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SELECTED GLOSSARY

ACFE	Air Command Far East
ACSEA	Air Command South East Asia
AMP	Air Member for Personnel
AMWO	Air Ministry Weekly Order
ARC	Aeronautical Research Committee
CG	Centre of Gravity
CSSAD	Committee for the Scientific Survey of Air Defence
DSIR	Department of Scientific and Industrial Research
IS	Internal Security
ISIL	Islamic State of Iraq and the Levant
LABS	Low Altitude Bombing System
OCU	Operational Conversion Unit
ORB	Operations Record Book (aka the RAF Form 540)
OTU	Operational Training Unit
RAE	Royal Aircraft Establishment
RUSI	Royal United Services Institute
TNA	The National Archives
UAS	University Air Squadron
WEM	Wireless Electrical Mechanic
WVS	Women's Voluntary Services

A MESSAGE FROIM THE EDITOR

Among the many well-established routines that have been disrupted by the beastly COVID-19 pandemic has been the business of this Society. In the good old, pre-bug, days, this copy of the Journal would have reflected the proceedings of a seminar held in April 2020. We had no option but to cancel that event, of course, so I have been obliged to paper over the crack and, by calling in some favours, have produced this pick'n'mix edition. I hope that everyone will be able to find something of interest in what follows. **Ed**

THE AIR COMPONENT OF THE BRITISH COMMONWEALTH OCCUPATION FORCE, JAPAN, 1945-48

by Andrew Thomas

The sudden surrender of Japan following the dropping of the atomic bombs in August 1945 resulted in the rapid liberation of the occupied territories by the Allies. With South East Asia and the Pacific islands secured, plans were developed for an Allied occupation of the Japanese home islands. The need for occupation was largely to ensure that the disarmament and demilitarisation clauses of the surrender were rigidly adhered to. The occupation force was, naturally, largely American but nations of the British Commonwealth, which had fought such effective campaigns in Burma and the South Pacific, were also invited to send contingents. By mid-1946 the British Commonwealth Occupation Force (BCOF), commanded by the Australian Army's Lt Gen John Northcott, comprised land, sea and air elements, numbering over 35,000 personnel. Over 6,000 of these formed the Air Component, known as British Commonwealth Air Force (BC Air), which had elements drawn from the Royal Australian, Royal Indian and Royal New Zealand Air Forces as well as the RAF.

During September 1945 the contributing Governments assessed their individual levels of commitment to the proposed Occupation Force. The Australians, for example, decided on the 19th to contribute land, sea and air components. The Force would be under the overall command of the Supreme Allied Commander, Gen Douglas MacArthur, and over the succeeding months arrangements for the despatch and support of the BCOF continued. The roles of the Allied occupation forces were the safeguarding of Allied bases and facilities, and the demilitarisation and disposal of Japanese war installations, armaments and military infrastructure. In addition, the Allies would conduct regular patrols to ensure that there were no covert Japanese military movements or preparations. The British Commonwealth force was given responsibility for the Hiroshima and Yamaguchi Prefectures of western Honshu. The Air Component was to comprise two wings of single-engined day fighters and supporting air and ground elements with the HQ and major base being at Iwakuni on the Inland Sea, some 450 miles west of Tokyo. The RAF would contribute two Spitfire squadrons and the RIAF one, whilst the RNZAF would send a Corsair

No 17 Sqn's clipped-wing Spitfire XIVs lined up at Miho with 'Ginger' Lacey's RN135 nearest the camera. (D Healey)

squadron and the RAAF three equipped with Mustangs. The Force would be supported by a small number of transport and liaison aircraft based in-theatre and others flying from home bases.

By Air and Sea

By early 1946 the preparations for the move of the various air units allocated to BCOF were nearing completion, the first to move were the three Mustang squadrons of the RAAF's 81 Fighter Wing from Labuan in Borneo. The main party left by sea on 12 February aboard the SS *River Murrumbidgee* and SS *Glengyle* followed, on the 28th, by the first aircraft from No 76 Sqn, each section escorted by a Beaufighter or Mosquito. Staging via the Philippines and Okinawa they arrived in Japan on 9 March. No 82 Sqn, under Sqn Ldr Schlaat, was next, beginning its move on 2 March and arriving between the 13th and 18th. Sadly, one of its last sections, comprising a Mosquito and three Mustangs ran into bad weather some 60 miles short of their destination and crashed with the loss of all five aircrew. The arrival of No 77 Sqn by 22 March completed the wing which soon became established at Bofu. Other RAAF elements comprised 481 Maintenance Squadron, 381 Base Squadron and 5 Airfield Construction Unit.

Meanwhile, in early March the ground elements of the three Spitfire

AVM Cecil 'Boy' Bouchier, AOC BC Air.

squadrons, Nos 11 and 17 Sqns RAF and No 4 Sqn RIAF, left by sea for Japan. At the same time, No 14 Sqn RNZAF, under Sqn Ldr J J de Willimoff DFC, began the journey north from Auckland with its twenty-four Corsairs on the deck of the light fleet carrier HMS *Glory*. They arrived at Iwakuni in late March after which the aircraft were lifted onto lighters and ferried ashore where they were stripped and cleaned after the long voyage. BC Air's final operational elements, the Spitfires, left Singapore on the carrier HMS *Vengeance* on 17 April, arriving in Japan at the end of the month. The aircraft were transferred ashore and inspected before being flown to the designated Spitfire base at Miho on the south-east coast of Honshu. No 17 Sqn, which was under command of Sqn Ldr J H Lacey DFM*, moved in on 2 May, No 4 Sqn RIAF (Sqn Ldr Minoo 'Mike' Engineer DFC) on the 6th and No 11 Sqn (Sqn Ldr P R McGregor) on the 7th. The AOC BC Air was AVM C A Bouchier CB CBE DFC and he was to remain in charge until the Force disbanded in 1948. His force was completed by numerous support units and personnel and by the Dakotas of No 1315 Flt which also absorbed the Auster Vs of Nos 1 and 2 Casualty Evacuation Units.[1]

Occupation Duties

Both Iwakuni and Miho were former Japanese bases and showed the ravages of Allied air attacks and of stripping by the local populace after the war – a kind of scorched earth policy. Nonetheless, with a lot of effort by various engineering and construction units, like the RAAF's No 5 Airfield Construction Unit, they were gradually made more habitable. This was helped too by welfare services provided by unsung

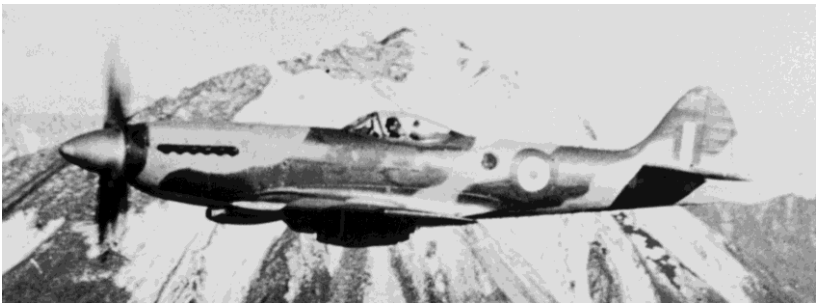
[1] The precise status of No 1315 Flt is a little uncertain, as it has been recorded as having disbanded in August 1946 and replaced by a Communications Squadron, although some contemporary documents still refer to it as late as 1948.

No 14 Sqn RNZAF's Corsairs lined up at Iwakuni. (RNZAF)

organisations like the WVS and NAAFI.

Flying began as soon as the units had aircraft available with the Australians beginning in early April when Nos 77 and 82 Sqns began a series of surveillance patrols as well as local area familiarisation flights, setting the pattern for the next two years. Sadly, the Kiwis got off to a bad start when, on 20 April, on one of the first flights by the Iwakuni-based No 14 Sqn, a Corsair, NZ5635, crashed and burned on take-off, killing its pilot, Flt Lt Ces Wright. No 76 Sqn began patrols in May, flying 323 sorties by the end of the month. The Spitfire squadrons also became operational later in May. No 17 Sqn soon changed COs when 'Ginger' Lacey handed over to Sqn Ldr F A Robinson DFC. The RAF suffered its first flying casualty on 27 June when one of No 17 Sqn's Spitfire XIVs, RM967, crashed with the loss of the pilot, WO A J Gray. Earlier, on the 14th, BC Air had held a wing exercise, including mock attacks on the destroyer HMS *Bermuda*.

