demonstrated that men want to be trusted to take responsibility, they want to make decisions and in short they want to lead. If this opportunity is forthcoming, morale soars; so it was in Borneo. We had to avoid being labelled as aggressors and our young pilots adhered faithfully to the stringent operating conditions laid down and the high security imposed on these operations was never compromised. By mid-1965 it was no longer easy for the infiltrators to cross the border undetected. Although our defences were sound we could not risk reducing our ground forces and their air supply requirements did not diminish. Our determination to stand firm paid off and in August 1966 confrontation formally ended. It did not mean the end of the road, for the ground troops had to be withdrawn progressively, mostly by air, and then to be relocated. The rundown in fact was itself no small feat of organisation. Initiatives and improvisation were frequently needed.

SUMMARY

It had been a hard slog – but there was a long history of RAF involvement in jungle warfare and there was a wealth of experience brought to bear on the problems which faced us in Borneo. That we used our air power effectively in the main was proved beyond doubt – that the strange reluctance of the strong Indonesian air force to get involved was fortuitous if puzzling except perhaps to the commanders who recognised the value of strategic deterrence (the V-bombers at Tengah) or the tactical nous of the 60 Squadron Javelin pilot whose use of re-heat during a low-level beat-up of a jungle clearing dispersed an armed guerrilla band. With air superiority guaranteed, our aircraft were able to roam at will over the operational theatre. The then AOC 224 Group, writing in 1967, summarised it as follows: ‘Adequate tactical air forces, supported by strategic air power and properly trained, handled and operated in close

partnership with ground forces are as essential and critical a factor in a successful military campaign today as ever before.’ He did not specifically say so but he would, I know, agree that there must have been plenty of room for the exercise of leadership in that scenario. That it was so exercised is beyond doubt – so perhaps in our long history, in our various air training schemes, air commanders at all levels have learned how to acquire the skills of leadership and no less important how to impart them to others. Or are we in danger of probing too deeply? To quote John Terraine again, ‘Could our success over the years simply be attributed to the fundamental good temper, good humour, good sense, professional pride and the deep unspoken patriotism of the overwhelming majority of the men who put on the light blue uniform?’ Perhaps he has a point.

CHAIRMAN'S INTRODUCTION

Air Marshal Ian MacFadyen will now focus on the Gulf itself and operations in the Arabian Peninsula. Ian MacFadyen is a true fighter pilot; he has spent most of his career flying Lightnings and Phantoms in the air defence role, he has been a Flight Commander on No 43 Sqn, he has commanded Nos 29 and 23 Sqns, the latter in the Falklands – I think he was the first pilot to land a Phantom there after the war. He was the Station Commander at Leuchars between 1985 and 1987; he was Director of Defence Operational Requirements as an air commodore and was pulled out of the Ministry of Defence in the middle of the Gulf crisis to become the Chief of Staff at Headquarters British Forces Middle East to General de la Billière. Promoted after the war he became Assistant Chief of Defence Staff (Operational Requirements – Air), a post he filled for three years until 1994. He is now serving out in Saudi with British Aerospace. He has more than 5,000 flying hours and there is no one better to talk to us this afternoon about air operations in the Gulf.



AIR MARSHAL I D MACFADYEN

You have already heard from Sir Patrick Hine of the overall direction of air power in the Gulf War. In discussing RAF leadership in Coalition warfare, I should like to set the scene and tell you a little of how we went about in-theatre operations. I do this with a little trepidation since my role as Chief-of-Staff British Forces Middle East (COS HQ BFME) did not involve me in detailed minute by minute planning or execution of the air campaign. With the US having TACON (Tactical Control) of all British forces, my role, in Coalition terms, was more that of ensuring that the support to UK operations was up to the mark in the air, on land and at sea. The only exception to that concerned UK special forces operations – not something I want to go into today, and about which probably too much has been written already.

To put things into context, let me set the scene. As you know the RAF was the first British Force to deploy – indeed the combined USAF and RAF initial build-up was a classic demonstration of the speed and

effectiveness with which air power can deploy. Thus it was obvious to set up the British AHQ alongside the USAF at the RSAF HQ in Riyadh.

This HQ is a magnificent building in a city of magnificent buildings. Altogether it was five stories tall with the US in there, there was no room for the British HQ and so in good style we managed something a little more modest – known as the White House. As history has repeatedly demonstrated, air power needs control and direction from the highest level; it was therefore imperative that the HQ RAF element of the British contribution to the Coalition remained where it was, co-located with CENTAF, the air element of the US Central Command. The size of HQ BFME, some 700 strong at its peak, meant it had to be separated from the clearly inadequate White House, and thus the HQ was actually split into two. Consequently, where I was located, there was only a small light blue contingent, covering operational air and AT (air transport) matters.

From very early on, the British Government had made it clear they were prepared to allow TACON of RAF assets to come under CENTAF in the event of war. One priceless bonus of this important gesture was that the RAF was involved from the start in drawing up the detail of the air campaign. The special relationship, so long a part of RAF/USAF workings, happily continued. Thus it was that Wing Commander Mick Richardson, a man of the right background and experience, joined the planning team led by Brigadier General Buster Glosston. This became known as the ‘Black Hole’ because of the extreme secrecy with which it went about its business. So secret was it all that in any discussions in HQ BFME with Air Marshal Wratten (the wartime air commander) loud music had to be played in his room whenever Wg Cdr Richardson briefed him. I should add also that only these two RAF men knew of the details of the plan as it developed.

CENTAF’s operations centre (the TACC – Tactical Air Control Centre) was in the bowels of the RSAF HQ building, conveniently close to the ‘White House’. This operations room was eventually to assume huge proportions with several hundred people on shift at any one time during the air campaign. All aspects of air operations had of course to be covered; this entailed the setting up of cells for each specialisation.

I think it is worth, here, just giving you an idea of the scale of the air effort. On the air combat aircraft side it consisted of 68 Tornados (18 F3), 12 Jaguars and 12 Buccaneers, ie, 92 combat aircraft, backed up by 17 tankers (Victors, VC10s and one TriStar). The US, by comparison, had 240 tanker aircraft alone, with over 1,200 tactical aircraft in theatre, thirsty for fuel on operations that were up to six hours in duration. In the event, the

RAF's contribution was about 4% of the overall Coalition effort, which puts our effort, important as it was especially with the Tornado and its unique JP233 weapon, into its real context. A major problem was, 'How to stop all these aircraft, on intensive operations, from colliding with each other?' Contrary to expectations, there is often a great deal of medium level cloud around the Middle East in January/February – and in 1991 we saw the worst weather in years. One key element of the solution had to be precision, both in timing and space. This could be done with sound training. Deconfliction, however, could only be done by computer for such a complex operation. The trouble was that in August 1990, no such computer programme existed. It had therefore to be hurriedly developed – rather like our own Out of Area communications which, frankly, were in the equivalent of the communications Stone Age in the summer of 1990. Fortunately there was time to solve these problems and a proper air campaign planning programme, which produced the Air Task Order (ATO), was well developed in good time, and no aircraft were lost in collisions during the war even when more than 3,000 sorties were being flown per day.

Developing the programme and putting it together was one thing; it was quite another to disseminate the information to all who needed to know the results. There were 14 Air Forces involved in the Coalition, and each of these elements needed to be able to communicate effectively with CENTAF, let alone the ground and naval forces who of course also needed to be in the picture. For the USAF this presented few difficulties. More complex were the problems of communications with ourselves, the RSAF, or the Bahraini Air Force or the Syrian Army – or even the USN. This was solved by US communications being installed throughout in Ops Rooms around the theatre of operations including those for the RAF. The use of the RAF's ASMA (Air Staff Management Aid), developed so well during and after the Falklands Campaign, became another key element in secure communications – even to the extent of flash alerts of Scud raids, giving us several minutes' warning of impending attack. ASMA was used to disseminate information, other than the ATO, both downwards and upwards, and became very much a tri-Service system for British forces, both in-theatre and intra-theatre.

Let me elaborate a little on the ATO process. I have already mentioned that it needed a computer to put it together, but of course inputs had to come from people. Close co-operation between Ops planners, with engineers and suppliers in support, ensured a workable input to the ATO.

Initial RAF planning was conducted in the White House, and the results were then fed into the appropriate cell of the CENTAF Ops Room. Liaison continued at each stage of the planning cycle, which was basically a two-day time-scale; at 1800 the day before operations began the ATO was released and the air base mission planning began.

A 48-hour planning cycle may seem thoroughly inflexible, and little different to what we have done for 50 years or more. But the Gulf War saw the first large-scale wartime use of two new assets: the Boeing E-3 AWACS and the Lockheed C-130 ABCCC (Airborne Command, Control and Communications). These aircraft, with airborne commanders in them, increasingly took charge of air packages and diverted them, sometimes at short notice to new targets. This tactic was mostly used for attacks on the Iraqi elite Republican Guard Divisions which the RAF was not tasked to attack. Using Vietnam experience an elaborate system for armour attack Kill Boxes was initiated, into which the same groups of aircraft would repeatedly be sent. By this method, aircrew got to know the ground well, and did not repeat a previous attack. This flexibility of operations was a key to success in attriting enemy armour to the 50% level required before General Schwarzkopf would commit his armies.

The Air Task Order was issued every 24 hours and consisted of, in effect, an Ops brief for every aircraft movement in the theatre of operations during that 24 hours. I have here the ATO for 10 February 1991 – all 761 pages of it! That had to be distributed to everybody in theatre; you can see the size and the scale of the problem. But basically by this method everybody got to know exactly what was going on. For offensive air operations, packages of aircraft were co-ordinated onto targets, and of course deconflicted to and from their targets. Aircraft were chosen for their best effectiveness. Thus, 10 A-7 attack aircraft and 3 EA-6B jammers would be engaged in the suppression of enemy air defences. 8 Tornados would then attack the airfield operating surfaces with JP233. 16 F-18s would hit airfield installations (ops centres, POL (petrol oil lubricants), ammo, etc). 18 F-14 Tomcats would provide fighter top cover for the whole package, refuelled by eight KA-6s of the USN. A recce Tornado would then conduct post-attack recce. Thus, a total of about 60 combat aircraft would typically be involved: RAF, USAF, USN and even USMC.

One of the biggest headaches faced by the leadership was the question of Battle Damage Assessment (BDA). With so many sorties being undertaken every 24 hours, considerable post-attack recce and evaluation was needed. Not only were the right assets lacking but the weather, as I

have already said, was the worst in years. The value the US put into the results obtained by low level Tornado recce ops was immense as this was the only all-weather recce asset in theatre. With information coming in from a variety of sources it was essential to have results centrally evaluated; this was done through the Joint Imagery Production Complex (JIPC), based in Riyadh. The JIPC was staffed by members of the four US armed services together with a British element led by the Royal Air Force. The level of demand to assess attacks on the Iraqi army, in particular, was huge, and with each of the US services going about its business of assessment in a different way, there was a clear need of rationalisation. It was a young RAF squadron leader PI who drew all this together, by standardising procedures and assessment methods in the way we do it in Britain. He therefore played a central role in the ultimate success of the JIPC, which grew in size to over 500 people.

I thought it might be helpful in our deliberations today if I outlined, very briefly, how the direction and dissemination of information was made by the various Coalition Commanders in Riyadh. The day would start, typically for myself, at 0715, with a visit to CENTAF planning room to hear in detail some of the operations there. Then I would go to our morning briefing in HQ BFME which was very much more local matters dealing with our three Services. Meanwhile the Air Headquarters would have its own briefing and CENTCOM itself in another building would have another briefing with General Schwarzkopf in the chair. I would then go along to a Coalition Commanders conference later in the morning, followed by a command group briefing at HQ BFME with General de la Billière in charge. Later on in the afternoon the cycle was repeated. During the evening came a special forces briefing. Not a lot of time in all this to try and take part in executing and operating and dealing with the many problems that we were dealing with. We were, of course at this stage, talking with joint headquarters, either their planning cell or their co-ordination cell, or indeed their think-tank.

The question of how to co-ordinate not only 14 air forces, but also 37 different nations on the ground was also something of a headache. A special Coalition Co-ordination and Communications Integration Centre (C3IC) was established in the Saudi MODA alongside CENTCOM HQ. The aim of this group was to encourage an interchange of information and ideas amongst the Coalition partners. One aspect of this was the daily Coalition Commanders Conference, which I attended as the British representative.

I needed to make frequent secure telephone calls with the planning and ops warden at the JHQ, High Wycombe. As you can see, time to do this was often at a premium. Additionally, once per week General de la Billière made a call to the SofS, Tom King, to discuss with him on the spot views on progress with the air campaign and other matters. The press often featured in these calls so I will end with a few words on the media.

This was the first war with instant media reporting. From my first days in theatre, I was particularly concerned about how we were going to deal with the Press. The approach could not be a unilateral one: it had to be in concert with our Coalition partners, which inevitably complicated matters. I had the Public Information staff working under me, and it soon became clear to me that we had learnt much since the Falklands War. In particular, we needed to set up MRTs (Media Reporting Teams) in the field – a recommendation from the 1982 campaign. These teams consisted of a representative of each element of the media (TV, radio, press, cameramen, etc) giving a total of about seven. They were sent on permanent detachment to units of all three Services. An important aspect was that they had to be kept as a constituted team, agreed with the media beforehand. In return, team members were briefed on aspects which often had security implications. Other press were barred from such briefings. This also enabled our people to get to know MRT members: equally importantly, for the media to understand better what we are doing. Ideally, one MRT was needed at each RAF base, but we could only offer sufficient teams (bearing in mind some were needed for the Army and Navy) to work from Dhahran and Bahrain. I think the excellence of the media cover we got speaks for the success of these teams.

One aspect, however, that did concern me was how to handle the large press corps (over 600) assembled in Riyadh. It was initially proposed that we should brief them daily from amongst those of us present in Riyadh. I could see this would prove to be a major distraction from the daily routine (already full as I have described), and I pressed for a group captain to be sent out. In the event Niall Irving, the RAF Presentation Team leader, proved to be the ideal choice. It is perhaps worth noting that he only arrived in Riyadh 24 hours before the war began! We considered media matters and what was to be briefed that day, every day at the Command Group Conference held at midday in HQ BFME. The Press were especially quick to criticise any collateral damage, and I would say this was the one area where, from time to time, we had to constrain our tactics a little – so as to be absolutely sure there would be minimal loss of life to the civilian

population.

In the time available I have not had time to cover an immense variety of other tasks that RAF personnel were involved in, such as in-theatre air transport and support helicopter operations, rules of engagement, the negotiations that were so necessary with our hosts regarding support, the setting up of RAF and other Field Hospitals, vaccination against Anthrax and the Plague and even the question of setting up POW camps, or Psyops. This was all my bread and butter as Chief of Staff BFME, and you may wish to probe some of these items later in discussion.

To conclude, I am in no doubt that the US provided strong air leadership in a war which was very largely free from political interference. Realistic and joint training, conducted by NATO air forces over the years, paid off handsomely. For the first time technology really began to live up to its promise, and thus a new age in air warfare was born. This, taken with instant media exposure, will increasingly test air leadership in the future.

CHAIRMAN

Roly Beamont, 'Bea' to most of his friends, had a very distinguished war. He served in Fighter Command or on fighters all through the war including the Battle of France and the Battle of Britain. He flew Hurricanes, Typhoons and Tempests; he commanded No 609 Sqn and two wings, No 150 Wing and No 122 Wing. His very long and distinguished career as a test pilot began during the war and carried on afterwards when he became the experimental test pilot at the Gloster Aircraft Company in 1946. He was chief test pilot at English Electric between 1947 and 1961; he was Director of Flying Operations at the British Aircraft Corporation at Warton between 1965 and 1978 and amongst many other things he was the first to fly the Canberra in 1949, the P1, which was the forerunner of the Lightning, in 1954, the Lightning itself when it was decided to put that into production for service in the Royal Air Force, and finally the ill-fated TSR2 in 1964. He is very well decorated, DSO and bar, DFC and bar and DFC (United States) and he has had numerous other awards including the CBE. He is very well qualified to address this subject of leadership at the squadron and wing level in World War II.

LEADERSHIP AT UNIT LEVEL

WING COMMANDER R P BEAMONT

In looking back at leadership in the 1944 campaigns in Europe, I found myself in a quandary because I didn't seem to remember any problem arising at that time; but that in itself needs some explanation! In spring 1944 I had a newly formed wing of three battle-hardened squadrons, mostly full of second tourists and even some third tourists, and first tour new boys were in a minority. These squadrons had first rate experienced Squadron Commanders and Flight Commanders and had all been in active Typhoon ground attack throughout the previous year, so they knew what they were doing and after converting onto the exciting new Tempests in March 1944 were literally raring to go. Post-war one of their stalwart Squadron Commanders, Johnny Iremonger, put it well in a foreword to a book by one of his Tempest pilots, most of which I didn't agree with, when he wrote, 'I didn't need to lead you chaps – you led me!' I knew just how he felt because it was not long in that summer before I got the impression that any shortfalls in tactics of aggressiveness on my part would very soon be brought to my notice by the squadrons themselves!

So how did this happy state of affairs come about? When one comes to think about it there was a very clear pattern. From May 10th 1940 the chaotic state of affairs in France moved so fast that this callow pilot officer had all he could do to keep up, fly his Hurricane when required, sleep when and where possible and then fly again. The only centres of order and apparent normality in the chaos all round were the crisp, organised Flight Commanders and the extraordinarily composed figure of our CO, Johnny Dewar – here we come to the role model bit – who quickly became a legendary figure in the air while remaining entirely calm on the ground, unflurried and apparently unimpressed by the general confusion going on all round us. His message was put over with humour and apparent enjoyment: this is what we have been waiting for and now we can get on with it! That squadron recorded over 60 individual combats in ten days and we lost eight pilots. Johnny Dewar took us back home and he said, ‘Right now, you have got two weeks to get set again and then we’re off on the next bit.’ We were ready in two weeks and back down on the Channel coast when the fighting really started down there.

Later when regrouping the remnants of the squadron back at Church Fenton before returning to the South Coast in July, he again set the pattern which we were to recognise and hang on to throughout all the summer battles. He told us, ‘This little business in France was just for starters. Now we are into the big one and we fighter pilots are the luckiest people in the land at this time. Only Fighter Command can beat these bastards and we in 87 are going to show everyone how to do it.’

Throughout that summer our losses were again high and included a new Squadron Commander and two Flight Commanders. As for Johnny Dewar, who was by now our Sector Commander, his calm assurance never varied; he never expected anything of us that he did not do himself, and better. After he had been promoted to Sector Commander the next morning he was down at dawn readiness with us ready to lead the next show. He seemed to be entirely relaxed, enjoying the whole thing at dispersal; strangely enough he never partied or drank with us – he never needed to; we would have done anything for him. He looked like a schoolmaster and his manner was schoolmasterly, he had a marvellous calm, quirky sense of humour, he was in total command. Nobody on the squadron would have ever questioned anything that Johnny said, or any of the orders that came down from the office, he was just in charge of the whole scene. I think we were extraordinary to have a man like that in command at that particular time. He was said to have a surgical ability to identify his target out of a great

mass of enemy aircraft, to cut it out and stay with it until he had destroyed it. I never saw him do this because I was too busy watching my own tail all the time!

He was finally shot down in September and also, in the same week, our new CO. After that the replacement turned out to be disastrously different; this was a major problem and he had to be removed hurriedly, but not before a sharp resultant fall in morale. It was dramatic to see how a squadron with tails right high with magnificent morale could fall into a real state of tension with the wrong man in charge. Then a new ball of fire, named Gleed, turned up, known as the Widge, a tiny little man. In taking over he made it penetratingly clear that the *Luftwaffe* were no big deal, that he expected us all to be hell-raising fighter pilots, and he would set the pace, which he did. The squadron's morale, so high under Dewar, was brought back and kept there by Gleed – a difficult thing to do at the height of the battle with almost daily casualties.

So when in 1941 I became a Flight Commander and in 1942 a Squadron Commander I had a hard act to follow but tremendous examples to try to emulate. Again no real training in leadership had been apparent to me, or to anybody else I think, but we had had role models and the quality of these leaders that turned up after the selection system pre-war was quite remarkable. I had also seen the immediate effect on others of a leader's uncontrolled fear. Before I leave these startling individuals we will look at a couple more, Dennis Skillen and John Grandy; these were extreme examples of different sorts of leadership. Dennis was an utterly ruthless, utterly dedicated, most courageous or possibly, you would say, the most stupidly fearless leader that I ever came across and it was often said at the time that it was entirely open to question as to who was most terrified by his attacks, the enemy or the chaps he led. John Grandy on the other hand was an entirely different kettle of fish, marvellous in the air, boisterous, warm-hearted, extraordinarily concerned for the chaps on the ground and capable, in my experience, of coming up with a remarkable reaction which was exactly the right one for the occasion. I remember one occasion in August 1942 when he called a Duxford Wing briefing at about 8 o'clock one night, which was unusual: 'Tomorrow's going to be a big day. It is going to go down in history as Dieppe Day, and the Duxford Wing is asked to declare itself operational.' We had had ten months of working up with Typhoons which were a pain in the neck; they were still causing casualties, engines were stopping, tails were falling off and the morale on the station was very poor indeed. John said, 'We have this thing to do tomorrow and I

have to declare whether the Duxford Wing is operational for Dieppe.’ He then said, ‘We all know about the Typhoon; if you chaps don’t think that we are ready to go I’ll go along with that,’ then he stepped down. He had hit exactly the right note; nobody was going to say, ‘I’m not going to Dieppe,’ so we all went.

A new problem arose when I was given a squadron of these new Typhoons which for six months had been non-operational with continued and serious technical problems. The pilots had lost their edge and they hated Typhoons and wanted to get back to Spitfires. The Typhoon was already considered a failure and at Biggin Hill, where I took over 609, I found the squadron restricted to standing patrols off the South Coast to counter occasional 109 and 190 ‘tip and run’ raiders. I approached the Biggin Wing Leader and asked for some combined operations with my Typhoons going in for planned strikes with the Biggin Spitfire Wing escorting, and I got told off for suggesting such rubbish. The Typhoons were, I was told, useless and a disgrace to Biggin Hill. Here was where I learnt about leadership at higher command level.

Without deference to procedure I called 11 Group, asked for the PA and said I wanted to see the AOC. After a few minutes and, in a tone of surprised disapproval, the PA said, ‘He’ll see you at 10 am tomorrow!’ The AOC was Hugh ‘Dingbat’ Saunders and when I was ushered into the great man’s presence – I was 22 at the time – I almost lost the power of speech, but not for long. Dingbat went straight into a series of searching questions about the Typhoon. Of course he saw the whole situation far better than I did from my little pigeon hole, but I described our difficulties and he said, ‘Well what do you want to do about it, Beamont?’ Going in with both feet I said, ‘If I can get all my pilots firing their guns at enemy targets by the end of the month, Sir, that will take care of their morale.’ Again came the positive note: ‘All right. How are you going to go about it?’ And when I explained he said, ‘Right, clear your operations with Ops Plans and come and see me when you get some results.’ Thanking him and saluting I headed for the door and then he said, ‘And one more thing. You know the current ban on Spitfire Squadron Commanders leading Rhubarb ground attacks; that will apply to you.’ Seeing the immediate end of my service career in sight I blurted out, ‘But I don’t think it will help morale if I send my chaps off on my bright ideas and then sit back in the office reading the papers.’ Dingbat twinkled and said, ‘OK you can do some and then come and tell me about it!’

In this short interview which had been far too long for the worried PA,

Dingbat had shown no stern formality, no critical inquisition, and given no formal orders. It had felt like a level conversation between an older and experienced fighter pilot behind a desk and a younger one in the firing line whose experience and views were actually of value at headquarters. It was heady stuff for a 22-year-old but now I had a clear job to do and the AOC's mandate for doing it. More than that I felt that in my self-imposed new responsibility I had the understanding and direct warm support of our revered AOC. Only then did it occur to me that I was now on tricky ground, having by-passed my Wing and Station Commander and the 11 Group Headquarters staff channels, none of whom – not surprisingly – subsequently seemed to approve of the situation. In due course I went back to report to Dingbat on the Typhoons' first and successful low-level offensive operations, in which the squadron made 100 successful transport attacks in the period of two months, and on the consequent remarkable rapid rise in the squadron's morale. Later in early 1944 this experience was put to good use again when Dingbat sent for me, this time to tell him about the new Tempest before sending me away to form the first wing.

The work-up to operational status was straightforward with the Tempest, which had no severe technical problems on introduction, and we were able to get straight into the training for all the varied operations expected in the immediate future. Training was, I felt, absolutely essential as it always is to get your units up to top form, and when they are in good form and they know their job and feel that they have expertise it automatically increases their morale. Training was a basic in all this: first tenacity in pairs and finger fours, low level and high, day and night; then squadron twelves and twenty-fours by day and ultimately at night. They worked out very well although some were sceptical of the need for this night formation. But in the event at the end of D-Day we were launched finally again at 2230 hours through bad weather to patrol the beachhead in the dark with 24 aeroplanes and were subsequently diverted as our Newchurch base had weathered out and we landed at Ford after midnight without loss. It had been interesting but operationally pointless to fly with twenty Tempests in the darkness over the battlefield flash and fires of Normandy, but it was just as well that we had trained for it.

Soon after this the essential need for tenacity and morale under difficulties again showed up in a totally unexpected way, this time with the V1 flying bomb campaign when each intercept presented the pilot with a unique challenge. There was very little time to complete the GCI pursuit to visual in whatever weather and then at the point of firing there was the

strong probability that you would set off the 1,800 lb warhead of the V1 at 300 yards or less. It needed accuracy and tenacity and it soon showed the wide variations in skill and ability among even the best fighter pilots; one pilot indeed destroyed 60 V1 s in a two-month period in which his whole squadron managed only 28 more. I have always felt that Joe Berry's achievement was never fully recognised.

But the pilots, remember, didn't want to do this; they wanted to be exercising their fine professional skills as a tactical wing over on the other side supporting the Normandy operation which they had been doing very well until the V1s started. Now they were faced daily with doing one, two, three, possibly even four sorties like that a day, each one of which was likely to blow up in their face and sometimes at night when it was very spectacular. Then we started taking casualties. We lost them in the explosions with the flying bombs, then we started getting them from another source – friendly fire. The guns were concentrated on the South Coast and nobody had told them to stop firing if there was a fighter in the way. In the early days, before they got sorted out, the lead angles on the guns on a 400 mph target very neatly bracketed the fighter behind it. We started losing fighters, we had people killed, and all in full view of the public. The press covered it with headlines, there were questions in Parliament and the situation in the wing was very tense. The Squadron Commanders came to me one morning and said, 'Look, we are not going to hold the hotheads, they are going to strafe the gun sites.' I think they might have done; that was what their job was on the other side. I got them in the briefing tent one evening when they thought that they should be drinking beer and I invited them to consider the proposition that if anyone wanted to spend the rest of the war cleaning lavatories all they had to do was to shoot up the gun sites on the wrong side of the Channel. They didn't do it and they went on to destroy over 600 V1s from that wing before we were allowed to go back to the continent.

Then there was the question of big formations, the big wings. Long range sweeps and bomber escorts to Germany with 36 aircraft were no problem if the station-keeping was good, but here you came back to the individual training of the Number Two, with persistent stragglers needing to be identified and weeded out. In April 1944 we had commenced trial operations along the same lines that had worked with the Typhoon so that by D-Day we already had two Tempest squadrons with successful day and night operations behind them. The wing was in good heart and remained that way in the battles ahead and any influence that I was able to bring to

bear had stemmed directly from my fortunate service in the previous years under Dewar, Gleed, Grandy and Dingbat Saunders.

The principles established and demanded by these men at their various levels were calmness under stress, humour at all times. 'Don't take yourself so seriously, Beamont,' I was once told by my Flight Commander during the Battle of Britain. I doubt if I ever did again! It is very easy in a tense combat situation to get a laugh out of it; we have all had that experience and if you can get a laugh out of it and get the guys laughing there's no problem. Total unquestioning dedication to the task goes without saying, together with tenacity – get stuck in and stay stuck in – whatever you are doing; finish the job.

In the Battle of Britain as untried replacements had come in to replace the steady losses, the veterans of a few months were tasked with teaching the new boys this tenacity in formation and in one-on-one combat, and this remained the key to effective formations large and small throughout the war. If your station-keeping remained good and accurate in adverse conditions – and training needed to be not just on a sunny day, but whatever the weather was – and the leaders knew their job, then all operations from pairs ground attack to three-squadron wing sweeps with 36 aircraft were no problem.

In the closing stages of the war in Europe big wing operations became less relevant and CAP was generally carried out with 12 aircraft and low-level armed reconnaissance with fours or multiples of fours for set piece attacks. But right to the end the ability of Number Twos to stay in there was crucial. He needed to be keen to do it. There had to be frequent opportunities for air-to-air and air-to-ground combat because sitting in a dispersal hut was not good for anybody. These, coupled with the assured confidence of the leaders, were the keys to success and high morale. I doubt if there is much difference today although it is probably a whole lot more dangerous.

CHAIRMAN

Air Vice-Marshal Peter Squire is a very experienced fighter pilot, but as a mud-mover, rather than air defence, having spent most of his flying career on Hunters and Harriers; more recently he has flown the Tornado. Amongst his many appointments, Peter was a Flight Commander on No 3 Sqn in Germany between 1975-78, and he was OC No 1 Sqn on Harriers during the Falklands conflict; hence he is very well qualified to talk on this particular operation, in the course of which he earned his DFC. He was the Station Commander at Cottesmore, the Tri-national Tornado Training Unit, between 1986 and 1988, Director Air Offensive Operations in the MOD between 1989 and 1991, and for a brief time he was my SASO when I was CinC Strike Command before I retired. When he finished doing that he became the AOC 1 Group, and I suspect regrettably for too short a time, before he was pulled out to fill the very difficult and responsible slot of Assistant Chief of Air Staff in the Ministry of Defence, a job from which he has just managed to escape. Very shortly he is going to be promoted to become the Deputy Chief of Defence Staff (Programmes and Personnel). If ACAS didn't keep him out of mischief, that certainly will!



THE FALKLANDS

AIR VICE-MARSHAL P T SQUIRE

Having read his book, *My Place In The Sky*, I knew that to follow Roly Beamont would be a difficult task and that has proved to be very true. One thing that did strike me forcibly from what he said was the great difference in age between his experience as a Squadron Commander and my own. When my opportunity came to command a squadron I was 37, some 15 years older than he was when he appeared before his AOC; that to me is quite a significant variation. It is something that we, my generation, have to come to terms with although we do have young flying officers, as shown on the television, who do have experience of combat operations.

My first operational tour was spent flying Hunters at Tengah, post-Confrontation and during the final two years before our major withdrawal from East of Suez. Looking back on those pleasant times, I think I can

honestly say that, while they may have taught me many things which have subsequently proved useful, I learned little if anything about command in war. The flying club environment of the Far East was then replaced by the relatively hectic pace of life of an instructional tour on Hunters – and that says something – at Valley. This was a busier tour in terms of flying than the Far East tour had been, but again with thoughts very removed from the prospects of actually going to war, and it was only after my tour there that I managed indirectly to orchestrate a return to the front-line and to the Harrier force that the operational scene became more pressing.

The operational scene and ethos of Royal Air Force Germany in the mid-'70s was for me an entirely new experience: challenging and on occasions daunting, but certainly the first time I had seriously contemplated going to war and, therefore, experiencing the skills and attributes that would be required of a squadron executive under those circumstances.

Most if not all in this audience will be aware that the concept of operations for the RAFG Harrier force at that time was to deploy forward, operating from urban dispersal sites in support of the First British Corps. Each site would operate six aircraft, with the capacity to recover and task an additional pair on diversion from another site and, apart from the tasking and command link to the Force Wing Operations Centre (FWOC), would conduct business as a semiautonomous organisation. Re-supply of fuel, spares and weapons was provided from an associated Logistics Park and the FWOC held centrally a 2nd line engineering support team for contingency purposes such as engine changes in the field, but for all other functions, the site was established with its own first-line support – a total per site of about 100 people, including Army signallers and sappers and RAF Regiment personnel for ground defence.

As a junior Flight Commander, before I had the chance to take command of a site, I spent most of my time on deployment in the cockpit, often flying six sorties in a day and ideally as quickly as possible in order to allow the Site Commander the opportunity to fly on the last wave of the afternoon, depending on the tactical situation. Operationally we flew as pairs and rarely in large formations, using a hosepipe of pairs to produce the weight of attack appropriate to the target. This was very much a cab-rank operation mounted over short range and requiring little really in the way of detailed planning. Navigation was straightforward and target identification for real was not thought likely to be difficult; we all believed that it would be a target-rich environment. Thus, as a Flight Commander, there was little doubt in my mind that, even if I have almost certainly over-

simplified the flying side, the most challenging part of going to war would be commanding the site on the ground. Success and leadership in that role would, as a Flight or Squadron Commander, be of far greater significance than individual leadership in the air.

It was against that background that in March 1981 I took command of No 1 (Fighter) Squadron. At that time the squadron was assigned to NATO as part of the AMF(A) and also to SSR(A) with nine potential deployment airfields ranging from North Norway to Eastern Turkey, with Germany and Greece in between. As an air-mobile squadron, committed to fly from an allied air base where the degree of host nation support would vary considerably, we had again to be capable of autonomous operations. To this end, the squadron's wartime establishment was 450, over four times its peacetime strength. Once again, therefore, I saw my task as a Squadron Commander in war as being principally that of a mini Station Commander directing and commanding my aircrew as but one element of an overall team which would have to work together in a coherent and efficient way if we were to be an effective force. To be credible, of course, Squadron Commanders had to be more than competent in the air but the real leadership in the air came from the Flight Commanders, Deputy Flight Commanders and senior flight lieutenants.

In March 1982, the squadron was deployed to Tromsø in North Norway for its annual Arctic training. Competing with the cold and operating from snow-covered runways, in weather which can change from blue to red almost as quickly as one can say the words, are additional complexities for a Squadron Commander to judge. In retrospect these were most valuable challenges to have faced, although if anyone had suggested, in March of that year, that within two months the squadron would be fighting from an aircraft carrier in the South Atlantic, some 8,000 miles south of the United Kingdom, I frankly would not have believed him.

A warning order issued from High Wycombe on 8 April at the request of Northwood directed that No 1(F) Squadron prepare for embarked operations as attrition replacements for Sea Harriers lost in combat. Six aircraft only were required initially and since space would be scarce, I was permitted to take only eight pilots and 19 ground crew. My first task, apart from trying to get the aircraft modified to carry the Sidewinder air-to-air missile, was to choose and select a team while leaving a balanced second half which was already earmarked as a follow-on force to fly from a Forward Operating Base on the Falklands, once it had been established. I was offered the whole of the Harrier Force to choose from, my own

squadron plus the two large squadrons in Germany. The debate continues to run on whether operational detachments should be manned on a formed or non-formed unit basis. For my money there are relatively few occasions when the advantages of a non-formed unit structure outweigh the coherence and motivation of a formed unit, and going to war is certainly not one of them. However, to make two balanced teams, I needed an additional two pilots and those were found from the OCU, co-located at Wittering, using crews who had only recently been posted from my own squadron. On the engineering side I took a senior and junior NCO from each trade specialisation, people who I knew could tutor the RN air engineers in the differences between the GR3 and the Sea Harrier. Finally my Junior Engineering Officer had gained a commission from the ranks and was ideal for the situation into which we were to be flung.

Having flown our aircraft to Ascension Island, that vital forward mounting base that you heard of today, and embarked them onto the *Atlantic Conveyor* – a container ship laden down with every conceivable store as well as my six aircraft, eight Sea Harriers, five Chinook and six Wessex – we sailed as part of the amphibious force for the Total Exclusion Zone (TEZ). A lack of accommodation on the *Atlantic Conveyor* meant that all but two of the pilots had to travel on board the North Sea ferry *Norland* together with one of the parachute battalions. I felt it was essential that we should use properly the 12 days' sailing time by holding collective training sessions, talking tactics, revising our knowledge of aircraft systems and weapons performance parameters, devising standard operating procedures for getting the most out of our aircraft and their weapons, and mentally preparing ourselves for combat operations, including the eventuality of conduct after capture and resistance to interrogation. To this end, I managed to get the RN to crossdeck crews each day to the *Atlantic Conveyor* so that we could carry out this collective preparation. For us it was the equivalent of the Paras running the decks of the *Canberra* to keep themselves mentally attuned. One of the decisions taken during those sessions was to divide the eight pilots into leaders and No 2s and then to nominate constituted pairs. For some, being labelled a No 2 was something of a drop in status, but in the event it was a system that worked well. Accidents and incidents meant that subsequently we promoted a number of No 2s and in some cases changed No 2s over to achieve better pairings but there is no doubt from my own personal experience that I formed a very close bond of trust with my No 2 and, I like to think, he with me, such that the sum of the whole was greater than the sum of the parts.

We disembarked the aircraft from *Atlantic Conveyor* and flew them on to *Hermes* on the late afternoon of 18 May. With only two days to go before the nominated date for the assault on San Carlos, there was a sense of urgency in getting my pilots, who had no previous experience of deck operations, familiar with all the hassle and procedure – as I was to discover, the captain of *Hermes* may have had his own reasons for applying a degree of pressure at an early stage. Our experience that evening provided the essential catalyst for crossing the mental threshold from ostensibly a peacetime operation to a wartime one. Having had the aircraft replenished with fuel but with no Form 700 – the aircraft servicing documentation – available to be signed and certified, three of us (the first to arrive) were ordered to cockpit readiness. We hastily briefed a 2 v 1 air combat training exercise, followed by a deck familiarisation serial. Because the equipment necessary to align the aircraft's inertial platform had not been cross-decked either, we would be flying without a head-up display and primary instruments. Sunset came and went while we sat on deck alert, progressively reducing the brief until when it was quite dark we would, if launched, have jettisoned fuel and carried out singleton carrier-controlled approaches to land. In the event, we were stood down some 40 minutes after dark. On the one hand I was cross that we had been put through this charade, but equally it took me over the hurdle from peacetime rules to wartime pragmatism – for which I was subsequently grateful, although I did not indicate that to the Command.