The Commonwealth squadrons established a pattern of routine surveillance patrols over the Yamaguchi, Hiroshima, Tottori and Shimane Prefectures and the island of Shikoku, which were, in part, to 'show the flag' to the Japanese populace. They also acted as a deterrent



One of No 11 Sqn's 'fast-back' Spitfire FR XIVs over Mt Daisen in 1947. (No 11 Sqn Records)

to the possibility of a resurgence of Japanese militarism, although it soon became apparent that this was not going to occur. However, from 1 June, and continuing until their withdrawal, armed BC Air fighters were held in readiness during daylight hours for operations and searches. The RAAF, for example, maintained four Mustangs on state. With each of the units becoming more settled in their Japanese surroundings, patrols continued throughout the summer, with large formations being put up on the anniversary of VJ Day.

During November, No 11 Sqn gained a new CO when Sqn Ldr N W P Hancock arrived. On the 14th Spitfires, Mustangs and Corsairs conducted an impressive fire power demonstration on an island, between Kure and Iwakuni, drawing complimentary comments from the AOC. The support flights were always busy and personnel from all units also assisted with projects within the local communities. During December some of No 1315 Flt's Dakotas helped in flying humanitarian relief supplies to the Kobe area following an earthquake there. The facilities provided by the support units were invaluable. For example, during the winter, when Miho was cut off by snow, one of the Austers flew a doctor in from Iwakuni to operate on a seriously ill airman; his life was saved.

Transport aircraft from the home countries, or in the case of the RAF, from the ACFE bases in Singapore, ran regular services into Japan, providing a vital logistic and morale boosting link to 'home'. Dakotas were the usual aircraft, in the case of the RNZAF, for example, those of No 41 Sqn. Their schedule took a week on the long haul up the Pacific. These transport sorties were not without incident, the most

A Spitfire XIV, RN205, of No 17 Sqn.

notable being on 6 April 1947 when a 41 Squadron Dakota, NZ3547, flown by WO Doug Holloway was taking tour-expired Corsair pilots home. Between Manila and Morotai the port propeller 'ran away' and by a superb piece of flying, in appalling tropical weather, Holloway brought the crippled Dakota down to a safe landing for which he later received a well-earned AFC.

Air exercises and patrols continued throughout 1947. On 24 January, for example, Nos 76 and 82 Sqns held an air exercise with RAN vessels and in February the latter gained a new CO, Sqn Ldr G Falconer. Generally, however, flying was markedly reduced by bad weather in the BCOF area during the early months of the year. There was another change of command in April when Sqn Ldr D F St George DFC, later to become Chief of Air Staff, RNZAF, became OC 14 Sqn. By this time, in addition to maintaining the surveillance patrols, all squadrons were flying routine training programmes, including air-to-ground firing and bombing. Unfortunately, during a firing detail on 30 May, one of No 11 Sqn's Spitfires hit the ground killing the pilot, PII Kite. Shortly afterwards, on 11 June, the Indian squadron also suffered a loss when, in bad weather, two Spitfires (SM925 and TX979) flew into high ground; both pilots, Plt Off Martin and Fg Off Khan, were killed.

With impending independence from Britain, No 4 Sqn was recalled to India. It handed its Spitfires over to the RAF on 19 July and left for

Above, Spitfire XIV, TZ165, of No 4 Sqn RIAF at Miho and, left, No 4 Sqn making its mark in the sky. (www.bharat-rakshak.com)

home where 'Mike' Engineer's squadron re-equipped with Tempests. A month later, Sqn Ldr Archie Winskill DFC* assumed command of No 17 Sqn which, like the other units, continued its programme of patrols and training. During this period, in addition to their routine activities, some of the Australian Mustangs were used for anti-malarial mosquito spraying. Between 17 and 21 November, BC Air's squadrons were detached to Johnston Field near Tokyo where, on the morning of the 21st, they mounted a mass flypast over the city to celebrate the wedding of the Princess Elizabeth and Lt Philip Mountbatten.

Rundown

By the end of 1947, since it was now apparent that there was little likelihood of a resurgence of Japanese militarism, it was clear that the Occupation Force was no longer serving any real purpose. Furthermore, an economic crisis in the UK required a scaling down of the British contribution to BCOF. Plans for the rundown and withdrawal of the BCOF were drawn up. For BC Air the reduction was particularly rapid and Nos 11 and 17 Sqns were both disbanded at Miho on 23 February 1948. At much the same time, the New Zealanders moved to Bofu, trading places with the three RAAF Mustang squadrons which moved to Iwakuni. The 'ANZAC' fighters later combined to

No 14 Sqn's Corsairs were consigned to the flames at Bofu on 10 October 1948. (RNZAF)

successfully intercept a USAF force during an exercise raid on an oil refinery near Tokoyama – resulting in valuable training.

The rundown then began in earnest; most of the RAF contingent had been withdrawn by 31 March, leaving just the support aircraft of 1315 Flight and the BC Air Comms Squadron. To compensate, the number of surveillance patrols flown by the RAAF and RNZAF units increased and continued for a few more months. All units were placed on alert in April, due to the Berlin Crisis and fears over Russian intentions in the Far East, but they were later stood down. No 14 Sqn ceased operations in August and returned to New Zealand but not before participating in a final swansong. On 1 August, during an inspection of No 77 Sqn by the RAAF CAS, Air Mshl George Jones, six Kiwi Corsairs swept across the airfield, pursued by nine Mustangs which had previously been scrambled. This 'spectacular' was part of Exercise PLATYPUS, which ran through July and August with the No 81 Wing's Mustangs mainly being employed escorting the A-26 Invaders if the USAF 38th Bomb Group.

As BC Air continued to contract, a new formation, the RAAF Component, was formed on 15 September and on 10 October, the nineteen surviving RNZAF Corsairs were assembled in a large pile at Bofu and burnt. On 29 October, No 76 and 82 Sqns disbanded, leaving just No 77 Sqn as the sole remaining operational element. On 1 November, BC Air Order No 35 announced the disbandment and withdrawal of all remaining units, except No 77 Sqn. Although HQ BC Air itself had virtually ceased to exist on 15 November, it was not

The rear guard – the Mustangs of No 77 Sqn RAAF, still at Iwakuni in 1950. (AWM JK1027)

formally disbanded until 4 March 1949. No 77 Sqn soldiered on alone until 1950 and it too was about to be withdrawn when the Korean War broke out. The Australians were promptly made available to support UN operations, flying their first missions on 2 July.

Few people have heard of the BCOF, or its air component, BC Air, but many thousands of Commonwealth servicemen served in Japan in the immediate post-war period, and some 150 of them lost their lives. Better late than never, in 1995 the New Zealand Government instituted the New Zealand Service Medal 1946-49 to recognise the service rendered by its veterans in Japan and this gesture was followed two years later by the Australians adding a 'Japan' clasp to the Australian Service Medal 1945-75. There was no campaign medal for British participants but there is a memorial to BC Air in the form of a stained glass window in the station church, the Church of the Holy Spirit, at RAF Coningsby.

FLYING FOR KING AND COUNTRY? BRITISH UNIVERSITIES AND THE RAF DURING THE INTER-WAR PERIOD

A lightly edited version of a lecture delivered at the RAeS on 31 October 2019

by Clive Richards

On 9 February 1933 the Oxford Union Society met to consider the motion, 'that this House will in no circumstances fight for its King and country.'[1] One of the five principal speakers in the debate that took place on 9 February was Cyril Joad.[2] Later described by *The Times* obituarist as a, 'Civil servant, author, university teacher, controversialist, and entertainer', Joad was then a Reader in Philosophy at Birkbeck College, which had been become a School of the University of London in 1920.[3] According to an account in the *Oxford Magazine*, Joad,

> 'made a magnificent speech and so caused the motion to be carried by an overwhelming majority in a very large house. He put the motion in what, in his view, were realistic terms and then did indeed carry the arguments for pacifism to their logical conclusion, by saying that in the event of actual war an unarmed England or at most, a policy of passive resistance should be adopted.'[4]

Speaking at a Universities Congress, held at Cambridge by the National Union of Students in April 1933, Joad was forthright in his defence of the motion passed by the Oxford Union two months earlier, and by those who supported it. *The Times* reported his assertion that, 'The next war would destroy civilization and deal out death in its most horrible form. Then those who loved their country would above all things keep it out of war.' The only way in which, 'this contingency', could, 'be averted', Joad stated, was, 'by adopting new methods. The most important is individual refusal to fight in any war. Those who voted for the Oxford resolution have been abused. They showed in fact simple common sense.'[5]

The 'King and Country' debate has come to symbolise the view that anti-war and anti-military sentiments were abroad in British higher education during the inter-war period. According to one recent account

of opposition within Britain during the 1930s and 1940s to this country's participation in any international conflict, 'there is no doubt that the Oxford Union debate did articulate an impression of the cream of Britain's youth as challenging traditional notions of patriotism and nationality.'[6] Nor was this apparent anti-militarism limited to the student body. 'In June 1934', Budiansky noted in his account of the pre-war and wartime contribution of Nobel Prize-winning physicist Professor Patrick Blackett, '40 per cent of the physicists at the Cavendish Laboratory signed a letter circulated by the Cambridge Scientists' Anti-War Group protesting at the use of scientific research for military purposes.'[7]

Yet it is clear that this apparent hostility to the military did not deter the Royal Air Force from engaging with Britain's universities throughout the inter-war period. Indeed, eight years before the 'King and Country' debate it had gone so far as to as to form two new air units at Oxford and Cambridge – the first University Air Squadrons (UAS). Moreover, less than two years after Joad's comments at Cambridge a third such squadron would be established, affiliated to his own university.