From the time of our departure from the UK and arrival in the TEZ, the Navy had only lost three Sea Harriers – two of those to accidents – so instead of being used as replacements we were employed as reinforcements and, because of our expertise, rightly dedicated to the attack role. I should add at this stage, therefore, that because we did nothing other than attack flying we did not get involved in any way in the air-to-air battle; indeed none of my plots saw an Argentine aircraft other than helicopters that were either flying locally over the islands or stationary on the ground. The first thing that was very clear was that *Hermes* was not in any sense properly set up for attack tasking. You have heard from Ian MacFadyen about the complexities of the ATO, but *Hermes* was incapable of taking on the job of attack tasking even for the six Harriers that I had. The flying operations room, manned by a single officer and one clerk, had the impossible responsibility of orchestrating the flying programme for air defence and ASW, cross-deck re-supply and ship-to-ship replenishment. The carrier-borne Ground Liaison Officer, whom we had trained at Wittering in Harrier

procedures before *Hermes* sailed from the UK, had been hijacked by Admiral Woodward to join the Flag staff and was, therefore, unavailable to help us in any more than a very limited way. The Ready Room used by the Sea Harrier crews had no planning facilities and the only ground situation map was located in a small cabin some four decks below and was generally 24 hours out of date. To my mind, there was a severe communication void between the Sea Harrier crews and the Command; moreover, the Fleet Air Arm crews who had been flying relentlessly on combat patrol for the two and a half weeks before our arrival with almost no action since the initial engagements on 1/2 May were visibly exhausted. It was not a particularly healthy atmosphere. My first priority, therefore, was to get hold of a discrete cabin space where we could keep a map store, carry out rudimentary planning and, more importantly still, hold share-holders' meetings from which we all derived the confidence and assurance that we were performing as well as we could. Winkling out a suitable cabin for this purpose took a few days and I well remember having to plan the first operational mission for 20 May – an attack on fuel storage areas at Fox Bay – on the Ward Room dining table.

The inadequacies of the ship in its communications and manning for attack tasking haunted us almost on a daily basis. We were frequently launched to cover air requests which had not been endorsed as air tasks by Brigade or Division Headquarters and often we were late on requested TOT because the Operations Staff could not cope with the volume of message traffic. This was exaggerated by the lack of clear-cut lines of command and control for the GR3 assets. In the close air support attack role we should have been under operational control or tactical command of the senior land force commander – to start with Brigadier Thompson and subsequently Major-General Moore. This was not the case, exemplified by the Captain of *Hermes* on one occasion launching the pair, holding deck alert for close air support, to carry out an offensive counter-air mission against Stanley airfield on the basis of an uncorroborated, and subsequently proved incorrect, visual report of Etendards being parked at the end of Stanley's runway.

The one thing that our unusual surroundings allowed me to do, which I had never expected, was to be fully involved in the flying. As I previously said I had seen my role as a Squadron Commander being very much more the direction of a total team of both ground and air, but because the Navy provided all our infrastructure support and as a result of being one of the nominated leaders, I was able to fly as much as any of my pilots and,

therefore, to gain a proper appreciation of the airborne task which under most other circumstances I would not have had. Lest you should get the impression that I was satisfied with all my decisions at the time, or since on reflection, I can assure you that that is not the case. On the morning of 21 May, Flight Lieutenant Jeff Glover and I were tasked as the first pair to provide airborne CAS cover to the landings at San Carlos. To reach the Amphibious Area of Operations for first light required a take-off in semi-darkness and in doing my external checks I failed to notice that the undercarriage lock had not been removed from the main undercarriage leg of my aircraft, with the result that I could not raise the gear after take-off. I cleared Glover to continue as a singleton, believing that he would be held, as far as I could see from the intelligence situation, in the San Carlos area until fuel reserves dictated a return to *Hermes*. What I had not anticipated was that the controlling authority at sea would divert him onto an armed reconnaissance mission close to Port Howard on West Falkland where, sadly, he was shot down and became the sole British prisoner of war. To send him as a singleton was a serious error and I decided then and there that we would not repeat the mistake. On a subsequent occasion when aircraft losses and unserviceabilities had reduced my particular deployment to a single combat available airframe, I declined a task until the Command allocated a Sea Harrier to fly as a No 2. That took some persuasion but in the end one was reluctantly provided; it was done so only on the basis – this was an armed recce sortie – that the Sea Harrier flew above 10,000 ft, but fortunately they allocated an expendable RAF pilot who was seconded to the Fleet Air Arm and he knew his place as a Number Two.

One of the more fascinating aspects of leading my small team was the privilege of comparing the strengths and weaknesses of individuals, relative to the predictions I had made based on my knowledge of them in peace. It was probably only to be expected that some would be stronger and better equipped to take the strain, while other individuals would be less strong. Through careful pairing, we managed to play to people's strengths while protecting their weak spots. Only once did I have to take action, on this occasion by changing the composition of a formation because an individual's expressed concerns were adversely affecting the confidence of others in the formation. Some would argue that he should not have been replaced on a task that certainly had considerable risk, but I judged at the time that our chances of success were better without the individual. In the event, all four aircraft returned safely, and I am pleased to say that the individual went on to fly on many other highly effective sorties.

In the short time available, I have tried to give you a feel for a number of factors that affected my decision making during the short but hectic weeks that we flew operationally from HMS *Hermes*. There were, of course, plenty of other episodes requiring positive action, when sometimes I got it right and sometimes wrong. However, if I learned one thing, it was the need for communication. In *Hermes*, there was no downward communication; that was very much personality dependent and nothing to do with the Fleet Air Arm or Royal Navy as a whole. Indeed, during my seven weeks on board the Captain did not speak once to the ship's company. In contrast I visited *Invincible* and *Fearless* where I saw totally different styles of leadership which used the power of communication to create well motivated fighting organisations. Of course there are times when downwards briefing can be counter-productive but these are few and I like to think that my small group found that aspect of my style, as the team captain, to be helpful. But you would have to ask them that question and I have no doubt that they would provide every bit as interesting – and perhaps more illuminating – commentary on command and leadership in war from their perspective.

CHAIRMAN

Group Captain Glen Torpy is going to tell us about operations during the Gulf War from a Squadron Commander's perspective. Glen first gained experience on Jaguars and Hawks and then went back to Jaguars to be a Flight Commander on No 41 Sqn. In 1989 he formed the Tornado GR1A reconnaissance squadron No 13, and led that squadron during the Gulf War as a result of which he was awarded the DSO. He then fell on hard times, but went to an interesting job as PSO to CinC Strike Command before escaping the office and becoming the Station Commander at Brüggen where he is today flying Tornado GR1s. Amongst other burdens he has to bear he has my middle son on his station. I saw quite a bit of Glen during the Gulf War and I know that you will find what he has to say extremely interesting.



THE GULF WAR

GROUP CAPTAIN G L TORPY

I stand here before you with a degree of trepidation having heard a fascinating series of presentations and also knowing that there are many distinguished commanders in the audience. What I would like to do is to explain the preparations that we carried out prior to going out to the Gulf, what we actually found when we arrived in the Gulf, and the part we played in the air campaign. Then I will draw together some of the lessons that I learnt on leadership.

On 2 August 1990 when Saddam Hussein directed his forces into Kuwait I had been a Squadron Commander for eight months, having reformed 13 Squadron in January after it had been disbanded for eight years. We were the last of eleven Tornado squadrons and one of two Tornado recce squadrons. Our sister squadron, No 2, was at Laarbruch.

You have already heard from Sir Patrick that the UK initially put Tornado F3s and a Jaguar out in-theatre as soon as possible as a show of force. It very rapidly became evident that the Coalition were actually massing a considerable force to try to eject Saddam Hussein out of Kuwait. The Tornado force was then co-opted into theatre to bring a greater

offensive capability. The Tornado, as you have already heard, was designed as a counter-air aircraft for low-level high-speed penetration; its one advantage over many other aircraft was its true all-weather and night capability and in particular the ability to operate down at 200 ft in all weathers and at night. That, in conjunction with the use of JP233, gave the Coalition commanders a considerable capability against the Iraqi air defence systems and airfields. The recce Tornado is fully attack capable but has a comprehensive suite of infrared sensors which the back-seater can actually view in the rear cockpit; what it allows is the back-seater to view in real-time armour or any other items of interest that he picks up, and he can then record that and replay it. The main problem with our equipment was that it was very new, there was very little of it and we were also having some fairly significant technical problems with it. Therefore whilst we could see a significant capability and also a very vital capability for the Coalition who lacked an all-weather and night capability in the recce role, we could also see some fairly major problems that we would have to overcome.

As the Coalition plans began to firm up and the RAF's contribution to the Coalition increased we were instructed by the Joint Headquarters to start training for possible operations in the Gulf, both in the recce role and in the attack role as well. Whilst my squadron was primarily a recce squadron we also had a secondary attack role. We immediately started training crews in 100 ft flying by day, in automatic terrain-following operations by night down to 200 ft and also in brushing up our skills in air-to-air refuelling by day and night. The night terrain-following operations were probably the most important; for the very first time we were actually permitted to operate down to 200 ft which in peacetime we had never been allowed to do. The minimum height we had ever been training at was 500 ft and there is a big difference in the pitch black between 500 ft and 200 ft. At the same time as we were training we were putting a considerable amount of effort into trying to get our recce equipment up to a decent standard to actually take into theatre; as Christmas approached there had been a rapid improvement in the equipment and the modification programme was actually in place. It was in early January that JHQ had sufficient confidence in the recce equipment that they decided to deploy a small recce package forward to Saudi Arabia, but we were also getting very adjacent to 15 January which was the deadline for the withdrawal of Iraqi troops which the UN had set down.

The actual deployment was small. It consisted of six Tornado GR1A

aircraft and nine crews drawn from both squadrons, four from mine and five from No 2. We deployed on 14 January which was only one day before the deadline. The detachment commander was Wing Commander Al Threadgold who was the OC No 2 Sqn and senior to me. We launched off in our new aircraft, in their new paint scheme, and tanked all of the way down to Dhahran, taking about nine hours. When we arrived there things had changed considerably since I paid a brief visit over the Christmas period. The Saudis had given us soft accommodation, but there was a distinct risk of air attack from the Iraqi Air Force and indeed from Scud missiles. The Royal Engineers did a fantastic job of getting our soft accommodation into a decent condition and without them we could not have done it. We were also very concerned about the possible risk of chemical attack, for we knew the Iraqis had chemical warheads for their Scud missiles; the Royal Engineers took special equipment so that the aircrew in particular could operate in a filtered environment if necessary. On top of that they also covered the whole of the Ops complex to prevent liquid contamination should that occur. It was a different type of war.

We also had to find a home for all of our reconnaissance equipment, which had been designed to operate from a mobile operating base in filtered, hardened accommodation; we had to cope in accommodation which had been previously used by the Jaguar and Harrier force and into that we also had to take and design our mobile recce exploitation equipment. All that had been done in a matter of three months. All the other facilities at Dhahran used by the air force also had to be given some sort of protection. The airfield too was overloaded; we had all the Saudi Air Force squadrons' F-15s and Tornado F3s, the American Air Force had a significant number of F-15s and we also had the remnants of the Kuwaiti Air Force with Skyhawks and Mirages. Two weeks prior to our arrival in theatre another 12 GR1 bombers arrived, so our six aircraft were hurriedly found accommodation, but it was not of the ideal type that we would have liked. The aircraft itself had undergone a significant modification programme before coming out to the Gulf: we had improved engines; the cockpits had all been modified so that we could operate with night vision goggles; we had an improved system of IFF which was compatible with the Americans; we also had secure radio equipment put into the aircraft, again so that we were compatible with the Americans, and there were numerous other individual aircraft modifications.

When we arrived on 15 January in theatre there was certainly a lot of activity but considering this was the day of the deadline there was a

perception around the place that we would not be going into action immediately. Most people felt there would be considerable political prevarication before the Coalition decided to move against the Iraqis. The next day we managed to fly four or five training sorties for our new crews so that they could shake the aircraft down and get used to some local procedures. It was therefore with great surprise in the early hours of the morning of 17 January that I was woken up to be told that the first wave of Coalition aircraft, and indeed the Tornado mud-movers, were already airborne on the first attack against Iraq.

The next two days were very frustrating for the recce detachments, because we had arrived so late in theatre there was little comprehension of our capabilities and of how we could be integrated into the air tasking organisation. However we had an excellent recce tasking officer who was located in the RAF HQ at Riyadh and in those two days he managed to convince people that they had a very viable and useful capability which had recently arrived in theatre. On 18 January we flew our first missions. I would like to run through very briefly a typical recce mission. Normally a pair of aircraft would launch out of Dhahran to RV with a tanker on one of the discreet tow lines at about 20,000 ft; it would take about 20 minutes to refuel the aircraft and we would then descend onto one of the mini-risk corridors designed to deconflict us from our own fighters and our own air defence ground forces. We would descend immediately down to low level, initially to about 1,000 ft to make sure that the reconnaissance equipment, electronic warfare equipment and more importantly the terrain-following system was working correctly. We would then gradually step down from 1,000 ft to 200 ft by the time we crossed the pipeline, as we used to know it; the reason for that was that you wanted to be completely settled as it was probably the last time that you could update the navigation equipment accurately before you entered Iraq. Typical speeds for ingress were between 520 and 540 knots, which was about as fast as the aircraft would travel at that particular fuel weight. Having done our business in Iraq, we then egressed down one of the mini-risk corridors having been identified by AWACS, deconflicted with the fighters, and climbed up to about 27,000 ft to return to base.

For the whole of the war we operated at low level; you have heard that the bombers changed their tactics after the first week and quite rightly in my view. The problem that we faced with the GR 1A was that all our sensors were optimised for low-level operations and they did not provide useful imagery above 500 ft. We actually found that we were very secure at

low level operating as a pair, or one aircraft on occasions; by the time we had got through the Iraqi defences it was too late for them to do anything. By contrast the large attack packages were fine for the first couple of aircraft but the poor old junior pilots down the back end always suffered. We continued in that manner and we felt particularly secure in doing so. On all our sorties we used air-to-air refuelling and in many respects this was the most dangerous piece of the whole sortie. The weather was appalling on many nights and although we normally tried to tank at about 20,000 ft we sometimes went up to 30,000 ft. On one night, on the other hand, I went down to 2,000 ft to find any decent weather and join up with a tanker.

Now for some of our missions. The first few nights we concentrated on trying to find some of the Scud missiles but it was a very difficult task and as more systems came into theatre better ways of trying to identify them actually developed. We did the bulk of our flying in support of the ground forces and in particular in trying to clear the middle of the country for the major left-hook which had been designed for the main attack. We did some of our most rewarding sorties with our Special Forces; we had direct links with them and we cleared some of the paths that they were going to follow into Iraq. We did a fair amount of battle damage assessment and we also ventured into the Republican Guard areas to try and identify any movement or reinforcement. Finally, once the ground forces had actually moved into Iraq, we concentrated on going up and down the main lines of communication towards Baghdad and down to Basra to see if there were any reinforcements or indeed retreating formations.

Having described what we actually got up to, I would like to turn to some of the leadership points that I certainly learnt. I think leadership is inextricably combined with the way we organise ourselves to go to war. In peacetime we are all very familiar with the squadron organisation which we have always used in the past, everybody knows everybody else; we know their capabilities and encourage esprit de corps; we encourage a very strong corporate identity. On a practical level this also allows us to look after the welfare of our people and indeed their dependants back home; I found that this absorbed a lot of my time whilst I was out in the Gulf. However for a variety of reasons we didn't go to war as constituted squadrons. At the beginning, because of the way the conflict evolved, we sent our most experienced crews out, but as things became more protracted we wanted to change crews over but that inevitably meant that we ended up with a relatively inexperienced group of people in theatre. We had a mix of No 13 Squadron and No 2 Squadron crews and the bomber detachment at Dhahran

was made up of crews from all four squadrons at Brüngen. In addition I had four crews over at Tabuk fighting the war from a place I had never visited and had little contact with. It inevitably led to problems but they were not insurmountable; indeed with our squadrons manned today at 1.25:1 and 1.3:1 I believe we will inevitably have to combine squadrons in the future in any long-term conflict in order to generate the 2:1 manning ratio needed to sustain 24 hour operations.

What that does is to put the onus on the nominated detachment commander to draw a fairly disparate group of people together. Strong squadron allegiances will still inevitably reign and it will be particularly difficult for the Squadron Commanders who are either forced to stay at home when their men go to war or are deployed forward but are not actually in command. It relies on everybody being particularly professional and on team work, and I think that is one of the great attributes that we all have: we can operate as a team. Supervision also concerned me. Because I did not know everybody on the detachment we got round it to a degree by operating as constituted formations. You have heard Air Marshal Squire say how much care he put into making sure that the personalities gelled together and that is particularly true also of the front and back seater; I took great care in making sure that the right personalities were linked together. To sum up the essential leadership qualities, I would pick out first credibility. I think you must be the leader and that means both on the ground and in the air; you don't have to be the best pilot or navigator (but it doesn't half help if you are!). It is also very important in this day and age to have credibility in being able to argue convincingly about the capabilities of your equipment and your people. Second, trust: this is tied to and overlaps credibility; you must have the trust of your personnel and you must trust them as well. Third, honesty: I found that out during the build-up and preparation phase when things weren't going well with our equipment and there was a grave risk that we would miss out on the action, but I felt I had to tell my blokes what was actually happening at the time. Finally, understanding: that really is the understanding of people's capabilities, abilities, concerns and emotions. For me, GRANBY was an education in human nature more than anything else and this is what it was all about – the people that we have in the Service today and that we have had in the past. It carried on also when we returned to the UK. I thought I would have great problems after the exciting flying we had been doing both in the work and during the conflict in trying to bring people back to peacetime flying, but none of it. They were highly disciplined and they got back to a normal day-

to-day life very rapidly. We were very fortunate we didn't lose anybody of my squadron and indeed we didn't lose anybody off No 2 Sqn. I was also very interested to see how people when they got back to the UK or Germany handled their experience in the Gulf, and how they managed to compartmentalise that two-month period of their lives, set it completely aside and then get on with normal life.

DISCUSSION

ACM SIR KENNETH CROSS: Group Captain Torpy said that he didn't see squadrons operating alone or always together; I didn't quite get the reasoning for that. Could he tell me why?

GROUP CAPTAIN TORPY: The problem we actually faced was that for that type of sustained operation over a 24-hour period we believed we might have to mount – and our experience is that every operation is different – we would require manning of two-to-one. Our peacetime aircrew-to-aircraft ratio has now been driven down to 1.25:1 or in some cases to 1.3:1. Naturally you are then forced into combining squadrons in some way to generate the manpower that you actually need.

AVM MASON: A question first to Roly Beamont. On the assumption that we can learn from other people's mistakes and failures as well as role models could you comment a little more about 87 Squadron's third CO in late 1940 and say if you learnt anything from his failure? Then a question for Peter Squire. Bearing in mind that you commented this afternoon on your experience as a Squadron Commander and have now moved through much more senior positions of command and leadership in the Air Force, would you comment on the increased requirements in the modern peacetime Air Force for exercising leadership and command at a much higher level? What are the qualities you think you have had to acquire; how difficult was it and how did you manage to do it?

WG CDR BEAMONT: It is well known, but not often discussed, that at the beginning of a great conflagration such as World War II there will be some unsuitable people in critical places. I think it was extraordinary that the Air Force produced so many great leaders without training in war to carry the war on as it happened and we benefited enormously from that. My squadron started off in France with Batchy Atcherley, who was sent home in rather a hurry; then Johnny Dewar took over and we had this wonderful leader for six months. He had a tremendous aura about him; he was paternalistic – an unpopular word today – and was very much respected and admired. He wasn't one of the boys at all, but he wasn't aloof, he just was a great leader. We knew that he had more guts than the rest of us put together; he was a great professional and he ran an outfit that was so tight that it was almost unimaginable, so we got used to this firm control from a boss who was totally in charge. We lost him on promotion and a new man came in from Training Command; he was another brilliant man who could have done extremely well but was killed on his first sortie. He went down

in history with us for one wonderful remark. He led us on his first sortie into a massive formation over Portland Bill, said nothing all the way in, and just bored straight into the middle of them with no tactics at all. We all sat there wondering when the boss was going to say something and he suddenly came up on the RT and said, 'Target ahead chaps, let's surround them.' He was that sort of man.

His replacement came with a reputation; he had done some operations somewhere else and we thought he would be all right. He spent the first week not being down at the flights; he was doing paperwork in the office while the war was going on. The Flight Commanders went and invited him to join us one day to see what was going on down at the flights and he said he wasn't really experienced and would fly as Number Two. We said, 'OK that's fine,' and eventually got him to fly Number Two on another of these big shows. The squadron, about eight aircraft, climbed up towards Weymouth and on the way up he started slipping back through the formation – he did this twice and each time said he couldn't keep up. The fitters couldn't find anything wrong with his engine at all, and it was quite apparent that he was not up to the job for some reason. The squadron obviously had no time to go into the details of what was happening but the Flight Commanders got together and said if there was any more of this morale would go out of the window. Indeed it had already started; they were taking casualties and pilots who had fought all the way through from France – it was now mid-August 1940 – were daily conscious that their next trip could be their last. Yet here was their CO who was apparently not up to the job and when challenged showed every sign of being a totally inadequate personality. Morale went right down, guys began applying for sick leave and it all happened so quickly. The authorities took the necessary action and he was removed. What we all learnt from that was to look more carefully at people, particularly when we ourselves got into positions of junior command. We had to be conscious of the fact that some of our people might not be up to the job and particularly those we chose as section leaders or Flight Commanders. If we got it wrong it could be absolute death to squadron or unit morale.

AVM PETER SQUIRE: I was asked if leadership is important as you go up the Service, as opposed to just being at Squadron Commander level, and if so how do the qualities perhaps change as you progress. I have no doubt that leadership is every bit as important in a peacetime air force at all levels as it is in wartime; all that changes is the scenario in which you are leading. You are always trying to get people to do what you want them to do and

ideally you hope they are also willing to do it, so you are still going to require to give examples of leadership. Indeed in many ways in peacetime, when financial stringency makes it even more difficult to get things out of the system, leadership can be even more difficult to show than in wartime when there are more opportunities to be an individual and show individual attributes. In terms of the sort of skills required, I would say that as a Squadron Commander you probably try to win virtually every battle that comes your way because it is very important to the squadron that you do so. The higher you go the more you see that there is a need sometimes to play the long left-hook as opposed to taking things on frontally, because if you take things on frontally you just get them turned down straight away. You have to work to sow the seed and you must do all the preparation far more carefully and have a political nose for it – just as we were told today that Tedder had a political nose as well as being a very good military leader. In that way you can get people to agree with your own particular point of view. I am not sure that we specifically give people training for this: I think we hope that people will take the opportunities they are given and learn as they go up in the Service.

AM IAN MACFADYEN: I would agree entirely with what Glen Torpy said in terms of credibility, a very important quality that you must retain even as a senior officer. These days senior officers tend to fly rather more than used to happen in the old days. That we see as important amongst the younger generation. Another thing we are doing rather more nowadays and need to get into more – the Americans do a lot of it – is battle management training, the business of actually getting in to trying the scenarios and seeing how you and others react in very good modern simulators.

ACM SIR PATRICK HINE: Ian MacFadyen's point about keeping flying for as long as you can is absolutely vital. Technology moves on at such a pace that if you haven't flown front line aircraft for four or five years you are actually in danger of not speaking the language of the front line crews and not really understanding the limitations of their systems and the concerns they have. As I said this morning, in order to utilise air resources properly the really good commander must fully grasp what the men and the weapon systems under his command can do in relation to those of the enemy commander. That is fundamental. If you get that bit wrong you will lose the credibility which Glen Torpy rightly says is one of the main characteristics of good leadership.

MR GRAHAM HALL: Could Wing Commander Beamont give a

personal opinion on a theoretical question? Hitler delayed the German jet fighter by nine months; if it had been out nine months earlier would it have made a difference to the outcome of the war?

WG CDR BEAMONT: I doubt if it would have made much difference to the outcome, but Hitler's decision to restrict the use of the Me 262 to the fighter bomber role was one of the daftest things that he did in the military field. The Germans had made enormous advances in aerodynamics during the war and in designing and developing the Me 262 they produced an aeroplane which was about ten years ahead of its time. It was a supremely good fighter aeroplane, hindered by the relatively poor state of development of its engines. Adolf Galland recognised this and put his job on the line, demanding that he should have more of them for fighters. In the end he was finally pushed out of his general's post and told to go and command a squadron of 262s. The 262 was a very fine aeroplane. Had they been able to develop the engines more quickly, maybe a year ahead of where they were in 1944, and had they diverted 90% of their production to those aeroplanes into fighters they would have made tremendous inroads into the American bomber raids over Germany. There would have been enormous casualties but I doubt if it would really have affected the outcome of the war.

AVM JOHN PRICE: I was given two pieces of advice before I went to command a station in Germany. The first was to get the NCOs on my side because they really ran the whole show while the officers just stood there and waved their arms about – which I thought was very true from my experience. The second was to get the station organised so that if I got run over by the proverbial bus it would still keep running the way I wanted. One of the great requirements of a leader is command succession: certainly the leader must lead, but it must be clear who can take over from him and keep the show on the road. Is there someone on the panel who would like to give us a few thoughts on command succession from their experience?

ACM SIR PATRICK HINE: You are quite right, you must not run any headquarters organisation in war which depends upon your infallibility. There are commanders like that – indeed the Americans are a bit like that. Some of their commanders-in-chief or other senior commanders do not take any leave, or very rarely take a day off. This is because they think that the buck stops with them and they really have difficulty in delegating command authority. Yet you must prepare for the possibility that you will be killed on Day One of the war. If you run any squadron or station or

command which cannot slip easily into a new leader type situation then you have failed in your duty. If you have a deputy or chief of staff he ought to be well inside your mind and if you are unhappy about your deputy's ability to take over from you in war you have got the wrong man. If you are uncomfortable with him he should be relieved and you should bring someone in whom you know better and have complete confidence in. Certainly I was extremely confident that if anything happened to me on my visits to Saudi Arabia my Chief of Staff, Kip Kemball could pick up the reins and run the joint headquarters without any hiccup whatsoever.

ACM SIR KENNETH CROSS: In my experience the appointment of a Squadron Commander in wartime was often from within the squadron and the man whom the aircrew thought should be the squadron commander did in fact arrive in the squadron commander's seat.

ACM SIR PATRICK HINE: The most important thing is that if you are going to get a new Squadron Commander from outside he must be somebody who has established his credibility as an operator and as a commander. In the Second World War when a lot of Squadron Commanders were being killed, the practice of promoting somebody from within the squadron in whom the aircrew had complete confidence was a good one. We did not face that situation in the Gulf except in one instance where there was somebody on the squadron who was immediately able to take it over until somebody else was posted in. Confidence in the new leader amongst members of the squadron in a wartime situation is absolutely fundamental.

PHILIP SAXON: Let me offer a general word on leadership from the perspective of spending 40 years in industry. Leadership styles and successful leadership styles in my experience can vary a great deal, but it is important that a leader is relatively consistent in style, because if he is changing tune all the time people don't know where they are. As far as the RAF is concerned, I feel that leadership in peacetime is even more difficult than in wartime; there are not many opportunities to surround the enemy when you are outnumbered in peacetime. I would have thought that today leadership is probably as difficult as it has ever been in the whole history of the RAF.

AVM PETER SQUIRE: I think you are right; there are times in peace when leadership is more difficult and requires slightly different qualities. Your point about consistency is important. Not every Squadron Commander needs to be in the same mould, and each person will lead as

his own attributes tell him to do, but having developed a style he needs to be consistent.

PETER SKINNER: Air Marshal Squire mentioned the difficulties he faced on board HMS *Hermes*. These are to some extent borne out by remarks which Sharkey Ward made in his book, where life seemed to be somewhat different on *Invincible*. Could you comment on that?

AVM PETER SQUIRE: I have read only one chapter of Sharkey Ward's book and I would only say that *Invincible* was differently organised, which was partially to do with personality. Nor did they have a requirement after the GR3s arrived for the attack tasking. Therefore the complexity of the programme within *Invincible* was less demanding without that particular responsibility. From my perspective when I went across to visit *Invincible*, which I did on a number of occasions during our three or four weeks of combat operations (I stayed the night from time to time), I saw a very different ship and that mainly reflected the style of the ship's captain.

ACM SIR ROBERT FREER: Could I refer back to Larry Lamb's presentation? I was sent to command Seletar just as the Borneo war was starting. I was a fighter pilot and the only thing we did not have at Seletar was fighters. I found, however, that I had the sort of chaps there that I could rely on to give me the right kind of advice and on top of that the obvious thing to do was to get into an aircraft, get across to Borneo and pick up the experience as fast as I could. I was fortunate to have an AOC who gave me the most marvellous hands-off support, Chris Foxley-Norris, whose base was actually Seletar, so if he had wanted to be hands-on he could have done so very easily. I have been told many a time that the organisational diagrams for the Borneo war command and control would defy any computer. It was personalities that made the whole thing work. The other thing I recognised fairly quickly was that this was the most marvellous opportunity for junior officers to get in on the act. The Borneo war, apart from the direction given by people like the forward air commander, was a junior officer's war and particularly for those chaps in the helicopter and transport roles. The request for some high calibre leaders to be sent to this force was met very rapidly and they acquitted themselves marvellously. They were 600 or 700 miles away from their formal commanders and one had complete confidence in the way that they handled the business.

AVM LAMB: On the question of the leaders and the relationships between them we were in my time (I was only there for about a quarter of the total time) very lucky indeed. Generally we were out-ranked; when I was

Forward Air Commander I had a brigadier alongside me and there were three other brigade commanders urging their own causes, but they were incredibly high quality people who later achieved very high rank in the Army. They were all very amenable to debate and discussion, but were not pushovers; certainly when we wanted to pull the helicopters away from the battalions and centralise control, there was some very forcible, some very plausible, some justifiably strong argument to resist the case. But once I had persuaded the brigadier that it was the right thing then we worked on it and got it right. Personality-wise we were very lucky, though we had our difficult chaps. One of our Station Commanders could be a very awkward gentleman and he certainly didn't take kindly to new boys coming out from the UK and telling him how to operate. But as you say in our AOC we were very, very fortunate; he had all the right attributes – a role model for anybody who wanted an example to follow – and he quickly set matters to rights.

Your last point too is very valid: John Price here is a typical example of the young officers who were thrown into a relatively strange environment and given by the very nature of events a degree of delegated authority. Sir Paddy mentioned earlier the importance of this in developing leadership; commanders have to do this because if we don't, how do our juniors ever get that experience? Earlier on I said I wasn't very conscious of doing some of these things and it is only with the benefit of hindsight that I realise that force of circumstances made me say to a chap like John Price, 'send two choppers forward, send your best guys because they are going to do this or that'. Happily with the calibre of the Squadron Commanders out there I was fortunate. I mentioned in the Confrontation seminar your stroke of genius, if I may say so, in sending John Dowling out to help me. He was 'Mr Helicopter' in a job which didn't give him direct control over helicopters initially, I gather, but he came out there and pointed me, as a relatively inexperienced chopper man, in the right direction. So we were lucky; we had a lot of expertise out there.

AM SIR KENNETH HAYR: Today, it seems to me, we have exposed a historical memory bank which will be important if, on the track record, we have another war in ten years' time. There is not time normally, when one is confronted with another conflict, to read oneself back into sheets of staff minutes of the Falklands or the Gulf War or any other source of information. It is all very well for a Tom King to have had John Nott in and brief him on his experience ten years earlier. Equally a David Craig can get in touch with Terry Lewin and discuss the transfer of appropriate lessons

forward to the current scenario, and the Chief of Air Staff can turn to his predecessors. Since, however, the RAF does not have the equivalent of the Army's regimental system, I wonder if there is a gap at lower levels in our means of plugging into the memory banks. Today's proceedings, I suggest, may have some relevance here.

ALAN POLLOCK: It was suggested about ten years ago that we ought to have an association of squadron associations. If you had such a function, centrally manned, a number of the aspects Sir Kenneth has spoken about would be covered because you would be able to contact, not just one expert, but a dozen or more with a few telephone calls. While I recognise that technology has taken tremendous steps forward it still seems to me that we keep on re-inventing the wheel.

AM SIR FREDERICK SOWREY: One of the things that the RAF Historical Society is attempting to do is to try and bring out lessons from the past for the RAF of today. This is difficult in operational terms, but there may be a number of human lessons which we can concentrate on.

AVM PETER SQUIRE: The establishment of the Air Warfare Centre, which has come out of the Gulf War, may well provide us with the data bank of knowledge on tactics, lessons and so forth so that if we do get involved in a war in ten years' time the operational records will be accessible within an up and running organisation. The other organisation that I, as a Director in the MOD, used at the start of the Gulf War was the Air Historical Branch. Very early on I asked Ian Madelin and his team about the lessons learnt by the RAF last time we were involved in Kuwait. Within about 36 or 48 hours he came back with two sides of foolscap which had about ten or twelve lessons. It was amazing to see how similar were some of those learnt the first time we were in Kuwait to the situation when we went back in 1991.

ACM SIR PATRICK HINE: Since the Gulf War Ian Madelin has done extensive interviews with a number of our commanders who were involved in it. His Branch provides a mechanism that can be used to pick people's brains on their experiences and set them down in a proper record whilst they are reasonably fresh in their minds. Moreover, provided they are still serving, we can always identify the Squadron Commanders, Station Commanders, etc, and tap their memories if we wish to get their advice on what happened.

AVM GEORGE CHESWORTH: The Falklands campaign was very well

written up in the Air Historical Branch, but the narrative is extraordinarily highly classified. I would have thought it was time it was declassified and made widely available for budding commanders to read.

CHAIRMAN'S CLOSING REMARKS

Ladies and Gentlemen, I am going to have to draw our seminar to a close. We have had a long day on a really fascinating subject, Air Leadership in War, and I would like to add my thanks to all the speakers who have given up their time to come and tell us of their experiences as commanders at different levels in different conflicts. The variety of approach to these presentations and the different stories people have had to tell have made it particularly interesting.

I would like to focus on a few of the leadership issues that have come out during our discussion. First, there is no single style of leadership that you can say is the most successful. People vary: there are the charismatic, there are the quiet, but they can in their own ways be equally successful. Likewise the different mix of qualities that go to make up a good leader can change in emphasis, depending on what level he is exercising that command responsibility. But there are a number of basic common denominators or ingredients that we have touched on, and if you focus on leadership in the air, as a Squadron Commander or Wing Commander, then you have to be a good pilot or good navigator; you have to have good situational awareness; you have to lead by personal example. In short you have to establish with your chaps that credibility that Glen Torpy talked about. Without that you will never be one of the most successful Squadron Commanders or Station Commanders.

More general qualities that came out from the presentations included tenaciousness, resilience, the ability to inspire. Sense of humour is very important when the going gets a bit rough. You must never let your guys see that you have got downhearted; you have got to bring up their spirits when the situation is difficult. This tracks across to calmness under pressure, the ability to absorb pressure and remain calm when the going gets difficult, and what I liked from Glen Torpy, honest communication: give it to your guys straight and don't lie to them. This consistency of approach is very important. People don't mind a hard leader or hard boss, provided he is consistent and they know where they stand with him. If he's hard one day and shouting at them and the next day he's putting his arm

round their shoulder they don't know where they stand. So I agree that consistency is a very important factor.

We talked of role models. Young people are impressionable and it doesn't surprise me to hear Bea say that at 22 he looked at some of his colleagues, John Dewar in particular, and said, 'that guy is a good leader and I will style my own leadership on the basis of what I see him doing'. That is fine; all I would say is, be careful that you don't misapply things which that person does to your own personality which may be very different. Don't try and be something that you are not – above all 'to thyself be true' is important. The word 'charisma' has come out time and time again. Charisma is fine but you have to deliver; you can be the most charismatic person in the world but if you start to make misjudgements you fall down on the job and that charisma, that confidence that you attract initially, very quickly evaporates.

We touched on personal relationships. I believe these are absolutely vital, particularly at the higher levels of command. We heard this morning from Dr Orange how well Tedder got on with Portal: the two had a mutual respect, there is no doubt about that. We heard too how well Tedder got on with his immediate subordinate, Coningham, how well he got on with Eisenhower and how well he appreciated the importance of the American dimension. This was true too during the Gulf conflict. We had no alternative; we had to get alongside people like Schwarzkopf, Horner and so forth because they were going to dominate the war. Tedder obviously saw that back in 1942. The Americans, incidentally, value this relationship with British commanders; we tend to be much more forthright and honest with them than their own immediate subordinates are. We are taught at an early stage to say, 'Yes that's all right boss, absolutely right, but there are one or two things that you might have forgotten,' which means, 'Excuse me Sir but you have got it wrong!' British commanders on the whole don't mind that; we accept it, it is all part of the general style of leadership. Americans are not used to it; if the CinC stands up and says something that is totally wrong, nobody in the audience will tell him, whereas a 'Brit' will, in his normal tactful way.

The next thing is to have a sense of balance; I think it is very easy to become obsessive and lose sight of the wider picture. I am not saying that Bomber Harris was obsessive – he genuinely believed that he could win the war through strategic operations – but there was a reluctance to divert some of the Bomber Command effort for a while on to preparation of the battlefield in 1944. We saw exactly the same thing in fact during the Gulf

War when certain air commanders were convinced they were going to win this war with strategic air operations against Baghdad in particular and without the need for a ground campaign. We were getting to the point where Schwarzkopf was going to have to mount the ground operation and a lot of the battle damage assessment we were receiving was indicating that we weren't anywhere near down to the 50% effectiveness they had been talking about concerning the Iraqi army in Kuwait. He had to exercise his authority through his deputy to force the air forces to move air effort on to the preparation of the battlefield. So it is a question of getting the right priorities at the right time.

Next there is a difference between leadership and management, and people who work in industry sometimes get these two confused. I have known people in British Aerospace who are actually very good managers of material resources, but couldn't get anyone to follow them to the duck pond; they are different things. A good leader has also got to be a good manager, there is no doubt about that: he needs to manage his people, manage his resources, but you can have a good manager in certain jobs without him necessarily being a good leader.

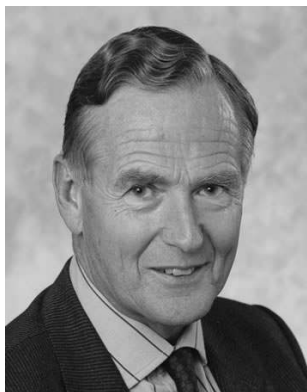
Finally Glen Torpy raised a point about going to war if you can with constituted squadrons, constituted crews. Yes! I think I learnt a lesson from the Gulf War. We might have done better in that respect, except that Sandy Wilson and I felt that we were likely to be at war with Saddam Hussein within a matter of weeks. He therefore said, 'I want people out there who have 500 hours on the Tornado; we want to put up the best possible show for the RAF in this war to achieve maximum effectiveness with the resources we have.' But then of course we didn't go to war in a matter of weeks, or even the first three or four months, and we had given an undertaking to rotate the crews in theatre after three or four months because they were training hard, it was very hot, and they were tired. We changed many of them over literally only a month before we went to war. I think probably, in retrospect, that was wrong. The Americans didn't do it and we should have said to the guys, 'You are going out there in theatre, frankly, for as long as it takes.' But having made the promise that they would only do three or four months, we had to keep it. The other thing that came home to me was that if you have crews who have gone through their six-month work-up on the squadrons and been declared combat ready, it doesn't matter if they only have 150 to 200 hours on type; send them to war. Many of our younger crews did as well, if not better, than the more experienced crews. It was another good lesson for me. So you get combat-ready crews

into war, you don't necessarily take just the most experienced crews and leave the others behind. But at the end of all that you will always have some people on the squadron who are simply not combat-ready and cannot be made combat-ready in a matter of a few days or even weeks. I think Glen is right: whilst we can try and constitute crews going to war, this will not always be possible and you will have something like the same sort of mix that we had throughout the Gulf conflict.