The aim of this paper is to shed some light on two questions. First, why did the Royal Air Force and the Air Ministry seek to establish and maintain connections with Britain's university sector, despite the latter's apparent rejection of the military in the aftermath of the First World War? Secondly, in what manner, and to what extent, and in what ways, were they obliged to tailor their approaches to the university sector in order to meet the demands of the various constituencies whose support they required? The answers to these questions, are embedded in three of the contemporary RAF's key objectives: the furtherance of aviation research; the need to develop a cadre of specialist officers; and the fostering of 'airmindedness'.

Research

Turning to the first of these, it is clear that the Royal Air Force's initial interest in the British University sector was stimulated in part by the pressing need to foster aviation research in the immediate aftermath of the First World War. In his 1919 memorandum, *An Outline of the Scheme for the Permanent Organisation of the Royal Air Force* Trenchard described, 'the provision to be made for research (*as a*)

matter of supreme importance.

> ‘Steady and uninterrupted progress in research is vital to the efficiency of the Air Force, and to the development of aviation generally, and on it depends both the elimination of accidents and the retention of the leading position we have established at such heavy cost during the war.’[8]

Trenchard’s focus in his memorandum was on safeguarding and nurturing the official research organisations that had evolved over the previous decade – the Royal Aircraft Establishment (RAE) at Farnborough, the Air Defence Experimental Station and the Instrument Design Establishment at Biggin Hill, the Aeroplane Experimental Station at Martlesham Heath and Orfordness, the Marine Aircraft Experimental Station at Grain and the airship research facilities at Cardington and Howden.[9] During the course of the war these bodies and their predecessors had drawn upon the talents of a considerable number of academics who had been co-opted into the Royal Flying Corps, the Royal Naval Air Service and latterly the Royal Air Force, such as Gordon Dobson, Robert Bourdillon, Henry Tizard, Idwel Griffith, Robert Lattey and Humphrey Raikes from Oxford and Keith Lucas and Bertram Hopkinson from Cambridge.

Due to the exigencies of war, these establishments had tended to prioritise development and application over research. Yet, even as the war was underway, thoughts in some quarters were turning to the way in which aeronautical research might be furthered in Britain’s universities in time of peace. In July 1918, Hopkinson – a Professor of Applied Mechanics and Professorial Fellow at King’s College, Cambridge, then serving in the Air Ministry as Deputy Controller, Technical Ministry with the rank of colonel – submitted a memorandum advocating, ‘that it should be part of the policy of the Air Ministry to encourage the development of Cambridge after the war as the national centre of aeronautical teaching and research.’[10] Although a copy of his memorandum made it as far as the then Secretary of State for the Royal Air Force, Lord Weir, Hopkinson was killed in a flying accident in the following month. Subsequently his proposals, ‘remained in abeyance owing, probably, to the fact that the war was then still going on, and, also, possibly, to the inability of the University at that time to make any definite proposal for the consideration of the Government.’[11]

Cambridge was not the only potential locus for future aeronautical research. Prior to carrying out advanced studies at Gonville and Caius College, Cambridge, Harry Wimperis had graduated from the Royal College of Science.[12] The latter had been incorporated in the Royal Charter of the Imperial College of Science and Technology in 1907, and in 1915 the, by then Lt, Wimperis, RNVR, approached the Director of the Physical Laboratory at his *alma mater*, Prof H L Callandar, with the request that his laboratory and its associated workshop be placed at the disposal of the Admiralty. Although focused initially upon questions surrounding aircraft armament, wireless investigations soon followed. A separate engine section was established in July 1917, and in February 1918 these facilities were brought together as the Air Ministry Laboratory, under the command of, the by then Major, Wimperis. 'Much the greater part of the apparatus used for bomb-sighting and dead reckoning navigation now in use in the RAF was originated at the Laboratory', Wimperis noted in his report for the year ended September 1918. It had also, 'become the chief centre in this country for the design of W/T valves for the RAF, WO and Admiralty', and with the creation of the engine section, 'arrangements have been able to be made for types of research to be carried on for which equal facilities do not exist elsewhere.'[13]

Imperial's links with the Air Ministry were further strengthened by an intervention from an unlikely source. According to an obituary that appeared in *The Times* in November 1936, Sir Basil Zarahoff was a, 'financier, banker, and industrialist, with wide international interests'; a recent account of his life paints a rather more colourful picture, describing Zarahoff as, 'a brothel tout, bigamist and arsonist, a benefactor of great universities and an intimate of royalty who reached his peak of infamy as an international arms dealer – a 'merchant of death,' as his many enemies preferred it.'[14] In 1917 Zarahoff donated £25,000 to establish a new 'Zarahoff Chair of Aviation' at Imperial. The first person nominated to occupy the new chair was to be Bertram Hopkinson. In the wake of Hopkinson's death, the establishment of the chair and nomination of a successor became bogged down in disputes between Imperial College and the University of London as to the proper location of the chair, and the subsequent wider debate between the Air Ministry, the Department of Scientific and Industrial Research (DSIR) and the university sector with regard to the path that aeronautical

research and education in the UK should take in the aftermath of the First World War. It was not until 1920 that the former Director of the National Physical Laboratory and Chair of the Advisory Committee for Aeronautics, Sir Richard Glazebrook, was installed as the first University of London Zarahoff Professor and Imperial College's Director of Aviation.

The inter-war years would see aeronautical research departments blossom at both Imperial College and the University of Cambridge with the support of the Air Ministry and the DSIR. At Imperial, although the noise from the engine testing facility proved so loud that its use was discontinued, the Air Ministry nevertheless continued to maintain its South Kensington laboratory until 1931, when the facility was transferred to Farnborough.[15] Harry Wimperis continued to lead work at the laboratory until 1924, when he left to become the Air Ministry's first Director of Scientific Research.[16] The Air Ministry also supported meteorological research at Imperial, having taken over the Meteorological Office in 1919.[17] In July 1920 the Air Ministry affirmed to the Treasury their support for, 'close co-operation between the College and the Office and offered to assist, 'in every possible way the advancement of a science so closely connected with the interests of aviation'.'[18] Two months later the former Director of the Meteorological Office, Sir Napier Shaw, joined Glazebrook's Department of Aeronautics as part-time Professor of Meteorology, thereby becoming 'the first holder of a chair in meteorology in the UK.'[19]

The Ministry also provided tangible support to Cambridge. On 26 September 1919 the Director of Engineering Studies at Emmanuel College, Bennett Melvill Jones, became the first Francis Mond Professor of Aeronautical Engineering. Subsequently, in April 1920 a 'Special Flight' was added to No 2 FTS at Duxford, 'to carry out work for the Professor of Aeronautical Science. Cambridge University.'[20] Some other institutions would appear to have looked askance at such largesse. 'I have seen correspondence on the Renfrew Aerodrome; you have asked why Glasgow University should not have the same facilities as Cambridge', Trenchard observed to the Scottish Branch of the Royal Aeronautical Society on 14 November 1921. 'Well Cambridge came forward and offered a chair of Aeronautics, and I had to find aerodromes in suitable places where the buildings were good and where

it would be economical for us to remain; the two conditions coincided, and I was able to place the aerodrome in the vicinity of Cambridge for Service purposes. In the case of Glasgow it is not at present possible.'[21]