SIR FREDERICK SOWREY

I am sure you will want me to thank Paddy Hine for presiding over such an excellent day, such an important day too. It has shown the affection of all those who have worn the blue uniform, of civil servants who have been associated with our Service, and of friends in the audience who are drawn close to the Royal Air Force through an organisation such as this. Today's programme has been put together by John Herrington and is the third of our seminars to have been run by a society member who is not a member of our committee. If other members feel they have the ability, the determination and all the other characteristics which we have been hearing about today, necessary to plan a day like this we shall be delighted to hear from them. Thank you, John, very much.

Editorial Note: The Editor wishes to thank Edgar Spridgeon for taping the proceedings of this Seminar, Peter Love and Peter Mason for transcribing the tapes, and Henry Probert for subsequent initial editing and Talbot Green for proof reading.



**AIR CHIEF MARSHAL SIR PATRICK
HINE
GCB GBE FRAeS CBIM
MILITARY ADVISER TO BRITISH
AEROSPACE PLC
AND
DIRECTOR OF BRITISH AEROSPACE
DEFENCE LIMITED**

Air Chief Marshal Sir Patrick Hine became Military Adviser to British Aerospace Plc and a Director of British Aerospace Defence Limited in January 1992. Prior to his retirement from the Royal Air Force in September 1991, he was Commander-in-Chief of (NATO's) United Kingdom Air Forces and Air Officer Commanding-in-Chief of the Royal Air Force's Strike Command.

Sir Patrick Hine was born near Southampton in 1932, and was educated at Peter Symonds School, Winchester, before joining the Royal Air Force as a trainee pilot in 1950. Throughout his flying career Sir Patrick flew fighter aircraft – Meteors, Hunters, Lightnings, Phantoms and Harriers – apart from three years spent as a Qualified Flying Instructor and then as a Staff Instructor at the Central Flying School. He flew in several formation aerobatic teams and was a member of Treble One's famous Black Arrows Aerobatic Team 1957-59. He was awarded a Queen's Commendation for Valuable Services in the Air in 1960.

Sir Patrick commanded No 92 Squadron (Lightning F2s) between 1962 and 64 before attending the Royal Air Force Staff College in 1965. He then became Personal Air Secretary to the Minister of Defence for the Royal Air Force and the Parliamentary Under-Secretary of State for the Royal Air Force (1966-67), and upon promotion to wing commander in January 1968 was made the Phantom Project Officer in the Royal Air Force's Operational Requirements Branch at the Ministry of Defence.

He reformed No 17 Squadron on Phantom FGR2s at Brüggen in Germany in 1970 and, upon promotion to group captain, attended the Royal Air Force's Air Warfare College in 1972. After 18 months on the Air Staff at Headquarters Strike Command, he was posted as Station Commander to Royal Air Force Wildenrath in Germany where he was also the Royal Air Force Germany Harrier Force Commander.

Promoted to air commodore, Sir Patrick became the Royal Air Force's Director of Public Relations 1975-77 before attending the 1978 Course at

the Royal College of Defence Studies. He was the Senior Air Staff Officer at Headquarters Royal Air Force Germany in 1979 and, following further promotion to air vice-marshal, became Assistant Chief of the Air Staff (Policy) at the Ministry of Defence, where he was responsible for Royal Air Force policy, plans, programming and budgeting for the next three years.

Promoted to air marshal in 1983, Sir Patrick became Commander of NATO's Second Allied Tactical Air Force and Commander-in-Chief Royal Air Force Germany, and he was appointed a Knight Commander of the Most Honourable Order of the Bath in The Queen's Birthday Honours List that year. Following further promotion to air chief marshal, Sir Patrick was Vice-Chief of the Defence Staff between 1985 and 1987, and then the Air Member for Supply and Organisation on the Air Force Board. In 1988 he became Commander-in-Chief United Kingdom Air Forces (another NATO post) and Air Officer Commanding-in-Chief Strike Command. In the 1989 New Year Honours List he was appointed a Knight Grand Cross of the Most Honourable Order of the Bath (GCB) and later that year was made an Air Aide de Camp to The Queen.

Sir Patrick was appointed Joint Commander of all British Forces involved in the Gulf Crisis and War, exercising overall command from the War Headquarters at High Wycombe but regularly visiting Saudi Arabia throughout. He was appointed a Knight Grand Cross of the Most Excellent Order of the British Empire (GBE) in the Gulf Honours List 1991.



AIR VICE-MARSHAL GEORGE A CHESWORTH CB OBE DFC JP

George Chesworth enlisted in the Royal Air Force in 1948 as a National Service airman. After flying training he joined 205 Squadron in Singapore and flew Sunderlands in the Malayan and Korean campaigns.

After tours as a QFI on Provosts, and Adjutant at HQ(U)2TAF, he instructed on the Shackleton at Kinloss. Promoted to squadron leader in 1961 he served as a Flight Commander with 201 Squadron until he went to the RN Staff College.

After Staff College Chesworth served as a wing commander in the Operational Requirements branch at MOD for three and a half years. In that time he wrote the Air Staff Requirement for the Nimrod and saw the aeroplane fly for the first time. He took command of 201 Squadron at Kinloss in August 1968. The squadron was the first to convert to the Nimrod in early 1970.

After a short tour as a staff officer with the US Navy in San Diego he returned to command Kinloss in 1972. On promotion to air commodore in 1975 he took charge of the Central Tactics and Trials Organisation and was later Director of Quartering in the MOD.

In April 1979 he became Chief of Staff at HQ 18 Group until he retired in 1984.

Currently Chairman of the Board of Management of Alastrian House, the RAF Benevolent Fund home at Tarland, and Honorary Colonel of 76 Airfield Damage Repair Engineer Regiment, Air Vice-Marshal Chesworth has been Lord-Lieutenant of Moray since March 1994.



**AIR VICE-MARSHAL G C LAMB
CB CBE AFC**

'Larry' Lamb joined the service in 1941 and after training in Canada gained extensive flying expertise as a QFI at Cranwell and Spitalgate before returning to Cranwell as Assistant CFI on the College's re-opening in 1947. Not only was he an A1 QFI but he became one of the first IREs and Master Green Ratings in the service. He next served in Transport Command, flying on the Berlin airlift, as a VIP pilot and an examiner. The Staff College in 1953 was the prelude to duties as PSO to AMP, on the SDL in Egypt, and as CO of 87 Javelin Squadron at Brüggen. Promotion to group captain found him as D Admin Plans in MOD and subsequently Assistant Commandant of the RAF College, Deputy Air Commander in Borneo and Group Captain Org at Fighter Command before becoming Deputy to Sir Denis Smallwood in planning the introduction of Strike and Air Support Commands. His reward (or penance) was to become the first Air Cdre Ops at High Wycombe from where he went to command Lyneham and then to attend the 1971 RCDS Course. A tour in NATS was the forerunner to promotion to AVM and tours of duty as COMSOUMAR and COS (Air) at HQ 18 Group. He retired prematurely in early 1978 to pursue his interests in sport. He was, of course, the only RAF officer to referee Rugby at international level, controlling 15 international matches. He is currently Chairman of Yonex UK, the Japanese sports goods manufacturers.



AIR MARSHAL I D MACFADYEN CB OBE FRAeS RAF

Air Marshal Ian Macfadyen was educated at Marlborough and entered the Royal Air Force College, Cranwell in 1960. He is currently the Director General of Saudi Arabian Projects, and is based in Riyadh in the Kingdom of Saudi Arabia. His operational career began in 1963 when he flew the Lightning and then the Phantom in the air defence role. After a stint as ADC to AOCinC Strike Command he then spent a tour at Cranwell as a flying instructor where for two years he was a member of the Poachers aerobatic team. He attended the RAF Staff College in 1973 and after a brief tour on 111 Squadron served as a Flight Commander on 43 Squadron, during which time he was the Phantom solo aerobatic pilot. Between 1980 and 1983 he commanded 29 Squadron and spent two spells in the Falkland Islands also commanding 23 Squadron, having flown the first Phantom into that theatre. His staff appointments have included the Personal Staff Officer to the Commander of the Second Allied Tactical Air Force and Commander-in-Chief RAF Germany, and as a Deputy Director in the Ministry of Defence on Operational Requirements responsible for reconnaissance, avionics, and conventional and nuclear attack weapons. He commanded RAF Leuchars from 1985-87 and attended the 1988 RCDS Course. In December 1988 he took up a post in the Central Staffs as Director of Defence Operational Requirements, where he had wide-ranging responsibilities for the equipment requirements of all three Services as well as research. In November 1990 he was appointed Chief of Staff at HQ British Forces Middle East in Riyadh, and in March 1991 became the Commander of British Forces in the Middle East. He became Assistant Chief of Defence Staff Operational Requirements (Air) in September 1991, and took up his present post, on promotion, on 26 August 1994. He has over 5,000 flying hours.

AIRMEN'S CROSS

AIR VICE-MARSHAL BARRY NEWTON

Airmen's Cross is one of the oldest monuments to military aviators in this country. Made of Cornish granite and shaped like a Celtic cross about 5 feet high, it stands forlorn and neglected¹, marooned on a traffic island, at the junction of the Salisbury and Devizes roads about one and a half miles west of Stonehenge. Carved into the base is the inscription:

TO THE MEMORY OF CAPTAIN LORAINE AND STAFF-SERGEANT WILSON WHO WHILST FLYING ON DUTY MET WITH A FATAL ACCIDENT NEAR THIS SPOT ON JULY 5TH 1912. ERECTED BY THEIR COMRADES.

For No 3 Squadron of the newly-formed Royal Flying Corps, based at Larkhill, the weather for most of that week had been less than favourable. There had been no flying on the Monday morning, and rain and high winds had prevented flying all the following day. Wednesday had begun foggy and rainy, but in spite of this some flights had been made by Lieutenant Fox in a 2-seater Gnome-Blériot and by Captain Burke in a BE1 biplane. Captain Loraine had gone up in the Nieuport monoplane, and Captain Brooke-Popham, the Commanding Officer, in an Avro. On the Thursday, despite a stiff wind, Lieutenant Fox had made four flights with passengers in the BE3 and then two more solo in a biplane to practice turns at height, both left and right-hand. Changing over again, he had then made another flight in the Blériot. Lieutenant Mackworth had made five flights, and Captain Brooke-Popham flew three sorties in the Avro with Staff-Sergeant Wilson, who then made three solo flights in this aircraft followed by Corporal Ridd.² Captain Loraine had made a 14-minute flight in the Nieuport, but unfortunately broke the axle while taxiing in. This had soon been replaced, and he then made another flight of 16 minutes duration. Lieutenant Hartree made several flights with passengers in a biplane, including one giving instruction to Sapper McCudden.³

On Friday morning, 5th July, Lieutenants Fox and Mackworth were out early in BE3s and, at about 4.50 am, Captain Loraine took off in the Nieuport⁴ with Corporal Ridd as passenger. He climbed to about 1,000 feet towards Shrewton before beginning a steep left-hand turn in which the aircraft side-slipped and lost considerable height. Loraine managed to recover control, but the Nieuport's engine began to misfire and he flew back to Larkhill without delay. The flight had lasted just 11 minutes. The aircraft was wheeled into a hangar and quickly attended to. At about 5.30

am Loraine took off again in the Nieuport, this time with Staff-Sergeant Wilson as passenger. As before, he climbed the aircraft in the direction of Shrewton at which point he made a left turn back towards Larkhill. Over Fargo Bottom, at an estimated 3-400 feet, he began another steep left turn. The Nieuport's nose dropped sharply and the aircraft dived into the ground. Lieutenant Ireland, who had been among those watching at Larkhill, set off at once for the crash site in his motor car, as did Captain Brooke-Popham, but the first there was Lieutenant Fox who had landed his aircraft nearby. Wilson had been killed instantly. Loraine was rushed to Bulford Hospital in a horsed ambulance brought from Larkhill, but died within minutes of arriving. He was 33 years old. The two men were the first members of the Royal Flying Corps to lose their lives while flying on duty.

Both were men of exceptional ability as well as courage. Richard Hubert Victor Wilson, a native of Andover, attended Andover Grammar School and was then apprenticed at Messrs Tasker and Sons' Waterloo Iron Works in the town. Subsequently, he joined the Royal Engineers and became a mechanic at the Balloon Factory at Farnborough. There he turned his attention to heavier-than-air machines and became an expert on aero-engines. When he transferred to the Royal Flying Corps, as soon as it began to form early in 1912, his worth was promptly recognised by his promotion to the rank of Staff-Sergeant and by his posting as senior technical NCO on No 3 Squadron. His ability and skills, particularly with the Gnome engine, were such that he was often selected to accompany officers on 'land-away' cross-country flights, and he lost no time in taking advantage of new regulations which allowed NCOs to try for their flying brevet. On 18th June, Wilson distinguished himself by passing the tests for his Royal Aero Club certificate⁵ after only 4½ hours solo flying, and by becoming the second non-commissioned officer in the Royal Flying Corps to achieve a pilot's qualification. When he died 17 days later Wilson was just 29 years old.

Staff-Sergeant Wilson's funeral took place in Andover on Monday, 8th July. All roads through the town were closed as the gun-carriage procession, led by the full band of the Duke of Cornwall's Light Infantry and escorted by detachments of officers and men from every unit stationed on Salisbury Plain, moved from Wilson's family home in Junction Road to St Mary's churchyard. Among the many hundreds who attended were Major-General Henry Rawlinson, commanding 3 Division, representing the Secretary of State for War, Brigadier-General Henderson, representing the

staff at the War Office, and Brigadier-General Montgomery who represented General Sir Horace Smith-Dorrien.⁶

Eustace Broke Loraine was born on 13th September 1879, the eldest son⁷ of Rear Admiral Sir Lambton Loraine, 11th Baronet of Kirkharle, Northumberland, and Lady Loraine (née Broke), whose home was at Bramford Hall, near Ipswich. After Eton, where he won the cup for rifle-shooting, Eustace entered Sandhurst and in September 1899 he was commissioned into the Grenadier Guards. He served with the 2nd Battalion throughout the South African War 1900-02, and took part in the operations in the Orange Free State from April to November 1900, including the actions at Biddulphsberg and Wittebergen. In February and March of the following year he was present at several other points in the field of operations. For his services he was awarded the Queen's Medal with three clasps and the King's Medal with two clasps.

In 1908, on promotion to captain, Loraine was seconded to the West African Frontier Force where, for the next 2½ years, his commanding officer was Brevet Lieutenant-Colonel Hugh Montague Trenchard, Royal Scots Fusiliers. In 1903, after the South African War (in which he was badly wounded by a sniper's bullet), Trenchard had been on the brink of leaving the Army. He had been persuaded to remain and take the post of Assistant Commandant of the South Nigeria Regiment, largely because it carried the right to lead all expeditions. In the next few years in Nigeria, he earned considerable distinction as a strategist and as a leader. In 1906 he was awarded the Distinguished Service Order for his achievement on his second expedition into the Bende/Onitsha hinterland. When Loraine arrived, Trenchard had taken command of the Regiment, and was held in the highest regard by his officers and men, as well as by Sir Walter Egerton, the Governor and Commander-in-Chief.

Loraine, 6 feet 3 inches tall and with bright red hair, combined a lively personality with considerable intelligence. He quickly made his mark with Trenchard, both on the staff in Lagos and up-country on operations, and the two men came to respect and trust one another. Loraine's 'quick brain, gaiety and imperturbability', impressed Trenchard, and he became one of Trenchard's few Army colleagues in Nigeria who could call him a friend.⁸

On 25th July 1909, Louis Blériot made the first aeroplane flight across the English Channel. The news of this astonishing achievement fired Loraine's imagination. He said to Trenchard, 'This flying business is something I must find out more about.' On his return to England in 1911, he had made up his mind to learn to fly. He applied successfully for unpaid

leave, went to Hendon and was taught on one of Mr Horatio Barber's Valkyrie 'pusher' monoplanes. He qualified for Royal Aero Club Certificate No 154 on 7th November 1911, and had become an experienced aviator by the time the Royal Flying Corps began to form early the following year. He was among the first officers to be accepted into the new Corps and was posted to No 3 Squadron. A photograph in *The Aeroplane* dated 4th April 1912, showing him with three others outside the 'military sheds'⁹ at Larkhill, is captioned 'The nucleus of the Royal Flying Corps'.

In May 1912, HM King George V visited Farnborough to make his first inspection of the Military Wing of the Royal Flying Corps. He was received by Major F H Sykes, 15th Hussars, in command of the Military Wing, and watched demonstrations by Captains Burke and Loraine, and Lieutenants Fox, Reynolds and Barrington-Kennett (all officers of No 3 Squadron). Captain Loraine was afterwards one of those presented to His Majesty.

Loraine wrote frequently to Trenchard, nearly always including something about his flying experiences. In his last letter, written from Larkhill in June 1912, he included a postscript: 'You don't know what you're missing. Come and see men crawling like ants.' By then Trenchard had returned to his regiment and was serving as a Company Commander in Londonderry. Utterly frustrated, he was once again seriously considering leaving the Army. After seven more years of active service in Africa, the monotony of peacetime regimental soldiering, a commanding officer with whom he did not see eye to eye, and the prospect of another twelve years in the rank of major (to which he had reverted) had recently combined to induce Trenchard actively to seek alternative employment. He tried hard. He applied to join the Egyptian Army, the International Gendarmerie in Macedonia, and the mounted branches of the defence forces in South Africa, Australia and New Zealand, but all without success. Knowing the managing director, he had even applied to Harrods for a job, but to no avail.

It was at this moment that Loraine's letter arrived, and the postscript caught Trenchard's imagination. He immediately wrote an application for three months' paid leave to learn to fly at his own expense. At first, his commanding officer refused to endorse it, believing the idea a foolish venture, with no military value: Trenchard was too old and too big; he would probably kill himself. But Trenchard remonstrated, patiently and persistently, and the application was eventually endorsed. Incredibly, his chequered medical history was completely ignored: the War Office's only doubts were confined to how close Trenchard was to the upper age limit of

40 for qualified pilots wishing to join the Royal Flying Corps. On leaving Londonderry, Trenchard spent a few days with his father, who was ill, and did not arrive in London until 6th July. He opened a newspaper to read that his friend Loraine had been killed the previous day.

The inquest on the deaths of Captain Loraine and Staff-Sergeant Wilson was held at Bulford Camp on the afternoon of the accident. Having heard evidence from all the witnesses, including Captain Brooke-Popham, Lieutenants Fox and Ireland, and Corporal Ridd, the Coroner for South Wiltshire said that 'the occurrence appeared to be a simple accident for which no one could be held responsible.' The jury returned a verdict of accidental death.

As a consequence of the death of Captain Loraine, officers of the Grenadier Guards invited to the State Ball held at Buckingham Palace on 5th July did not attend, by command of His Majesty the King, Colonel-in-Chief, Grenadier Guards.

On Monday, 8th July, the same day as Staff-Sergeant Wilson's funeral, Captain Loraine's coffin was removed from Bulford Camp to Bulford Station with full military honours. A squadron of cavalry, one brigade of the Royal Field Artillery, dismounted, two field companies of the Royal Engineers, and one company of the Army Service Corps, dismounted, formed the escort and Chopin's Funeral March was played throughout the journey. All the officers at Bulford Camp and many from Tidworth accompanied the procession. The coffin was then carried by train to Bramford, near Ipswich, and then by road to Captain Loraine's home.

The afternoon of Wednesday, 10th July 1912 saw one of the largest military funerals ever to have taken place in East Anglia. A gun-carriage to convey the coffin was brought from Colchester, and the Great Eastern Railway Company attached special carriages to trains from and to Liverpool Street. Over 120 officers, non-commissioned officers and men of the Grenadier Guards were on parade, together with detachments from the Royal Flying Corps and the Royal Bucks Hussars. The cortege, from Bramford Hall through the village to Bramford Church, was led by The King's Company of 1st Battalion, Grenadier Guards, and the Battalion's drums and fifes. Following the gun-carriage, which was drawn by six black horses, was Colonel Scott-Kerr, Grenadier Guards, representing His Majesty The King. Colonel Sir Edward Ward, representing the Secretary of State for War, and Brigadier-General Henderson, representing the War Office, were among the many hundreds of people who attended.

Simultaneously with the funeral, a memorial service was held at the

Guards' Chapel, Wellington Barracks, with music provided by the Band of the Grenadier Guards and the drums of the regiment's 3rd Battalion. The Secretary of State for War and Sir Charles Rose, representing the Royal Aero Club, were among the large congregation.

Far from deterring Trenchard, the death of his friend steeled his resolve. He took rooms at Weybridge, and lost no time in knocking on Mr T O M Sopwith's door at Brooklands and asking to be taught to fly. On 18th July 1912, aged 39 years and 5 months, and possessed of only one lung, Trenchard took to the air for the first time. On 18th August he was awarded Royal Aero Club Certificate No 270, having passed his tests at Brooklands on a Henry Farman. By October Trenchard had become a flying instructor at the Central Flying School at Upavon and less than three years later, on 19th August 1915, he was gazetted General Officer Commanding the Royal Flying Corps in the rank of Brigadier-General. On 1st April 1918, as Major General Sir Hugh Trenchard, he became the first Chief of the Air Staff on the formation of the Royal Air Force, and went on to become the first Marshal of the Royal Air Force and the first Viscount Trenchard of Wolfeton. In the words of his biographer, he was 'one of the handful of truly great men that this country has produced . . . and the architect, the patron saint of air power throughout the world.'

Airmen's Cross is not only one of the earliest monuments to British aviators, it is also one of the most important and historically significant.¹⁰ The nation, and especially the Royal Air Force, owes a huge debt to the young Grenadier Guards officer whose courage and enthusiasm for flying inspired Trenchard to turn airman; an event which changed his entire career and, in turn, the course of military history.

NOTES

¹ At the time of writing, the monument is badly discoloured and encrusted with lichen. Sadly, the inscription is barely legible.

² On 4th June 1912, Corporal (later Sergeant) Frank Ridd, Royal Engineers, became the first non-commissioned member of HM Armed Forces to gain a pilot's brevet. Like Staff-Sergeant Wilson, he was taught to fly by Captain Loraine.

³ Sapper (later Sergeant) William McCudden qualified for his wings in July 1912. He became a founder-member of No 13 Squadron and was killed in a Blériot XI at Gosport on 2nd May 1915. He was the elder brother of Major James McCudden VC DSO and bar, MC and bar, MM, Croix de Guerre, who joined the Corps of Royal Engineers as a bugler at the age of 14 and went on, in the Great War, to score 57 victories in the air and win more decorations than any other member of the RFC, RNAS or RAF. He was killed, aged 22, on 9th July 1918 in a flying accident at Auxi-le-Chateau on his way to take command of No 60 Squadron.

⁴ A two-seater version of the Nieuport monoplane fitted with a 70 hp Gnome engine; it is

believed that this aircraft belonged originally to Robert Loraine the actor/pilot (no relation to Eustace Broke Loraine), who sold it to the War Office early in 1912 for £400. The Nieuport had no ailerons: turning was achieved by use of the rudder and warping the wings.

⁵ Staff-Sergeant Wilson's Royal Aero Club Certificate (No 232) and his logbook and flying helmet are on display at the Museum of Army Flying at Middle Wallop.

⁶ Airmen's Cross was unveiled by General Sir Horace Smith-Dorrien, GOC Southern Command, on 5th July 1913 exactly one year after the accident.

⁷ Eustace's only brother, Percy, to whom the title passed on his father's death in 1917, was a soldier and a diplomat. He was HM High Commissioner in the Sudan and then in Egypt, and later became HM Ambassador in Turkey and then in Italy. In 1961, when Sir Percy Loraine died without issue, the title became extinct. Like Eustace, neither of his two sisters, Jaqueline and Isaura, ever married.

⁸ Andrew Boyle, *Trenchard*, p95.

⁹ Two of the original four sheds still stand in Wood Lane, Larkhill. Grade I listed, they are the oldest aeroplane hangars in the world.

¹⁰ Extract from Department of National Heritage Schedule 1382/4 /10005 dated 5th May 1995 including Airmen's Cross as a Grade II listed building.

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Editor's note: The monument was safely removed from its site on 21February this year and taken to an RE workshop at Camberley to be refurbished and the lettering renewed. Air Vice-Marshal Newton is arranging a small ceremony to rededicate the cross later in the year. He hopes that the Chaplain-in-Chief will be able to conduct a short service and that, among others, OC No 3 Squadron will attend.

THE UNSUNG *TUNG SONG*

RON LOVELL and HUGH CAMPBELL

The RAF Order of Battle in Malaya at 22 November 1941 comprised twenty-three units. One is:

‘22 SS ‘Tung Song’ . . . Pilot Officer G T Broadhurst’

The *London Gazette* (26 February 1948, page 1415) listed the units in Appendix ‘C’ of a Supplement devoted to the RAF’s Far East operations early in the Japanese war.

The *Tung Song* was a 549-ton twin-screw oil-fired cargo ship, built in Hong Kong in 1928 and refitted in 1936. She was requisitioned in December 1939 as a Royal Air Force Auxiliary (RAFA). The RAF painted her wartime grey and equipped her with five Vickers K .303 gas-operated drum-fed machine guns for anti-aircraft defence and twelve Lee-Enfield rifles.

Because the RAF had *Tung Song* on charter, the Singapore Straits Steamship Company continued to man the ship. Captain A E McNab, Chief Officer D B Lloyd-Jones, Second Officer G T Dewsbury and Chief Engineer D A W Robinson supervised a crew of forty, mostly Malays, mainland Chinese and Straits Chinese.

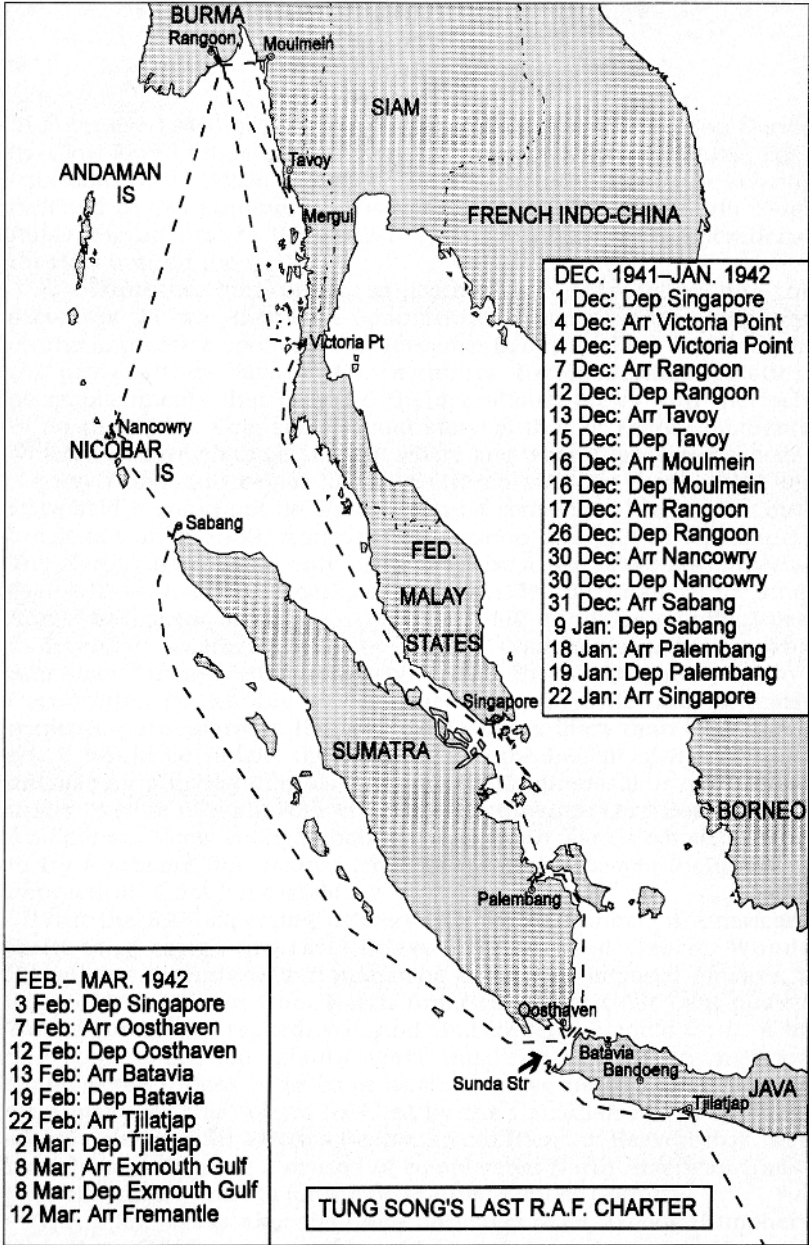
Before Singapore was threatened, Pilot Officer Broadhurst’s RAF detachment consisted of two wireless operators, a nursing orderly and an armourer. The armourer was AC 1 Ron Lovell, co-author of this story.

Chief Officer Lloyd-Jones is the link between the co-authors. After he left *Tung Song* (and Ron Lovell) in April 1942, he joined the Royal Australian Naval Reserve [RANR(S)]. In 1944 he commanded the Australian corvette, HMAS *Tamworth* (and Hugh Campbell).

At the end of 1941, RAFA *Tung Song*’s base was Singapore. She carried stores and occasional passengers to air force installations in the Far East Command, visiting large ports like Rangoon and Colombo and little known outposts like Victoria Point in Burma and Nancowry in the Nicobar Islands.

At the end of November 1941, a senior RAF officer and his staff inspected her and decided she could carry 250 men in an emergency. Accordingly, before the ship sailed on 1 December, the RAF put on board a month’s emergency rations for 250 men – to be used sooner than anyone dreamed.

The map shows *Tung Song*’s movements between 1 December 1941 and 12 March 1942. She was in harbour at Rangoon and Singapore during



heavy Japanese air raids, and her crew saw both cities burning. The stores she took to Rangoon included a consignment of two thousand bombs. The RAF had an emergency facility at Nancowry for flying boats and stationed a lone RAF airman there to look after the depot. Sabang was on the RAF supply-route between India and Singapore. When Captain McNab left Sabang on 9 January 1942, he avoided the risky Malacca Strait by sailing down the west coast of Sumatra and then through the Sunda Strait to Singapore, arriving on 22 January 1942.

When she left Singapore on 3 February 1942, *Tung Song* carried stores and other material salvaged from Singapore for shipment to Sumatra, where the RAF planned to set up new headquarters at Palembang.

In the cargo were 58 crates containing all the Far East Command's maps and charts. Stacked around the walls of the saloon were hundreds of books, the contents of the Far East Command's library.

Air Commodore Silly, the deputy Air Officer Commanding, hastily despatched to Sumatra to establish new headquarters there, put some of his personal property on board with his batman to look after it. The ship's launch, unserviceable since Nancowry, was replaced at Singapore. As most of the RAF aircraft had been lost by then, two spare fitter 2Es (the technician classification) were posted to the ship to operate the new launch.

Thus when *Tung Song* sailed from Singapore for the last time, Pilot Officer Broadhurst's detachment had grown to eleven airmen: two wireless operators, two cooks, two fitter 2Es, a ground gunner, Air Commodore Silly's batman, an airman minding the charts and maps, the nursing orderly and the armourer.

Oosthaven (now Panjang) was the terminus of the railway to Palembang. When *Tung Song* arrived there on 7 February 1942, Air Commodore Silly had been ordered to Batavia, and so his batman and boxes stayed on board, and the air commodore probably sailed with them. The charts were landed – and lost.

From Oosthaven *Tung Song* sailed back through Sunda Strait to Batavia, now Jakarta, and arrived on 13 February. She stayed anchored in the roads, but the crew could go ashore in the launch.

The Dutch refused to supply oil and water. Luckily Mr Broadhurst met the Chief Naval Officer, perhaps Commodore J A Collins, RAN, whom he would have known through being a sub-lieutenant himself in the Royal Australian Navy in 1920-22. Presumably for old times' sake, the CNO allowed *Tung Song* to top up with oil and water from a Royal Navy tanker, the *War Sirdar*. Air Commodore Silly still did not land his baggage or his

batman.

Tung Song left Batavia in the afternoon of 19 February with a motley collection of ships sailing together but unescorted. When the crew got up early next morning, they were dismayed to find that Captain McNab had anchored at the beginning of a rain storm during the night. Consequently *Tung Song* found herself alone at the wrong end of the Strait.

At daylight they started again on their journey. During the afternoon, they saw an aircraft coming straight for them. As the aircraft approached, flying low, they saw it was a flying boat – and British, a Catalina from 205 Squadron. The crew waved, no doubt acknowledging *Tung Song's* RAF ensign, and flew off to Tjilatjap.

So the day passed. It was dusk and then dark, and they had made it. They had sailed through Sunda Strait in daylight on 20 February 1942 and sighted just one aircraft. The only ships they had seen were either sunk or beached, some burning.

When *Tung Song* arrived at Tjilatjap on 22 February 1942, she needed urgent repairs. The captain arranged for a shore-based firm of marine engineers to do the work. They had to dismantle the boilers to do some welding.

From the time the Japanese had entered the war, *Tung Song* had been lucky. Apart from a few hours on 19 February, she had been plugging along at her steady eight knots, alone and unescorted, on some thirty-five days. The only enemy encountered at sea had been a flight of Zeroes that circled her after she left Singapore on 3 February. They were diving and rolling in a game of follow-the-leader and departed without attacking. As a matter of interest, Sabang and Palembang were both bombed the day after *Tung Song* departed.

At Tjilatjap, however, her luck seemed to have run out. Before the Indonesian workers had finished *Tung Song's* repairs, they disappeared as the Japanese closed in. The airmen learned that, as the ship was unserviceable, it would be towed up river and scuttled. Then they were to embark on the *City of Manchester* when it arrived to evacuate them. But the *City of Manchester* was sunk on 28 February.

At that point, however, urged on by Wing Commander Councill of 205 Catalina Squadron, someone decided to finish the work on *Tung Song*. The RAF aero-engine fitters and the armourer were instructed to help the Chief Engineer. Fortunately the contractors had done the welding required for the repairs before they disappeared but they had left the boilers partially dismantled. To reassemble them, someone had to get inside the boilers to

hold the tubes. The task fell to the armourer, who remembers seeing the sky as he looked up through the funnel.

When the tubes had been replaced, the face plates of the boilers had to be refitted. Consternation – no one could find the face plate bolts. Then someone found some lengths of threaded rod of the same diameter and thread as the missing bolts in a corner of the engine room, with plenty of nuts to fit. So they cut short lengths of threaded rod and screwed a nut on one end of each length. Then the Chief Engineer, wielding a heavy hammer, squashed the end of the piece of rod over the nut. Thus he made bolts serviceable enough to steam *Tung Song* all the way to Fremantle.

No 205 Squadron, equipped with Catalina flying boats, had fallen back to Tjilatjap. By the time *Tung Song* was ready to leave on 2 March 1942, the squadron had only one serviceable aircraft left in the Far East. When word went out that *Tung Song* was mobile, most of 205's personnel, including one aircrew whose aircraft had been lost, went aboard by launch.

The last Catalina returned from its last patrol while *Tung Song* was raising steam. The 'spare' aircrew already on board *Tung Song* left the ship to fly to Broome, Western Australia, in the aircraft.

When *Tung Song* had raised steam, up came the anchor and she moved towards the wharf. Minutes later, she ran aground on a sandbank. Despite repeated attempts to back off, she remained stuck. By then dusk was turning to night. Suddenly, out of the blue a small Dutch tug appeared, attached a line and pulled *Tung Song* off the sandbank.

After getting off the sandbank, the ship tied up, with her main deck about level with the wharf. A party of Air Force personnel, a mixture of RAF and RAAF, marched alongside in three columns and lined up the length of *Tung Song*. They had no kit, just what they stood up in, and they looked scruffy. At the command they all climbed over the rail and found somewhere to sit. Another party then marched up and at the command they also climbed over the rail. It was dark when the evacuees boarded the ship and all the other ships in the harbour seemed to have sailed. None were in sight and it was a small port.

When it was time to leave, Pilot Officer Broadhurst said to Wing Commander O G Gregson, the RAF officer supervising the embarkation, 'Are you coming with us, Sir?' The lights were on and Ron Lovell could see Gregson clearly. He said, 'No, I will stay with the men,' referring to the personnel still at Tjilatjap. Then he turned and walked off the ship.

Gregson stayed with his men and was taken prisoner. He was the senior officer at a POW camp in Java, survived the war and lived in Western

Australia. Ron thought he was a great man. 'If more like him had been at Singapore it would never have fallen.'

The story persists that a Phillips School Atlas was the only chart the ship had to navigate from Tjilatjap to Fremantle. Ron Lovell had heard the story, and some airmen in the Cull, Shores and Isawa book, *Bloody Shambles*, refer to it.

Three officers' wives were among the evacuees. Ron Lovell recalls that they occupied the two poop cabins and their facilities.

The evacuee officers occupied the Boat Deck. Some caused comment by sitting in the boats, but actually it was not a bad idea as the boats had seats.

The airmen evacuees occupied the main and lower decks. Moving around was difficult but not impossible.

Toilet facilities for the airmen were not too bad. They could use the seamen's toilets on the lower deck and one or two on the main deck.

One toilet on the lower deck was reserved for VD cases.

The food was plain and adequate. Army biscuits, tinned bully beef, McConochie stew and rice in various guises were staples.

The detachment airmen, except the wireless operators, took part in looking after the evacuees. Ron Lovell recalls that it was a very quiet ship. The men sat around talking, playing cards or sleeping. He cannot remember them singing but thinks they must have done so. One day 'a stupid air gunner' decided to test a Vickers gun! So without any warning he fired a few rounds and caused a mini panic.

Tung Song was alone when she sailed, and all the way to Fremantle did not sight any other ship or any aircraft.

At Exmouth Gulf, on the north-west corner of Western Australia, *Tung Song* anchored fairly close to the shore. They did not take on any water or food and did not see anyone. But a party of evacuees uncovered the forward hatch and manhandled drums of fuel oil to replenish the fuel tank. Among them were some cheerful Aussies, glad even in this deserted place to be back in Australia.