General oversight of British aeronautical research was provided by the Aeronautical Research Committee (ARC). This replaced the Advisory Committee for Aeronautics in 1920 and was chaired initially by Glazebrook. The purpose of the ARC, the Air Ministry notified the Royal Aeronautical Society on 6 March 1920, was, 'to assist (*the Air Council*) in carrying out their responsibilities in regard to research in aeronautics, and to devote itself generally to the advance of aeronautical science.'[22] Alongside representatives from the Air Ministry, the National Physical Laboratory, the Royal Aeronautical Society and the Society of British Aircraft Constructors sat representatives from academia, including: Glazebrook and Jones; Professor Leonard Bairstow, Professor of Aerodynamics at Imperial College; Professor William Dalby, Professor of Engineering, City and Guilds Engineering College, Imperial College; Henry Tizard, lecturer in natural science at Oriel College, Oxford; Geoffrey Taylor, lecturer in mathematics at Trinity College, Cambridge; and Professor Horace Lamb, Professor of Mathematics, University of Manchester.[23] In 1924 the Air Ministry's newly appointed Director of Scientific Research, Harry Wimperis, suggested changes to the remit and membership of the ARC that were implemented in the following year; 'trade' representatives were removed and its focus was limited to research rather than development. As a result, 'the ARC was purely advisory and purely scientific, and (…) its task was to advise the Air Ministry which shared with DSIR the responsibility for scientific advance in aeronautics.'[24]

The presence of academics from universities in addition to Imperial College and Cambridge on the ARC is indicative of the fact that inter-war aeronautical research was not limited to these two institutions. Interchanges between the universities and official government research establishments such as the RAE were common, and these contacts were eased further by the fact that many of the civilian scientists and researchers employed at the RAE and elsewhere had been trained at the institutions with which they were co-operating. Moreover, the Air Ministry sought to exploit the research conducted by Britain's universities in the round in order to push back the boundaries of aviation. The Air Ministry also drew on researchers from fields outside

aeronautics and their contributions were not limited to the science of flight. One notable example of this was the Committee for the Scientific Survey of Air Defence (CSSAD). This was established by the Air Ministry at Wimperis' recommendation in 1934, 'to consider how far recent advances in scientific and technical knowledge can be used to strengthen the present defence against hostile aircraft'. It was chaired by Tizard, then Rector of Imperial College and chair of the ARC, and included Wimperis and his principle assistant Albert 'Jimmy' Rowe, A V Hill, Professor of Psychology at University College, London, and Patrick Blackett, Professor of Physics at Birkbeck College, University of London. 'Within the CSSAD', according to Kirby, 'Wimperis and Rowe formed the main communications link to Air Ministry officials. Blackett and Hill added scientific weight combined with a knowledge of service procedures. As Chairman, Tizard contributed critical insights gained from his own military experience.'[25]

It is interesting to speculate why the Air Ministry was able to draw upon the work of so many prior to the outbreak of war in 1939, given the, previously noted, apparent hostility of many university researchers to the work being exploited by the military. The attraction of conducting investigations for the Air Ministry, in terms of the financial and practical support that the latter could furnish, have already been noted. The emphasis upon more 'blue sky' research that marked British universities, in contrast to the generally more applied activities at institutions such as RAE, would appear to have enabled at least some to disassociate their work from the direct development of weapons of war. Such a disassociation may well have been further aided by the fact that from 1919 the Air Ministry was responsible for both civil as well as military aviation; research conducted for or used by the Ministry was not, therefore, necessarily intended solely for military use. However, the upsurge in British civilian science's engagement with the RAF that took place from the mid-1930s also corresponded with the rise of fascism in Europe. The danger posed by fascism was reinforced when British scientists came face-to-face with an influx of their displaced German and Italian counterparts, fleeing persecution on the grounds of their religion, their political beliefs, or their refusal to work for the new regimes. The growing crisis in Europe would appear to have prompted many to have put aside their earlier concerns in the belief that aiding British rearmament in order to defend against aggression was the lessor

of two evils.

Officer education

The Air Ministry's support for aeronautical research was tied closely to the issue of officer education. Not all of those selected to participate in university courses studied aeronautics; the RAF also had a pressing need for officers with advanced language skills, both to serve as air attachés and in intelligence posts at home and overseas. 'An adequate intelligence organisation is an important factor in the general scheme of air control in those Eastern countries for whose defence the Royal Air Force is responsible', an Air Ministry Weekly Order (AMWO) stated in 1930, 'and it is necessary to maintain a constant flow of officers with a knowledge of Middle Eastern languages and experience in intelligence work in order to meet staff requirements in time of war.'[26] Although the majority of the RAF's 'Special Service Officers' were trained *in situ*, a selected few studied Arabic, Turkish, Persian and Japanese at the School of Oriental and African Studies, while others took Russian courses at King's College London.

It would appear to be the case, however, that the lion's share of officers sent to university were not linguists, but rather did so in order to further their specialist technical knowledge. From the outset, the pattern of inter-war regular officer recruitment and training in the RAF was driven by two tenets. The first of these is that RAF officers were first and foremost aviators; the vast majority were commissioned into the General Duties Branch and were expected to learn to fly at the commencement of their career. Although the pressures of expansion and the introduction of increasingly advanced aircraft led the Air Ministry to make limited provision for the commissioning of specialist NCOs during the 1930s, a Technical Branch into which non-flying regular and reserve officers with engineering qualifications could be commissioned was only established in 1940.[27] The second, somewhat conversely, was that the RAF required officers to supplement their prowess as aviators by acquiring the specialist skills and knowledge a technological service needed; they could not expect to spend their careers being employed solely as 'drivers, airframe'. In his 1919 *Memorandum*, Trenchard stated that,

> '. . . it is not sufficient to make the Air Force officer a chauffeur and nothing more.

> Technical experts are required for the development of the science of aeronautics, still in its infancy. Navigation, meteorology, photography and wireless are primary necessities if the Air Force is to be more than a means of conveyance, and the first two are requisite for safety, even on the chauffeur basis.'[28]

In order to establish the cadre of officers with specialist technical knowledge that the Service would require, Trenchard envisaged that those awarded permanent commissions would go on to receive further training in their chosen field later in their careers:

> 'After 5 years' service, officers will be required to select the particular technical subject they will make their special study during their subsequent career, *e.g.*, navigation, engines, wireless. Short and long courses will be provided in these subjects in order to cater both for the officer who wishes to continue primarily as a flying officer with a working knowledge of one of more technical subjects, and for those who wish to become really expert in a particular branch. Technical knowledge will, *inter alia*, qualify an officer for selection for high command.'[29]

Such training was to be reserved for those with permanent commissions. 'In view of their short service, it is not proposed', Trenchard noted, 'save in special cases, to send', officers holding short service commissions or seconded from the other Services, 'through the advanced technical courses.'[30] The practice of allowing suitable officers to further their aeronautical education at Cambridge and Imperial College had, in fact, already begun. Three officers – Fg Offs Charles John Sims and Nicholas Comper and Flt Lt Hugh Henry MacLeod Fraser – participated in a special Cambridge course, lasting for four terms between October 1919 and August 1920, before joining the Aeronautics Department at Imperial College in October 1920.[31] As in the case of research, the story of inter-war specialist training would go on to be dominated by these two institutions.

The first formal regulations providing for, 'a limited number of officers in the Royal Air Force (…) to attend university courses', would not appear to have been promulgated until May 1921. In part, these

were intended to enable, 'officers whose education was interfered with by the war an opportunity of completing their education'.[32] However, over and above these temporary provisions, the Air Ministry also put in place more permanent procedures, 'to enable officers to qualify themselves for technical duties such as engineering, wireless, navigation, research, &c. Officers who so qualify', the AMWO continued, 'will thereby become available for such duties, but it is not intended to retain officers permanently for technical employment. Normally, officers qualified for technical employment will be appointed to such duties for a limited period only, subsequently returning to ordinary flying duties.'[33] Four types of course were then on offer: a 'Special Course in Engineering subjects at Cambridge University'; 'Post-graduate Courses at the Imperial College of Science and Technology'; 'Courses in Aeronautical Research', again at Imperial; and 'Courses in Mathematics and kindred studies at any recognised University in the United Kingdom.' These course definitions were refined, and an additional option – a course in meteorology at Imperial – was added, in 1923.[34]

The system that evolved was subsequently detailed in the second edition of *King's Regulations and Air Council Instructions for the Royal Air Force*, first published in 1928. This reasserted the underlying principle that, 'Every officer granted a permanent commission in the general duties branch will in the first place be required to learn to fly, and to serve for a certain period as a pilot of a flying unit.' Officers were required to spend the first four years of service, 'training as an efficient pilot', and during this period they were permitted only to attend courses, 'in subjects directly connected with flying', at specialist RAF schools. 'After completing four years' service, or on being retained for further service under Air Ministry authority after being found permanently unfit for full flying training as a pilot (*however*) an officer may be selected to undergo a long course of instruction and/or a university course with a view to specialising in a technical subject.' This did not mean that RAF officers who had undertaken such courses were then necessarily pigeonholed by their specialisation; 'Service as a specialist officer will not be continuous, and, provided they are fit for flying, officers whilst so employed will be expected to keep themselves in flying practice, in order that they may be thoroughly efficient when they return to general duties.'[35]

However, by the end of the 1920s the system of university training for RAF officers had been somewhat pared down from that described earlier in the decade. Specialist training was considered by, 'An Inquiry into the Requirements in Officers of the Royal Air Force', the first part of which was released in the form of a Confidential Document in September 1928. This indicated that university training was reserved for those specialising in engineering and signals duties. Officers who had completed successfully the, 'long Air Force course in signals', thereby earning the prefix 'S' in the Air Force List, were eligible for selection for, 'the two-year Cambridge course in signals', after which they were designated 'S*'. Completion of the two-year course in engineering at the RAF School of Engineering, Henlow earned the prefix 'E'; and officers so qualified could then apply to attend, 'the two-year Cambridge course in engineering', thereby earning the symbol 'E*'. Those who went on to undertake a further 'one year's post graduate study in engineering after qualifying as E*' were denoted by the symbol 'E**' – although the latter was not then, 'in ordinary official use.'[36]

Additional guidance as to the precise nature of these courses was provided by an AMWO promulgated in September 1929. Up to six officers a year could be sent to Cambridge for the E* course:

> 'They ordinarily enter for the Long Vacation term prior to the commencement of their first academic year at Cambridge; take the qualifying examination for the Mechanical Sciences Tripos in their first full term, and thereafter attend such courses or lectures for the Tripos as may be decided by the Supervisor of Studies in consultation with the Air Ministry.'[37]

In the case of those specialising in signals, on completing the 'S' course a maximum of two candidates could go forward to do a two-year specialist signals (that is, electrical engineering) course at Cambridge. Occasionally, rather than go to Cambridge, students could instead be sent for one year to *l'École Supérieure d'Électricité* (or *Supélec*) in Paris.[38] On completing the E* course, one or two officers a year could be selected to go on to do a further year of postgraduate work, normally at Imperial College but occasionally at Cambridge. 'Where research work is undertaken', the AMWO ruled, 'the subject of the research will be approved by the Air Council on the recommendation of the Director

of the Department of Aeronautical Engineering, Imperial College of Science and Technology, or, if at Cambridge, of the Supervisor of Studies.' Thus, in 1930, three officers were awarded the symbol E* and two S* after completing Cambridge courses, and two from the former were duly selected to continue their postgraduate studies at Imperial.[39]

After considerable debate, in 1935 the pattern of advanced engineering and signals training changed again. A maximum of two students a year could now attend the S* course, which was to be of twelve months' duration and conducted at the RAE, rather than at an external university, while the E* course became a single year at Imperial, with entry limited to three a year.[40] The E** symbol was officially discarded. In part, these changes would appear to have reflected an increase in the pre-entry standards required for an officer to become eligible for advanced training The demands of the new E* qualification were outlined in a letter dated 17 April 1935 from the Air Ministry's W M Page to Professor Leonard Bairstow, who had succeeded Glazebrook as Professor of Aerodynamics and Zaharoff Professor of Aviation in 1923. It was now intended that, 'officers for the Higher Technical posts (…) would normally be selected from those who enter the Royal Air Force with an Honours Degree in Engineering, proceed to Henlow for an 18 months', course there and then go to Imperial College for the Year's Post Graduate Course in Aeronautical Engineering.'[41]

Thus, after 1935 only officers who had already graduated from university were eligible for postgraduate training and all such training was to be undertaken at Imperial College. Nevertheless, one or both of these requirements could be waived for deserving candidates. One exceptional case was that of jet engine pioneer, Frank Whittle. After passing, 'the Officer's Engineering Course with distinction', Whittle, 'wrote formally asking for special consideration and, in view of his excellent results in the engineering course, the Air Ministry, exceptionally, revived the scheme for him.' On gaining First Class Honours in June 1936 the Air Ministry further sanctioned Whittle spending an additional postgraduate year at Cambridge, working with Melvill Jones.[42]

Those officers selected for courses at Imperial, Cambridge or *Supélec* formed, to a degree, a technical elite within the RAF's officer corps. They were certainly few in number; of the 5,305 regular officers

Rank	No of officers	E*		S*		Total E* and S*	
		No	%	No	%	No	%
Air Officers	71	0	0	0	0	0	0
Gp Capt	144	8	5.5	0	0	8	5.5
Wg Cdr	340	24	7	5	1.4	31	8.5
Sqn Ldr	938	35	3.7	17	1.8	52	5.5
Flt Lt & below	3,812	0	0	0	0	0	0
Total	5,305	67	1.2	22	0.4	89	1.7

Fig 1. *RAF regular officers with E* and S* qualifications as at December 1938. Source:* The Air Force List, *January 1939*

serving in the RAF in December 1938, for example, only 67 had been granted the E* and 22 the S* prefix – see Figure 1.

All were ranked between group captain and squadron leader, and most had been employed for at least part of their career after qualifying in RAF educational establishments such as the School of Engineering, or research establishments such as the RAE, the Aircraft and Armament Experimental Establishment or the Marine Aircraft Experimental Establishment. However, their specialist status did not preclude them continuing to serve in flying and command roles. Several were Staff College graduates, and two – Gp Capts John Andrews and Hugh Fraser – had also attended the Imperial Defence College; they and a number of their colleagues would subsequently go on to achieve air rank.

'Airmindedness' and the University Air Squadrons

While the majority of officers were awarded the symbols E* and S* to mark their successful completion of university courses, regulations in place for at least part of the inter-war period also permitted – 'at the discretion of the Air Council' – the reverse; that is, the granting of these symbols to RAF officers who had gained appropriate university degrees *before* being commissioned, and had then subsequently completed the RAF's own engineering or signals courses. Indeed, as already noted, by 1935 possession of an honours degree in engineering had become a prerequisite for advanced specialist training. Stimulating graduate recruitment formed one element of the last of the three RAF objectives examined in this paper – the promotion of 'airmindedness' in Britain's

universities.

The need to attract graduates to the possibility of serving in the RAF went beyond the need for specialists. The Air Staff recognised, from the outset, that they would need to look to the universities to help furnish the number of officers that the peacetime RAF would require. While it was intended that in time the majority of regular officers would be graduates of a future RAF College, Trenchard nevertheless recognised in his 1919 *Memorandum* that they would need to be supplemented by university graduates and those commissioned from the ranks. The first provisional regulations governing the nomination by universities of candidates for permanent commissions were promulgated in December 1920.[43] The RAF's officer requirements were further complicated due to the need to recruit officers for flying duties. Flying combat aircraft was identified as being primarily an activity for the relatively young, and the RAF would therefore require a disproportional number of junior officers for aircrew duties. Moreover, a much smaller peacetime RAF meant that it would provide fewer opportunities for permanent officers to advance up the chain of command. 'Owing to the necessity of a large number of officers in the junior ranks, and to the comparative paucity of higher appointments', Trenchard wrote, 'it is not possible to offer a career to all. Consequently some 50 per cent of the officers have been granted permanent commissions, the remainder being obtained on short service commissions or by the seconding of officers from the Army or Navy.'[44] Again, university graduates were seen to offer excellent potential for commissioning.

One possible way of interesting university students in a Service career was by creating the RAF equivalent of the Officer Training Corps. At first, Trenchard would appear to have been suspicious of such units, fearing that they might be exploited by former wartime aviators, now at university, merely as a means of continuing to be able to fly. 'I understand that some of you have asked in other places for an officers training corps, in which officers can fly', he told his audience in Glasgow in 1921.