There were no delays at Fremantle when *Tung Song* arrived on 12 March, and no Customs or Immigration inspections took place. Among the few records of *Tung Song* is an entry from the Unit History of 5 Personnel Depot in Fremantle:

13 March 1942: 29 Officers, 166 Other Ranks, 205 and 211 Squadrons RAF; 3 Officers' Wives; 1 Officer Royal Artillery, disembarked ex Far East per RAFA *Tung Song*.

The Japanese captured Air Commodore Silly. While the airmen were at Fremantle they heard that he had died. The batman did not waste any time disposing of some of the Air Commodore's property. Among other things, he sold the Air Commodore's dress suit to a Malay quartermaster. The Air Commodore died a prisoner on 7 December 1943.

Flight Lieutenant Garnell's eight-man Catalina crew, who had disembarked from *Tung Song* at Tjilatjap, turned out to have made the wrong choice. The flying boat FV-N arrived at Broome on the morning of 3 March 1942 carrying them as a second crew. At 9.50 am, a Japanese air attack destroyed all fifteen flying boats still on the water in Broome harbour. Garnell's crew were still aboard the Catalina. He and three others were killed instantly, Flying Officer Man Mohan Singh was drowned, and two were wounded. Such are the fortunes of war.

Six *Tung Song* airmen later joined 54 Squadron of Spitfires at Richmond, New South Wales and then went to Darwin. The fitter 2Es, the ground gunner and the batman went to India.

Tung Song became a US Army small ship and served around New Guinea. In November 1945 the Americans returned her to the Straits Steamship Company and she arrived back in Singapore on 21 November 1945. She resumed her usual Straits Steamship Company services until, on a visit to Indonesia in April 1958, she was bombed and sunk in a harbour in Sulawesi (Celebes).

Here is Ron Lovell's summing up of *Tung Song* and her voyages: The RAFA *Tung Song* was probably the only unit of the RAF Far East Command still operational by 12 March 1942. In the whole picture of the 1939-45 war I know *Tung Song* was insignificant. But a number of men, including me, owe their lives to her and those who sailed her. And the 199 evacuees who sailed in *Tung Song* were the last large group of Air Force personnel to escape from Tjilatjap by sea. At least one small group, however, left later in a lifeboat.

The pearling lugger mentioned in 205 Squadron records and elsewhere sailed to Port Hedland on 4 March from Broome, not Java, after the Broome air raid.

Questions remain. What were the names of the evacuees from 205 and 211 Squadrons? Who were the officers' wives and the artilleryman? What time did *Tung Song* leave Tjilatjap? What were the highlights (and the lowlights) of the voyage? Please send answers to:

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Australia.

Editor's note: It is seldom that this Journal deals with ships but *Tung Song* is a remarkable exception. It is of particular interest in view of last year's Bracknell Symposium on the Far East War. Perhaps some of the questions at the end of the text may be answered.

Hugh Campbell was the gunnery officer in HMAS *Tamworth* for eighteen months at the end of the war. His Commanding Officer was Lieutenant D B Lloyd-Jones, RANR(S). In 1992 he was writing a book about the work of eighteen Australian corvettes with the British Pacific Fleet, and found a mention of *Tung Song* in one of the skipper's letters to the Naval Board. Until then he had not even heard her name. He advertised in the RAAF Association Newsletter, *Wings*, and months later had a letter from Ron Lovell who was in *Tung Song* from August 1941 until September 1942. Between them they have winkled out a great deal of information about RAFA *Tung Song* and her exploits.

Ron Lovell is a Londoner who joined the RAF when he was 19. After *Tung Song* he stayed in Australia until the end of the War, and did a stint at Darwin arming Spitfires. Then he returned to England. He emigrated to Australia in 1948, and has lived in Western Australia since then. He turned 75 last year.

Hugh Campbell is a Tasmanian who had turned his back on Service life till he started on a book in 1992. He is a co-editor of the *Papers and Proceedings* of the Tasmanian Historical Research Association.

FERRY COMMAND IN HISTORY

CARL A CHRISTIE

In February 1946, the RAF ensign was lowered at RAF Station Dorval in a low-keyed finale to one of the most important, yet unsung, contributions to the Allied war effort. This marked the end of the scheme hatched in the summer of 1940 to fly North American-built long-range aircraft first to the British Isles and ultimately to operational theatres around the world.

As historians, both official and otherwise, have delved into the secrets of the war they have concentrated, perhaps understandably, on the impressive operational achievements of the Allied air forces. In the process they have neglected the not-inconsiderable logistical accomplishments that provided the operational crews with the tools to do their jobs. One such untold story is that of Ferry Command, which did so much to get aircraft where and when they were needed.

Ferry Command began life as a civilian venture because the air force said it could not be done. We must remember that, at the outbreak of war in 1939, transatlantic aviation was still in its infancy. The North Atlantic had only been flown by a few brave adventurers, each with a wealth of experience and considerable financial backing. And it had never been conquered in the fall or winter months when its legendary weather was at its nastiest. Commercial service by Pan American Airways and the newly formed British Overseas Airways Corporation could only be described as embryonic and, in many respects, particularly in the case of BOAC, no more than experimental. It would be unfair, therefore, to use the benefit of hindsight to criticise Air Ministry officials for opposing the proposal. It took a hard driver like the new Minister of Aircraft Production, Lord Beaverbrook, who did not know enough about the subject to fear its consequences, to try a scheme that many more knowledgeable people thought was impractical, if not impossible.

With the RAF expecting delivery of a large number of American-built long-range aircraft, Beaverbrook asked George Woods Humphery, recently retired managing director of Imperial Airways, if any could be flown from North America under their own power. Woods Humphery replied, yes, and that he felt he could do it, if he had some of his old Atlantic team and if an existing organisation would agree to look after basic administrative needs. Arrangements were made for this role to be filled by the Canadian Pacific Railway, whose chairman, Sir Edward Beatty, an old friend of

Beaverbrook, was already co-ordinating a myriad of complicated North American transportation arrangements for the beleaguered Mother Country.

Only a few weeks after the first informal contact, Woods Humphery and a handful of members of his old Atlantic team arrived in Montreal – conveniently located on the Great Circle Route – to arrange for the ferrying of some Lockheed Hudson Mark IIIs expected to roll off the California assembly line for the RAF later in the summer. Setting up shop in the CPR's Windsor Station in downtown Montreal and in makeshift facilities borrowed from the Royal Canadian Air Force and Trans-Canada Air Lines at the city's St Hubert airport, Don Bennett, A S Wilcockson, R H Page, Ian Ross, Jock Cunningham, and Jimmy Jubb – all civilians – started work on the hair-brained scheme to ferry aircraft all the way to Britain from plants in the United States.

Bennett and Page checked out the new Hudson's performance at the Lockheed plant and brought two Mark IIs back to Montreal to use as trainers and check-out machines (officially borrowed from the RCAF) – remembering to land at Pembina, North Dakota, to honour US neutrality laws by hitching a team of horses to the planes to tow them across the United States-Canada border to the adjacent Emerson, Manitoba, before taking off again on the next leg of their long transcontinental flight to Montreal. On their return Bennett and Page joined their BOAC colleagues in recruiting, screening and training civilian volunteers who had heard about the quasi-secret project in a variety of informal and demi-official ways.

Word spread through the North American aviation community that aircrew, and particularly pilots with instrument ratings and multi-engine experience, were desperately needed in Montreal. Volunteers of every description arrived, many with exaggerated claims of their prowess (and occasionally bogus logbooks). Since American airways relied on radio beams, there was a particular shortage of navigators and wireless operators. A handful of the latter came from BOAC, but the majority in the early days came from the Canadian Department of Transport in response to a special signal sent to all of its radio stations across the Dominion. Cunningham and Jubb, experienced BOAC wireless operators, tested and trained these men – very adept at their craft, but neophytes when it came to flying. For many their first long flight would come with their first transatlantic delivery.

The shortage of navigators presented an even bigger problem, so the organisers concocted a procedure that would allow planes (flown, in many cases, by self-proclaimed free spirits) to make it across to Britain without a

navigator. Each of the BOAC captains was a qualified navigator as well as a pilot. It was decided, therefore, to despatch the Hudsons in formations of seven, with each flight led by an experienced BOAC captain-navigator. The Australian-born Don Bennett, later praised by Air Chief Marshal Sir Arthur Harris for his flying and navigating skills as the Air Officer Commanding No 8 (Pathfinder) Group of Bomber Command, willingly accepted the responsibility of leading the first formation flight. Delayed by the tardy arrival of the first Mark IIIs from the Lockheed factory in California (flown to St Hubert by company crews), the first formation did not take off from the still new and under-utilised Newfoundland Airport at Gander until the night of 10 November 1940.

The need to clear snow off the runways and to chip ice off the Hudsons no doubt reminded many involved in the operation that they were about to attempt a feat never accomplished so late in the season. A reported willingness to proceed with the delivery scheme as long as the loss rate did not exceed 50 per cent bears testimony to the degree of desperation in the aircraft supply problem at that time – or, for that matter, in the frightening progress of the war in general. All concerned realised the crucial importance of the venture. Needless to say, the planes were unable to keep in even loose formation all the way across; however, thanks to careful and detailed contingency instructions prepared by Bennett, all seven aircraft made it across safely. Two more formation flights had similar success, but the fourth saw only four Hudsons reach Britain. One plane crashed on take-off (without fatalities), blocking the runway for another, while a third Hudson had to turn back to Gander with engine trouble. This experience, on top of some difficulties during the previous flights, convinced the authorities to incorporate top graduates of air observer schools in Canada into the scheme. Following additional training on transatlantic navigation procedures at Montreal, each would make one delivery flight before joining an RAF operational squadron. To this point the scheme had been almost totally civilian – Squadron Leader Griffith ‘Taffy’ Powell, then a member of the RCAF, was the only military regular of the organisation – but now a uniformed component was added to the mix of civilians from several nations. If one can qualify the unqualifiable, an already unique organisation became even more unique.

When the young service navigators proved satisfactory, and planes continued to roll off American assembly lines at a faster rate than the existing pool of ferry crews could handle, arrangements were made for top graduates of all aircrew categories at British Commonwealth Air Training

Schools in Canada to make one or two overseas ferry trips before joining operational squadrons. The old hands spoke of 'kids flying the Atlantic'.

Ironically, and fortunately, the Canadian Pacific Air Services Department was proving the feasibility and practicability of flying new aircraft across the Atlantic just as they were most needed. The war was going badly for Britain in 1941, and in particular, U-boats were sending increasingly greater numbers of merchant ships and their vital cargoes to the bottom of the ocean. Many in positions of authority believed that the hastily assembled and informal organisation would be hard pressed to cope with the magnitude of the task. In February 1941 the former First World War flyer and noted Canadian bush pilot, H C 'Punch' Dickens, left his executive position with Canadian Airways in Winnipeg, Manitoba, to oversee the expansion of the scheme and to co-ordinate activities with the British Air Commission in Washington. In March 1941 the Ministry of Aircraft Production started to exert a more direct control of what was being increasingly referred to unofficially as ATFERO, or the Atlantic Ferry Organisation.

Finally, in June 1941, the RAF, originally so opposed to the idea of ferrying aircraft from North America, took over the entire operation. Air Chief Marshal Sir Frederick Bowhill who, as Air Officer Commanding-in-Chief Coastal Command, had been one of the principal opponents of the transatlantic ferrying idea in the summer of 1940, became AOC-in-C of the newly created Ferry Command on 19 July 1941. He brought with him a handful of RAF officers, but essentially the Air Ministry resisted the temptation to militarise the whole affair. It remained primarily a civilian operation with an Air Force veneer for the rest of the war.

The documents reveal a number of reasons for the various reorganisations of the Atlantic ferry scheme, but the prime motivation for the biggest and most important change – the creation of RAF Ferry Command – came as a response to pressure from the Roosevelt administration in the United States. As the pace of deliveries increased in the spring of 1941, American officials expressed concern about perceived delays in Montreal and Gander. They offered to have United States Army Air Forces and United States Navy crews fly the planes to the North American terminus of Britain's choosing (thus freeing more US civilian aircrew for overseas ferrying for Britain), but asked that the British organisation be militarised so US service personnel would be dealing with other military airmen. In the UK the proposal was discussed and accepted at the highest levels, and sealed in telegrams by Winston Churchill to

President Franklin Delano Roosevelt and Prime Minister William Lyon Mackenzie King in Canada.

Strangely enough, this was the first PM to PM communication on the subject of Atlantic ferrying. Nonetheless, despite the arrangements having tended to be on the informal side, Canada's role had been crucial to the success of the scheme. In addition to wireless operators, the Department of Transport had provided a number of physical facilities and loaned the services of its best meteorologist, Dr Patrick McTaggart-Cowan, who became the chief weather forecaster for eastbound transatlantic flights. DOT also co-operated with TransCanada Air Lines and the RCAF in the provision of such things as assistance with aircraft maintenance and radio range charts. And Canada turned over a new airfield at Dorval, just west of Montreal, to Ferry Command. It became the headquarters and western terminus in September 1941. Canada also built, under intense American pressure, a new airport at Goose Bay in the wilderness of Labrador, in order to take some pressure off Gander and to serve as the key base of a new northern route for aircraft of shorter range, via Greenland and Iceland. Finally, more Ferry Command personnel came from Canada than from any other country. This includes civilians as well as members of the RCAF, serving in all flying and non-flying roles.

By the time Ferry Command became an RAF responsibility, its mixed military and civilian crews, from virtually every Allied nation – as well as the still-neutral US – had delivered hundreds of aircraft to the RAF in Britain and also across the Pacific to South East Asia and Australia. Most of the planes delivered in the early months were of the general reconnaissance variety (mostly Hudsons, as well as some Boeing B-17 Flying Fortresses and Consolidated B-24 Liberators and Catalinas, the latter on a 24-hour-plus flight from Bermuda). Soon medium bombers and transports joined the growing backlog at staging posts almost around the world. North American B-25 Mitchells, Douglas DB-7 Bostons, Lockheed Venturas, Douglas Dakotas and Martin Aircraft's Baltimores and Marauders reached Commonwealth air forces in every theatre of the war. With the help of the Americans – especially Pan American Airways – new routes were opened up across the Caribbean, down along the coast of South America, across the South Atlantic to West Africa via Ascension Island, and along the trans-Africa airway to the Nile Valley where the ferry crews turned north to Cairo. From there some aircraft went to the Desert Air Force – undoubtedly making a difference in the fighting in North Africa. Others carried on to India, while some were ferried to the USSR by Soviet

crews, who picked them up in Iraq. (Other planes went to the USSR via other routes as well.)

The almost 10,000 aircraft ferried by the CP Air Services Department, ATFFERO, Ferry Command, and No 45 Group of Transport Command (the final major organisational change of the ferry service) – not to mention the USAAF's own machines – had a profound influence on the outcome of the fighting in every theatre of the war. One shudders to think what might have happened had these aircraft not been delivered.

Not surprisingly, given the concentration of historians on operations, and of official historians on their own national services, the study of Ferry Command (to use the generic term, as its veterans do) has been neglected. The UK appears to have considered it a Canadian activity. Canadian historians, on the other hand, have ignored Ferry Command, probably because they view it as essentially a British show that happened to be headquartered in Canada. Official historians in that country's Directorate of History of the Department of National Defence, in the course of the preparatory work for volume two of the history of the RCAF (eventually published in 1986 under the title *The Creation of a National Air Force*, with the principal author W A B Douglas) undertook some original research on Ferry Command, only to realise that it did not belong in the official history of a Canadian institution, the RCAF. However, because the contribution was so significant and should be better known, it was decided to include a short account of Ferry Command as an appendix to Vol II. At the same time, Dr Douglas, as Director of History, very generously gave permission to this author and Dr Fred Hatch (author of *Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan, 1939-1945*), who had both done Ferry Command research for Vol II, to pursue our own studies on the subject as a private project in our own time. Unfortunately for this would-be co-author (not to mention anyone interested in aviation history), Fred Hatch contracted cancer and died in 1987. In the end, the private project of an otherwise official Canadian historian was finished by the undersigned during several years of evenings, weekends and sacrificed family vacations. The resulting *Ocean Bridge: The History of RAF Ferry Command*, is thus not an official history. It just looks like one because its author's familiarity with the style and form and the happy coincidence that the Canadian publisher, University of Toronto Press, has brought the world the three volumes published to date of the RCAF official history. And, indeed, the neophyte author had the gall to request the services of the same copy editor, the much respected Australian

now living and working in Toronto, Rosemary Shipton.

The author makes no claim that *Ocean Bridge* is definitive; it was presented to the public at this time in part as a tribute to all who helped win the war by working on ferry operations. With masses of research complete, 1995 seemed the appropriate year to publicise the results. Hopefully other writers will do further research on ferrying, air transport, and related activities, too neglected in our study of air forces. All who fly in a modern airliner are forever indebted to these aviation pioneers. And, of course, ferry crews helped win the war. The importance of their unsung role in getting operational aircraft and vital supplies to the point at which they were needed when they were needed cannot be overstated.

A review of Carl Christie's book by Denis Richards is included in this issue – Ed.

BOOK REVIEWS

Ocean Bridge: The History of RAF Ferry Command by Carl A Christie with Fred Hatch. Midland Publishing Ltd with the University of Toronto Press, 1995. Price £30.00 in UK.

The delivery to Britain, under their own power, of some 10,000 aircraft manufactured in the United States and Canada was of incalculable benefit to the Allied cause in World War II. So, too, was the lesser number flown elsewhere, and especially to the Middle East. Yet this achievement, truly astonishing when it is remembered how few trans-Atlantic flights had been made before the war – and none of them in winter – has never been adequately recorded in British official histories. Two of the wartime Ministry of Information pamphlets, *Atlantic Bridge* (1945) and *Merchant Airmen* (1946), set down the outlines very well, and there are numerous references in personal memoirs such as those of Don Bennett. A fully detailed and considered account, however, has had to wait until now, with the publication of Carl A Christie's *Ocean Bridge*.

Senior Research Officer in the Directorate of History at the National Defence Headquarters in Ottawa, Carl Christie has brought to fruition a project initiated by an older colleague, Fred Hatch. He has described at considerable length (306 pages of text plus 106 of appendices), in most readable prose, and with admirable objectivity, the almost incredibly rapid development of trans-Atlantic aircraft ferrying. In the course of this he deals not only with the delivery of aircraft eastwards, both by seasoned aircrew and by the 'one-trippers' – products of the Commonwealth Air Training Plan given extra coaching for the flight – but also with the even more exacting flights westwards of the Return Ferries operated by BOAC. These took back the regular aircrew involved so that they could make further deliveries, and many of the pilots concerned notched up more than fifty such trips. The comfort was minimal – bare boards for the passengers to lie on, or later 'bucket' seats, and in sub-zero temperatures – but some 2,000 of these Return Ferry flights were successfully made.

The story, involving the closest Canadian-British-American and Service-Civilian co-operation, is one of considerable complexity. It traces both the development of the main trans-Atlantic routes (the Northern via Labrador and Iceland; the direct from Newfoundland; and the Southern, via the Bahamas, Brazil and Ascension Island to West Africa), and the successive changes in the upper organisation. First the responsible authority was Canadian Pacific Airways, then the Ministry of Aircraft Production's

Atlantic Ferry Organisation (APFERO), then RAF Ferry Command, then RAF Transport Command's No 45 Group. The author provides, however, plenty of 'human interest' to leaven this more solid material, and to bring out the qualities of skill, courage and endurance demanded of the crews and invariably found in them.