> 'Now what that really means is joy-riding at the Government's expense, and unless it is really necessary from a Service point of view I will not recommend that we should pay the money for you

> to get it. It is asked for really by the ex-pilots who want to fly. I sympathise with them and admire them for wanting to go on flying, but as we do not expect a war I do not know that it would be much of an advantage. What I have to think of is how the coming generation is going to be taught to fly, which is much harder and more expensive. I admit that to let the ex-pilots fly would be comparatively cheaper, but in these days when, as we thoroughly recognise, economy is so necessary, it would be false economy to keep in practice a number of pilots who will be too old in ten or fifteen years' time.'[45]

The Air Ministry's initial attempts to attract applicants for permanent commissions met with meagre success, with only twenty-three being commissioned prior to 1 April 1926. Concern that this lack of interest was due to the fact that the RAF did not command a high enough profile amongst its target audience would appear to have overridden Trenchard's initial concerns, and by 1923 work was in hand to establish university units of some form. The task of developing a viable scheme fell to the Directorate of Organisation and Staff Duties, and in particular Sqn Ldr Trafford Leigh-Mallory, then SD3. In drawing up his proposals, Leigh-Mallory drew heavily upon the existing pattern of Army Junior Division and Senior Division Officer Training Corps (OTC), with 'Air Platoons' being attached to selected school OTCs and 'university Squadrons' at Oxford and Cambridge. In a letter to the Vice-Chancellor of Oxford University dated 6 September 1924, Leigh Mallory described, 'The object of this scheme (*as being*) to disseminate information concerning the nature of the work which is done by the RAF, its organization and responsibility, amongst members of the Universities. As a result of this it is hoped to stimulate interest in the RAF, to obtain a steady flow of candidates for commissions from the Universities, and to help build a suitable reserve of pilots.'[46]

However, a change in government – and a resulting change in the Air Ministry's political leadership – led in turn to a marked change of approach. In November 1924 Sir Samuel Hoare replaced Lord Thomson as Secretary of State for Air, with the MP for Cambridge University, Sir Geoffrey Butler, becoming his Parliamentary Private Secretary. Butler had already espoused a different view of the purpose and value of future university units than that advanced by Leigh-

Mallory. In the Second Reading of the Auxiliary Air Force and Air Force Reserve Bill on 21 May 1924, he had suggested that Britain's universities could play a valuable role in popularising Auxiliary Air Force membership. Butler used the debate,

> 'to put in a plea for the universities as centres in which you may be able to plant the beginnings of an air sprit and inaugurate a work which will inevitably spread throughout the country. You have there a constant flow through of men who will take up work – engineering work very often – in all parts of the country, and in connection with more than one of the bigger universities you have, of course, aerodromes close at hand. I do not pretend at this moment to suggest how the touch between the Auxiliary Air Force and the university centres can best be inaugurated or maintained, and I understand it is already to some extent engaging the attention of the Air Ministry.'[47]

In January 1925 Butler submitted a minute to Hoare and Trenchard on the subject of the proposed university air units. In keeping with his comments in the House of Commons the year before, he advised that the Air Ministry should,

> 'keep entirely clear of the OTC methods. They are out of date and not suitable for a new chapter in a plan for the new world. By all means call the university units squadrons, but make them from the first non-military. In this way you will forestall university criticism and opposition, and you will make them live centres for instructing young men in aviation matters, their potential value to the Air Force will be just as great as if they were military units, and last but not least you will have the additional advantage of the general support of the University authorities.'[48]

Hoare and Trenchard seized upon Butler's suggestions enthusiastically and the existing plans to establish school and university OTCs inspired by the existing Army model were discarded. Following negotiations with the university authorities, the first two UASs, at Cambridge and Oxford, came into being in October 1925; they were eventually joined in 1935 by a third such unit at the University of London. In accordance with Butler's advice, they were strictly non-

Bristol Fighters, of Cambridge UAS, F4542 above, and, Oxford UAS, J8250, (MAP)

military in nature. Although a serving or reserve officer was appointed to lead the squadrons, they eschewed the title 'Commanding Officer' in favour of that of 'Chief Instructor'. The first edition of the *Regulations for University Air Squadrons*, issued in August 1930, asserted unequivocally that they,

> 'do not form part of any air force, either regular or non-regular, and are intended to be civilian in character. Members as such have no obligations of a service nature, and are not subject to the Air Force Act or to the provisions of King's Regulations and Air Council Instructions. The main requirement of membership is the performance of such flying training and courses as may be prescribed from time to time, including a period of training

Notwithstanding the non-military nature of the inter-war UASs, these members of the Oxford squadron found time to indulge in some camera gun work while at their annual camp at Manston as early as 1928.

annually at a Royal Air Force station and the payment of an annual subscription.'[49]

The non-Service status of the UASs would be challenged on a number of occasions. In 1933 the Under-Secretary of State for Air, Sir Philip Sassoon, raised with the Director of Organisation and Staff Duties his concern that although, 'these formations are designated "Air Squadron", they bear no resemblance to any Air Force unit, and in character are virtually little more than civil flying clubs.' He believed that the titles of 'Chief Instructor' and 'Instructor' undermined the authority of the squadrons' commanding officers and adjutants, and questioned whether the RAF's provision of aircraft, facilities and personnel to the UASs garnered the recognition that it merited.[50] During negotiations with the University of London in 1935, senior university officers expressed their desire to make their new unit, 'into a service unit something on the lines of a cadet squadron, and see great advantages in the Members wearing uniform and being taught to behave like men in the Service.'[51] The formation of the Royal Air Force Volunteer Reserve in 1936 raised the question of whether the establishment of RAFVR Town Centres at Oxford and Cambridge

A Tutor, K4820, of Oxford UAS. (RAF Museum)

might undermine the UASs, and as tensions in Europe increased, there are indications that at least some of the undergraduates themselves advocated that their squadrons be placed on more of a Service footing.

Despite all of these challenges, the UASs maintained their distinctive non-military status until the outbreak of war.[52] Their persistence raises a number of questions. What were they for? Why did the RAF go to so much trouble and expense, at a time of financial stringency, to form and maintain them? Their purpose, Hoare reaffirmed in his memorandum to accompany the 1926 Air Estimates, was threefold: 'to influence the flow of candidates for commissions in the RAF, the Air Force Reserve and the Auxiliary Air Force, to stimulate interest in air matters generally at the Universities, and to promote and maintain a liaison with the Universities in technical and research problems affecting aviation.' With regard to the last of these objectives, it was certainly the case that Cambridge UAS subsumed the role of the Special Flight that had been established at Duxford to aid the university's aeronautical research, while the University of London Air Squadron would later fulfil a similar role. However, it is rather more difficult to apply such a justification to Oxford. Although a number of early aeronautical investigators were Oxford academics, during the

inter-war period the university could not boast the same level of aviation research activity as its counterparts.

It can also be argued that the UASs increased the number of graduates who subsequently joined the RAF or its reserve. In June 1938, *Flight* carried an account of the eleventh Oxford UAS annual dinner, which had taken place in the previous month. 'The Squadron had been founded as a non-military body', the senior member of the squadron noted during his speech, 'for the purpose of promoting co-operation between the University and the RAF. And in this it had been remarkably successful. As a proof of this success, he pointed to the fact that, of 189 past members whose activities were known, 161 had joined the RAF, or some form of the Reserve.'[53] However, the degree to which such a return justified the expenditure involved in equipping and maintaining the squadron is open to question. Moreover, it is clear that at least some of those who did go on to have illustrious RAF careers chose not to join the UAS, favouring instead other university activities; Sir Charles Elworthy, for example, elected to row rather than fly.[54]

So why did the Air Ministry champion their continued existence? It is contended that the primary driver behind the Air Ministry's position was the second objective stated by Hoare – 'to stimulate interest in air matters generally at the Universities'. This is tied in with the notion of 'airmindedness'. This term, which gained currency from the late 1920s onwards, went beyond the notion of flying as a novelty to suggest that its development was of potential value to the nation. In an account of the ninth Royal Air Force Display, held at Hendon in 1928, *Flight* correspondent Frederick de Vere Robertson acknowledged that

> 'the populace should go to Hendon, to the Tournament at Olympia, and to the Tattoo at Aldershot, in much the same spirit as they go to a circus. They want to be amused and delighted by seeing wonderful feats. We must accept that spirit as inevitable in most of the spectators. But the Display would fail of much of its purpose if serious-minded citizens gleaned nothing more from it than amusement. There is ample evidence of rapidly spreading airmindedness in the nation, for which we have to thank mainly the fine enterprise of the Air Ministry in fostering light aeroplane clubs and University squadrons.'[55]

As Roberston suggests, the UASs provided a means by which the

Air Ministry could reach out to future policy makers, innovators and communicators in order to imbue them with just such a sense of 'airmindedness'. Their non-military nature gave them the potential to instil, in a constituency that would not have been attracted to peacetime military flying, an understanding of the inherent value of aviation. In part, this reflected the Air Ministry's general responsibility to oversee and support the general development of aviation – civil as well as military – within the UK and across the wider Empire. However, it also had a specific organisational imperative. Particularly during the pre-expansion period, when government budgets were stretched and spending on the armed forces under constant scrutiny, each Service was engaged in an unrelenting battle to secure its position in the defence hierarchy. For the RAF, this went beyond merely securing adequate funding to securing its very existence as an organisation. In this context, the UASs were one part of, what Sophy Gardner has characterised recently as a, 'plan for influence'. This plan, 'was about entrenching the junior service within the establishment and creating a sense of 'air' amongst the British people. This was not primarily about doctrine or arguments about the utility of air power, but about status and influence.'[56]

Conclusion

In conclusion, therefore, it is contended that the RAF and Air Ministry interacted with the university sector during the inter-war period across three inter-related fields. Two were practical in nature. First, the Air Ministry recognised that, although its own experimental establishments were adept at the exploitation of aeronautical advances, they were less well suited to pursue 'blue sky' research. Sponsoring, aiding and exploiting research activities in leading university aeronautical departments was one way in which the RAF could seek to maintain its position as one of the world's pre-eminent air forces at a time of increasing technological change. Secondly, the RAF could utilise the educational functions of these same aeronautical departments to develop a cadre of specialist officers who were equipped to understand and exploit the latest technologies – and were, by the same token, able to work alongside their civilian colleagues in pushing forward the boundaries of aviation research.

The third driver behind the RAF's engagement with the university

Flying with a UAS was not without its hazards. This Tutor, K6108, of Cambridge UAS crashed near Abingdon in July 1937.

sector was arguably more ephemeral, yet more significant to the politicians and senior officers at the head of the inter-war Air Ministry and RAF. While the Air Ministry advanced a number of practical reasons to justify, to the Treasury in particular, the establishment of UASs, however, the essential motivation behind their creation actually owed less to their contribution to recruitment or aeronautical research than to the perceived need to foster 'airmindedness'. Significance was attached to establishing the UASs on a non-military basis insofar as it enhanced their ability to draw in and influence members who would not necessarily be drawn to military service, but who could subsequently go on to influence aviation policy as members of the legislature, the Civil Service, or in business. It also fulfilled an important organisational imperative by implanting the RAF as the deliverer of air power at a time when the continued existence of the Service was regularly subjected to scrutiny.

Finally, what of the title of this paper? Were members of the inter-war UASs 'flying for King and country?' Strictly speaking, the explicitly civilian status of these organisations, together with the absence of any requirement to serve in the RAF after graduation, meant that they were not. Nevertheless, proponents of air power argued that imbuing a sense of 'airmindedness' in the British population – and, in

particular, British youth – was essential for ensuring the security and prosperity of the nation. Thus, all aviation activities in Britain could be seen, in a sense, as 'flying for King and country'. From a broader perspective, it is contended that the myriad ways in which the RAF engaged with Britain's universities did much to advance British military and civil aviation between the wars.

Notes:

1 Pearce, Edward ed; *The Golden Talking-Shop: The Oxford Union Debates Empire, World War, Revolution, and Women*, (Oxford University Press, 2018) pp371-2 and 273-4.

2 'Oxford Union Debate', *The Times*, 11 February 1933, p8.

3 'Dr C E M Joad; The Philosopher in the Hearth', *The Times*, 10 April 1953, p8; Thompson, F M L ed; 'The Humanities' in *The University of London and the World of Learning, 1836-1986* (The Hambledon Press; 1990) p71 and 'The University of London; An Outline Chronology', *ibid*, pxxv.

4 Quoted in Pearce, *The Golden Talking-Shop: The Oxford Union Debates Empire, World War, Revolution, and Women*, pp389-90.

5 'Students' Attitude to War: Mr Joad on Individual Refusal to Fight', *The Times*, 6 April 1933, p9.

6 Broom, John: *Opposition to the Second World War: Conscience, Resistance and Service in Britain, 1933-45* (Pen & Sword, 2018), pxii.

7 Budiansky, Stephen; *Blackett's War* (Vintage; 2013) p66.

8 Cmd 467; *Permanent Organization of the Royal Air Force: Note by the Secretary of State for Air on a Scheme Outlined by the Chief of the Air Staff* (HMSO; 1919) (henceforth 'Cmd 467 1919 Memorandum') para 11, p7.

9 *Ibid*.

10 TNA AIR 2/100 A 12449.

11 TNA AIR 2/100 A 12449. The title of the Secretary of State responsible for the Air Ministry was initially 'Secretary of State for the Air Force'. This was changed to 'Secretary of State for the Royal Air Force' in March 1918; to 'Secretary of State for War and the Royal Air Force' in January 1919; to 'Secretary of State for War and Air' in March 1919; and finally to 'Secretary of State for Air' in April 1921.

12 Venn, John; *Bibliographical History of Gonville and Caius College 1349-1897: Vol II, 1713-1897* (Cambridge University Press; 1898) p555.

13 TNA MUN 8/33, first (unnumbered) enclosure.

14 'Sir Basil Zaharoff: An International Financier', *The* Times, 28 November 1936, 17; Dash, Mike: 'The Mysterious Mr Zedzed: The Wickedest Man in the World', *Smithsonian.com*, posted 16 February 2012; https://www.smithsonianmag.com/history/the-mysterious-mr-zedzed-the-wickedest-man-in-the-world-97435790/, accessed 23 October 2019.

15 Gay, Hannah; *The History of Imperial College 1907*-2007: *Higher Education and Research in Science, Technology and Medicine* (Imperial College Press; 2007) p82.

16 Hyde, Montgomery; *British Air Policy Between the Wars 1918-1939* (Heinemann;

1976) p220.

[17] Walker, Malcolm; *History of the Meteorological Office* (Cambridge University Press; 2012) p215.

[18] *Ibid*, 232.

[19] *Ibid* 232.

[20] TNA AIR 2/146 212652/20, Enc 5A.

[21] TNA AIR 1/718, p3-4. The text of Trenchard's speech was reprinted as 'Auxiliary Aids to the Air Force' in *Flight*, 17 November 1921, pp767-8.

[22] TNA AIR 2/2582, Enc 79A.

[23] TNA AIR 2/2582, Enc 104B.

[24] TNA DSIR 24/85, Official History narrative, p13.

[25] Kirby, Maurice W; *Operational Research in War and Peace: The British Experience from the 1930s to 1970* (Imperial College Press; 2003) p69. Initially, the CSSAD's members also included Frederick Lindemann (later, Lord Cherwell), the latter being appointed at the behest of Winston Churchill. However considerable friction arose between Lindemann and the other members of the Committee. 'The internal battles came to a head in the summer of 1936 when Lindemann announced his intention to stand for Parliament in a by-election at Oxford, the focus of his campaign being the lamentable state of the country's air defences. This provoked the resignation of Hill and Blackett from the CSSAD, followed by its dissolution in July 1936 by Lord Swinton, the Secretary of State for Air. When it was reconstituted in October, Hill and Blackett were reappointed but without Lindemann' (Kirby, pp74-5). 'The activity of this committee', according to Fedorchak, 'was an early example of the productive collaboration between scientists and military practitioners. The work of this committee later allowed Prof R V Jones to develop further scientific intelligence during the war.' Fedorchak, Viktoriya; *British Air Power: The Doctrinal Path to Jointery* (Bloomsbury Academic; 2019) p54

[26] AMWO 520/1930.

[27] James, John; *The Paladins*, (Macdonalds; 1990) p191-2; TNA AIR 41/65, Plans and Policy for Manning of RAF during Second World War, p123.

[28] Cmd 467 1919 Memorandum, para 5, p5.

[29] Cmd 467 1919 Memorandum, para 6, p5

[30] *Ibid*.

[31] TNA AIR 2/2582, Encs 112A and 118A. Nicholas Comper was assessed by the Director of Studies at Cambridge University as showing 'considerable leaning towards experimental work connected with Aerodynamical qualities in flight. Interested in cross-country flying, and the use of navigating instruments. Extremely hard worker with a special bent towards research.' According to Penrose, Comper was 'widely known for the light aircraft he designed and built when in the RAF at Cranwell' and on leaving the Service he 'founded the Comper Aircraft Co at Hooton to build a folding wing, wood-framed derivation of his ultra-light parasol CLA 3.' Although he would go on to design a number of attractive light aircraft, following the delivery of the forty-first and final Comper Swift in June 1934 'the company re-formed as Heston Aircraft Ltd and the Comper directors resigned.' Although 'Nick Comper's hope was to join an aircraft company in Australia', all his subsequent plans would come to nought. 'Bad luck had dogged him' and by 1939 'he had taken to drink. Near midnight on June 17

he had been in a brawl at Hythe and shouted 'I am an IRA man' as he threw a firework. Believing it was a bomb, a man rushed across and struck him on the jaw while a policeman put the firework out. Nick fell on the roadway and was knocked unconscious. Next day he died.' Penrose, Harald; *British Aviation: Widening Horizons, 1930-1934* (HMSO; 1979) pp26, 290; *British Aviation: Ominous Skies, 1935-1939* (HMSO; 1980), p274.