The overall loss rate from the ferrying was about two per cent - perhaps not so very different from the general level of RAF operations apart from those of Bomber Command. One could wish that there was more and better maps in this excellent book, and that the photographs had been printed on glossy paper for better definition. All told, however, the work is a notable achievement, telling not only the wartime story but also making clear the importance of this for the future of trans-Atlantic aviation in the post-war years.

Denis Richards

Some of the Many. 77 Squadron 1939-45 by Roy Walker. Published by Hollies Publication, 69 Hawes Lane, West Wickham, Kent BR4 0DA as a gift to the Yorkshire Air Museum, Elvington to whom all proceeds go. Price £5.50 including postage in UK.

A well produced and interesting slim volume that starts with a one-page potted history of 77 Squadron; following on with an alphabetical Roll of Honour and a chronological list of losses from the first Whitley on 15 October 1939 when on a 'nickel' to Frankfurt, Flight Lieutenant R Williams lost his life but the rest of the crew were taken prisoner, to the final loss of a Halifax and all the crew on 18 March 1945. A list of escapers and evaders plus a few interesting notes complete the book.

Tony Richardson

Wingless Journey by Leslie R Sidwell. Published by Merlin Books Ltd, Braunton, Devon. Price £6.95 in UK.

The war is almost over at the end of January 1945 when the POWs in *Stalag Luft 3* (Sagan) begin a long march in freezing weather via Leipzig, Halle, Magdeburg, Brunswick, Hanover, Hamburg and then to Lübeck. The tale of that journey is graphically portrayed by Leslie Sidwell who had been in the 'bag' since 1942. Many very interesting little nuggets of information and a view that not only held my interest but contained many surprises.

Tony Richardson

The Flying Camels: The History of 45 Squadron RAF by Wing Commander C G Jefford. Privately published by the author: copies obtainable at £45 each (including postage and packing) from Flying Camels, PO Box 45, High Wycombe, Bucks HP10 9SB (cheques to C G Jefford).

I have seen many squadron histories but never one such as that just written and published by Wing Commander Jefford. The beneficiary of his efforts is 45 Squadron, the Flying Camels, with which he served as a navigator in the early 1960s. Convinced that '45' has a strong claim to re-inclusion in today's front line, he has brought to bear upon it all the research skills which he previously demonstrated in his reference work *RAF Squadrons*; the result is a volume that will henceforth stand as the ideal for all histories of its genre but is unlikely ever to be equalled.

This 4½ lb book (few books come heavier) runs to 544 superbly printed pages of A4 size, comprising 457 pages of narrative, every conceivable kind of annex, 702 photographs and 23 maps. It tells the tale of a squadron that spent almost half a century overseas: from 1921 to 1942 in the Middle East, 1942 to 1970 in the Far East. It thus took part in many of the RAF's distant campaigns. It flew for example Vickers Vernons in Iraq in the '20s, Blenheims in the Western Desert in 1940/41, Blenheims, Vengeances and Mosquitos as part of the forgotten air force in Burma, Beaufighters, Brigands, Hornets, Vampires and Venoms during the Malayan Emergency in the 1950s, and Canberras during the Confrontation with Indonesia in the 1960s. Disappointingly, as the author observes, its subsequent roles were limited, partly as a shadow squadron, and given the scale of recent cutbacks it is hard to accept his view that the Flying Camels really deserve priority over so many other great squadrons for reinstatement.

This is not in any way to denigrate his squadron's excellent record in far-flung parts of the world, and particularly the Far East. Moreover, so well and in such detail is the story told that it will be of value not just to those who served in 45 Squadron (several thousand of whom are mentioned by name) but to all with an interest in the campaigns in which it took part. I personally wish it had been available to me when researching *The Forgotten Air Force*. Nor should we ignore the fact that it was with '45' that Arthur Harris served in France in 1917 and, as CO, in Iraq in the early 1920s. As Jefford reminds us, it was his experience there that did so much to formulate his thinking about the potentialities of the bomber.

At £45 this will seem an expensive squadron history, but purchasers will receive a volume of superlative quality which reflects enormous credit on its author.

Henry Probert

A Most Secret Squadron. The Story of NO 618 Squadron RAF by Des Curtis DFC. Published by Skitten Books, 5 Molverley Gardens, Wimborne, Dorset BH21 1HJ. Price £15 plus post and packing £1.45 in UK.

The major part of this book relates to the plans to mount, at short notice, a low-level daylight attack on the German battleship *Tirpitz* using Mosquito aircraft and the 'bouncing bomb'. This plan was fraught with difficulties, not least because of the distance of the target, but for the need for absolute secrecy. The author has successfully brought together, in an easily understood style, the complex considerations, at very senior level, of mounting this operation with an unproven weapon, and the constricted atmosphere within which the aircrew made their preparations.

Plans to attack the *Tirpitz* with the 'bouncing bomb' were finally abandoned and a detachment of 618 Squadron then undertook anti U-boat and anti-surface vessel activities. Their specialist use of a 57 mm gun is a story in itself – and compensated greatly for the frustrations and disappointments of the earlier aborted plans.

A well researched, very readable and well presented book that demonstrates the use of crews with unique training in Mosquito handling and Coastal Command skills.

Ivor Broom

The Withered Garland: Reflections and Doubts of a Bomber by Peter Johnson. New European Publications Ltd. £25.00

The author joined the RAF as a Short Service officer and served in the early 1930s as a fighter pilot, flying the Siskin and the Bulldog. He returned to the colours on the outbreak of war, served as a flying instructor and was appointed in 1943 to command No 49 Squadron in Bomber Command. His later appointments were as Station Commander at Woodhall Spa, when Leonard Cheshire was in command of No 617 Squadron and was developing low level marking techniques, and at Syerston. He commanded No 97 Squadron, one of the Pathfinder squadrons returned from No 8 Group to No 5 Group, until the end of the war. Then he took charge of the Bomber Command Bombing Research Unit, like its

successor, the British Bombing Survey, tasked with analysis of the results of the Bomber Offensive.

The Withered Garland, as its sub-title suggests, is not an uncontroversial book. It is sensitively written with a great frankness about its author's doubts concerning the rights and wrongs of the conduct of the Bomber Offensive in the later years of the war. Group Captain Johnson writes with a great candour about his own emotions and actions during these years. This is an important yet disturbing book which is plainly cathartic for its author whose views will be open to challenge by many.

Johnson provides a number of interesting insights into the RAF at various stages and in various roles. His verdicts on the training and preparedness of the fighter squadrons of the Fighting Area and his description of the denuding of the Nation's air defences at the time of the Abyssinian crisis are especially interesting. So, too, are his observations of training in the early war years. His own lifestyle, candidly described, affords a rare glimpse of the changing social order under the pressures of war. Finally, the author sheds his own light on the personalities of his wartime commanders, Cochrane, Constantine and Harris. The parts played by Churchill, Portal and Cherwell in pursuing the use of area bombing are also highlighted.

Group Captain Johnson's thesis is that, whilst area bombing was inevitable in 1941-42, the greatly improved bombing accuracies achieved from 1943 onwards not only made more precise target selection possible, but should have allowed city bombing largely to cease. He argues that the 'blast and burn' bombloads of 'cookie' and incendiary should in most cases have given way to the more accurate MC High Explosive bomb. Indeed, he suggests that it was the use of such loads from October 1944 onwards which made possible the shutting down of all production at Krupps of Essen. His conclusion that 'in 1943 we fought the wrong battle and didn't even win it!' is soberly argued. In short, Johnson says that what we would today describe as 'collateral damage' became an objective in itself, by the necessary recognition in the early days of the war that Bomber Command lacked the accuracy successfully to tackle point targets. The failure later to revert to such targets as bombing accuracy improved, is at the heart of his doubts. He describes such a reversion as a 'genuine alternative [to the deliberate area bombing of towns]'

To be sure, this book is both controversial and likely to be unwelcome to some. I hope that is not the case, for it is neither shrill nor sanctimonious in its tone. It does not in any way detract from the steadfastness of those

who served in Bomber Command, nor from their contribution to victory which cannot simply be measured in terms of destruction or of lost industrial production. It makes a useful contribution to the debate attending the bombing policies of the Royal Air Force in WWII.

Sandy Hunter

History of Royal Air Force Halton – No 1 School of Technical Training by Paul Tunbridge. Published 1995 by Buckland Publications Ltd, 125 High Holborn, London WC1V 6QA. £14.95.

Histories of RAF Stations are usually of interest mainly to those who served there, but Halton is different. With the Cadet College at Cranwell and the Staff College, the Apprentice School at Halton was one of the three pillars on which Trenchard built the Royal Air Force. Its nearly 35,000 graduates have made a contribution to the Service, and indeed to the Nation, out of all proportion to their numbers. In the Service more than 7,000 were commissioned – with more than a hundred achieving Air Rank. The non-commissioned majority provided the sturdy foundation on which the mighty Air Force of 1944-45 was built. Their survivors and successors held the Service together during the rapid post-war rundown. In civil life they seem to be everywhere: accountants and airline pilots, barristers and bishops, captains of industry and commissioners of police, the list is endless. A glance round the car park at a Halton Apprentice reunion provides irrefutable evidence of success.

How did all this come about? Paul Tunbridge, blending historical fact with a wealth of personal anecdote, provides not only the definitive history of No 1 School of Technical Training but also more than a taste of that special something that distinguishes ‘Trenchard’s Brats’ from everyone else in the Service. Why, then, was Apprentice training discontinued? Why, indeed. On the evidence presented in this book the Service will sorely miss its Ex-Apprentices in a generation’s time.

Joe Ainsworth (46th Entry)

Sir Arthur Harris: Despatch on War Operations. Frank Cass, London 1995.

Courage and Air Warfare by Mark K Wells. Frank Cass, London 1995.

Two very different volumes recently published in the Cass ‘Studies in Air Power’ series provide valuable additions to the already vast literature on the wartime history of Bomber Command. First we have one of the most

important source documents relating to the bomber offensive, the Official Despatch written by Sir Arthur Harris immediately after the war. Unlike other commanders' despatches this was for a long time classified and therefore unpublished, but now at last it is being made available to all. Its 203 pages (foolscap size) are reproduced exactly as originally printed, together with the Air Ministry confidential observations on it, and the whole is accompanied by a substantial and balanced commentary from Sebastian Cox and a reflection from the German side written by Dr Horst Boog – both well known to members of our Society.

Hitherto historians wishing to ascertain Harris's personal view of the campaign he led have had to refer to his more generalised account in his book *Bomber Offensive* or to his biographer Dudley Saward's interpretation of them. Now we have, to quote Cox, 'Harris's own official testament to his years at Bomber Command', written we must remember in late 1945, before the completion of any of the post-war independent studies of the strategic bomber offensive. It thus refers to his basic convictions about the war-winning potential of his command and his many exasperations with higher authority, such as his annoyance about being over-ruled over the Pathfinder Force at 'the dictation of junior staff officers in the Air Ministry'. It does not, however, go into the higher politics surrounding the offensive, nor does it indicate what Harris thought about it all on fuller reflection. For example, the revealing statement that 'the main object of bombing German industrial cities was to break the enemy's morale proved to be wholly unsound' is not to be found in his Despatch but in his book *Bomber Offensive* written a year later.

The Despatch, then, is essentially a factual account of Bomber Command's operations under his leadership, 80% of it consisting of statistics, graphs and detailed appendices on many of the technical aspects. It thus contains a mine of information in convenient form for use by historians on such matters as navigation and bombing aids, bombing techniques, armament, tactics, radio countermeasures and training, all of which are helpfully commented on by Cox. Much of Cox's introduction, however, relates to Harris's relatively short main narrative, whose strengths and weaknesses are well analysed with reference to other official records and the work of later historians. Accompanying this introduction is Dr Boog's fascinating essay, a proper reminder of the importance of trying to understand how it looked – and still looks – from the other side. Boog recognises that, notwithstanding the image of Harris often portrayed in Germany, he – like his men – was acting on orders from above, but goes on

to remind us of the widespread revulsion towards violence of any kind, regardless of who committed it, that has pervaded post-war Germany. Then, having discussed the bombing campaigns carried out by both sides he concludes that all three major air forces eventually met on the same lowest common denominator: indiscriminate bombing, one of the most serious sins of highly industrialised nations in the 20th century. So, not only in the Despatch but also in the associated contributions from Cox and Boog, there is much to provoke thought as well as provide information.

The second volume is in its way equally thought-provoking, especially since it has obvious relevance to the present and future. Despite its all-embracing title, *Courage and Air Warfare*, it concentrates on the experience of combat aircrew in Bomber Command and the Eighth Air Force, seeking to analyse the psychological and physiological pressures and how they coped with them. The author, Colonel Mark Wells, is a USAF officer who wrote his thesis at King's College London and is now Senior Military Professor at the Air Force Academy's Department of History.

After comparing American and British selection methods and pointing out the former's greater dependence on scientific methods, he examines the various demands of the combat environment and then the stress and anxiety occasioned by air combat among different types of personality. He compares morale in the two forces, considering such factors as why they flew, crew spirit, tour lengths and survival rates, and pays high tribute to the airmen of both commands: 'No other group of Western Allied combatants suffered the same huge casualties, nor faced the mathematical certainty of their own deaths so routinely and so unflinchingly.' The sustaining of morale was strongly affected by the quality of leadership, another topic which is perceptively considered and leads to Wells' final discussion of the issues surrounding the emotive subject of LMF. The problems of categorising casualties between nervous breakdown (the great majority) and LMF, defined in the RAF as questionable reliability and determination in the face of danger, are examined in the context of the policy disputes, the medical disagreements, the legal implications and the methods of handling. The RAF establishment adopted a harsher approach than the Americans, seeing courage essentially as a function of character and convinced that LMF was contagious and had to be deterred – a view firmly held by such men as Harris and Cheshire but not invariably accepted by other commanders. Yet, as Wells takes pains to stress, the actual number of cases was very small, roughly 200 per year in Bomber Command and the same in the 8th Air Force.

This thoroughly researched, well written, amply referenced book is not just a valuable addition to the historiography but also deserves the attention of present day and future commanders and their medical staffs who are concerned with the human dimension of air operations.

Henry Probert

The Crucible of War 1939-1945 by Brereton Greenhous, Stephen Harris, William Johnston, William Rawling. University of Toronto Press 1994.

In writing the World War II section of the four-volume history of the Royal Canadian Air Force, the authors have had the advantage – rarely accorded to official historians – of a long passage of time since the events they describe. They have been able to draw not only upon other nations' accounts, written far sooner after the war, but also on the results of much private research, not to mention many records that were not available to earlier writers – or at least not usable by them. Consequently their story of the Canadian contribution to the air war offers a wider perspective on that war as a whole than the previous official accounts, and the authors have done well in the difficult task of describing and explaining the RCAF's operations and achievements while giving enough of the overall background of the war to make them understandable.

This is a volume of daunting size; it runs to almost 1,100 pages, including many photographs, good maps and diagrams, and detailed and extensive references, though one searches in vain for the desirable bibliography. Understandably it was impracticable to try to cover the activities of all the members of the wartime RCAF; some 60% of the aircrew who served overseas did so in RAF units, and their activities are not mentioned here other than in the most general terms. This is the story of the formed squadrons in the RAF's 400-449 series which was allocated to the RCAF, but the lengthy scene-setter on air policy is in some ways the most interesting and thought-provoking part of the book, as it explores the complexities of RAF/RCAF relationships. The authors show how in the earlier days it was impracticable for the Canadians to contribute to the air war other than within the structure of the RAF, in other words as a recreated 'colonial air force'; they discuss the many issues that arose in the later attempts to Canadianise and establish not just their own squadrons but also larger formations – most notably 6 Group; and they offer a substantial section on the planning for Tiger Force, seen as an opportunity for the RCAF to play a significant part in the final onslaught on Japan.

For the main operational sections of the book the authors adopt a 'role'

approach. The term ‘fighter war’ is used, somewhat misleadingly, to cover a wide range of largely tactical air operations from the Battle of Britain to the Normandy campaign and the final advance into Germany, and including the Mediterranean; the major RCAF contribution to the Overlord campaign, essentially in 83 Group, is well brought out. The maritime air war is covered, with special emphasis on the work of the three anti-shipping squadrons over the North Sea. A shorter section describes the efforts of the two Dakota squadrons in helping to supply 14th Army in the closing stages of the Burma war. Probably of greatest interest to British readers, however, is the long section on the bomber war – almost a book in itself.

Here we have what amounts to a full account of the bomber offensive against Germany with discussion of its policy, conduct and many of the technicalities – not least the electronic war – blended with the growing contribution of the RCAF as it built up eventually to 15 bomber squadrons. There is a detailed account of the many policy and practical questions surrounding the formation of 6 Group, and it gives the lie to such oft-repeated allegations as that under Harris the Canadians – because they were Canadians – invariably did not receive good aircraft. There are, however, undertones of criticism suggesting that the authors have their doubts about the bombing strategy and its achievements. Bald statements such as ‘killing and injuring civilians as much as the destruction of built-up areas was the principal purpose of Bomber Command’ do little to persuade one of their objectivity. Moreover their restrained verdict on the offensive – which relies heavily on the immediate post-war surveys and takes little account of much more recent studies, undervalues the contribution to victory of Bomber Command – including the Canadians who suffered almost one-fifth of its casualties.

This is a pity, for in so many ways *The Crucible of War* is an admirable volume, widely researched, eminently readable, and brought to life by the inclusion of a variety of personal stories. Given the major contribution of the RCAF to the RAF’s operations, it is a book which will always need to be consulted by serious historians of the air war.

Henry Probert

CORRESPONDENCE

To facilitate some historical research I am conducting, may I impose a special favour on you?

I am attempting to write the first book on the North American B-45 Tornado, the world's first mass-produced jet bomber. Although not in RAF service, it was clandestinely flown by British crews over the USSR from 1952-1954. I was wondering if, in your journal, you could mention this endeavour so that any ex-RAF personnel who participated in these flights can contact me.

Does your journal have book reviews? I'll gladly send you a copy.

**John C Fredricksen, PhD 461 Loring Ave.
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ERRATA

Seeing off the Bear: By an oversight at the Washington end, Cecil James was unable to check the text of his talk at the seminar on Anglo-American Air Power Co-operation During the Cold War. The necessary corrections are as follows:

Page 27, 5 lines from bottom: for '30.000' read '80.000'.

Page 29, 6th and 7th lines: for 'Blue Streak' read 'Blue Steel'.

Page 29, line 10: delete 'Royal'.

Page 32, line 12, 2nd para: for 'alter' read 'altar'.

Page 33, line 5, 2nd para: for 'Blue Streak' read 'Thor'.

Page 34, line 3. 3rd para: for 'that' read 'than'.

Page 35, line 7, 1st para: for 'Blue Streak' read 'Blue Steel'.

Page 36. line 2, 3rd sub-para: for 'economics' read 'economies'.

RAF Historical Society Journal No. 15:

Page 32, line 8: delete 'D77', insert 'D'.

Page 32, line 17: delete '17,800', insert '1,780'.

Page 33, line 16: delete 'army', insert 'Army'.

Page 38, line 3: delete 'Air Vice-Marshal Pocock' insert 'Group Captain Kingsley Oliver'.

Page 39, lines 28 and 38: delete 'Lyardet', insert, 'Liardet'.

Page 59, line 18: delete 'Air Commodore Witherow', insert 'Sqn Ldr J H Witherow'.

<p>Members may wish to know that the first printing of Henry Probert's book 'The Forgotten Air Force' has sold out and that a second printing, more modestly priced at £20, is now on sale.</p>

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