[32] AMWO 337/1921, 5 May 1921.

[33] *Ibid*.

[34] AMWO 634/1923, 18 October 1923.

[35] *KR&ACIs for the Royal Air Force*, 2nd Edition, 1928 Chapter IX, para 374, pp96-7.

[36] TNA AIR 10/1336 CD 52, 'An Enquiry into the Requirements in Officers of Royal Air Force: Part I', 1928, p7.

[37] AMWO 542/1929, 5 September 1929.

[38] One of those who attended *Supélec* during the interwar period was Air Vice-Marshal Edward Barker Addison, AOC No 100 Group, RAF Bomber Command, 1943-45. Falconer, Jonathan; *The Bomber Command Handbook 1939-1945* (Alan Sutton; 1998) p180. Another was Air Marshal Sir Raymund Hart. One of 'the best trained and most highly experienced signals officers in the RAF', Hart 'graduated at the top of his class.' In July 1936 the then Squadron Leader Hart 'was assigned to Bawdsey to set up a radar training centre' and he 'played a leading part in the introduction and operational development of radar before and during the early part of the Second World War.' Following a long and eventful Service career, Hart retired in January 1959 and was killed in a tragic accident in the following year. Zimmerman, David; *Britain's Shield: Radar and the Defeat of the Luftwaffe* (Sutton; 2001) p127; 'Obituary: Air Marshal Sir R Hart', *The Times*, 19 July 1960, p15.

[39] AMWO 544/1930, 28 August 1930. Officers awarded the symbol E* were Flight Lieutenants Arthur Francis Hutton (BA with 2nd class honours), Robert Owen Jones (BA with 3rd class honours) and Henry Iliffe Cozens (BA with 3rd class honours); while those awarded the symbol S* were Flight Lieutenants William Corbet Yale (BA (ordinary)) and Robert Cecil Wansborough (BA (ordinary)). Hutton and Jones were 'selected to attend the post-graduate course in aeronautical engineering at the Imperial College of Science and Technology, London University.'

[40] *KR&ACIs for the Royal Air Force*, 2nd Edition, 1935, Chapter IX, para 375A, pp112-13.

[41] TNA AIR 2/1507, Enc 38A.

[42] Nahum, Andrew; *Frank Whittle: The Invention of the Jet* (Icon Books; 2004) p22. Whittle was not the only RAF officer to study at Cambridge after 1935. Entries in *The Air Force List* indicate that officers attached to Cambridge UAS 'For Course "A" at Cambridge University' from 1936 onwards included Flt Lts Jasper George Cardale (attached 1 July 1936; posted to the Experimental Section, RAE, 28 August 1938 and promoted to Squadron Leader, 1 December 1938), Gwilyn Langharne Sloane Griffith-Jones (attached 7 July 1937; promoted to Squadron Leader, 1 April 1939), Frank Edmund Stokes (attached 30 September 1937; promoted to Squadron Leader, 1 December 1938) and Nigel Hope (attached 20 September 1938; promoted to Squadron Leader, 1 April 1939). On 9 September 1937 *Flight* reported that Griffith-Jones had 'been selected to attend the "S*" Course at Cambridge University' (p204). Both

Griffith-Jones and Hope would still appear to have been at Cambridge in August 1939.

[43] TNA AIR 2/934, Enc 93A.

[44] Cmd 467 1919 Memorandum, para 6, p5.

[45] TNA AIR 1/718, p3.

[46] TNA AIR 2/274 574711/25, Enc 2A.

[47] HC Deb, 21 May 1924, c2255-57.

[48] Templewood, Viscount; *Empire of the Air: The Advent of the Air Age, 1922-1929* (Collins; 1957) pp196-7.

[49] TNA AIR 10/1786, AP 1401, para 2, p3.

[50] TNA AIR 2/475, minute 3.

[51] TNA AIR 2/587, Enc 47.

[52] That said, the UASs did take on a slightly more military air in the run-up to war. By the late-1930s membership of a UAS was on the 'understanding' (which may have fallen short of a legal commitment) that a member would join the RAFVR if/when he gained his Certificate of Proficiency. However, in May 1939 the Military Training Act obliged all young men aged 20-21, including undergraduates, to register for military service. This involved a liability to be called-up for a six-month stint of full-time training. But a work-around was devised whereby any current UAS member who had qualified for his Certificate of Proficiency *prior to* 27 April, could be immediately commissioned into the RAFVR, the remainder being inducted as sergeants pending certification (and consequent commissioning) but, and most significantly, both groups were exempt the full-time training commitment. (See TNA AIR2/4031, Enc 8B). When the sums had been done, forty-four members of the Oxford UAS, thirty-six at Cambridge and, presumably, a similar number at London, had suddenly found themselves to be members of the RAFVR. In the event this concession proved to have been unnecessary as the full-time training arrangements had yet to be implemented when war was declared and within a matter of days all three UASs had been closed. **Ed**

[53] 'The OUAS Eleventh', *Flight*, 9 June 1938, p377.

[54] Probert, Air Commodore Henry; *High Commanders of the Royal Air Force* (HMSO; 1991) p60. Elworthy entered Trinity College Cambridge on 1 October 1929, to read Law. However, he 'did not shine academically, achieving third class honours in the qualifying exam and Parts I and II of the Tripos in 1930, 1931 and 1932 respectively. He graduated as a Bachelor of Arts in 1932, but did not find the time to take his Master of Arts degree, for which he became automatically eligible in 1935, until 1960. The reason for his lacklustre performance was that he had found another activity, one which he enjoyed enormously and to which he devoted almost all of his available time, doing the bare minimum of academic work required to keep his supervisors content'; namely, rowing. Mead, Richard; 'Sam': Marshal of the Royal Air Force the Lord Elworthy KG, GCB, CBE, DSO, LVO, DFC, AFC, MA, A Biography (Pen & Sword; 2018) pp18-19.

[55] Major F A de V Robertson, 'The Ninth Royal Air Force Display: Functions of Service Aircraft' in *Flight*, 28 June 1928, p484.

[56] Gardner, Sophy; 'The Prophet's Interpreter' in *Air Power Review* Vol 21, No 1, p55.

ULSTER'S FIRST SUPPORT HELICOPTERS – THE SYCAMORES OF Nos 275, 118 and 225 Sqns

by Guy Warner

Introduction

The late 1950s saw an upsurge of IRA bombing and shooting incidents along the border of Northern Ireland and the Irish Republic. This became known as the Border Campaign and it lasted from December 1956 until February 1962. In all there were about 600 incidents of violence which resulted in the deaths of six policemen and ten IRA volunteers. Internment was re-introduced in both Northern Ireland and the Irish Republic and it proved to be an effective tool. On 1 September 1959, after a spate of bombings, No 118 Sqn was reformed at short notice at Aldergrove from a detached flight of No 228 Sqn – a Search and Rescue (SAR) unit. However, it was not the first RAF rotary-wing unit to serve in the Province. That honour had already gone to F Flight of No 275 Squadron, which was equipped with the Bristol Sycamore.

The Helicopter

The Bristol 171 Sycamore was the first British-designed helicopter to enter service with the RAF. The first prototype, VL958, had made its maiden flight on 27 July 1947 but it was not until 1952 that a production model was delivered to RAF St Mawgan for SAR trials with Coastal Command. This followed Army co-operation trials with earlier versions at Middle Wallop the previous year. The Mks HR13 and 14 were improved variants optimised for SAR duties with a side-mounted winch; the first of these, XD196 and 197, were delivered to the initial RAF helicopter SAR unit, No 275 Sqn, at Linton-on-Ouse in April 1953. Some 85 HR 14s were built for RAF use, with another 80 or so for export, including 50 to the German Army. Total production was 178.

One of the initial batch, WV784, was the first Sycamore to visit Northern Ireland, in 1954, to carry out exercises with the Royal Navy at RNAS Eglinton and to pay a visit to Sydenham. By 1957 six flights, with a total strength of fifteen Sycamores, had been formed at Leuchars, Acklington, Leconfield, Chivenor, Coltishall and Aldergrove with others equipping flights or squadrons in North Africa, the Far East and

Middle East.

The Sycamore could carry two/three crew and three/two passengers or two stretchers; it was powered by an Alvis Leonides supercharged radial piston engine developing 550 hp (410 kw) giving a maximum speed of 132 mph (212 kph), a cruising speed of 105 mph (169 kph) and an endurance of around three hours. A unique feature was a centre of gravity (CG) compensating system. This enabled the pilot to adjust the aircraft's CG which, if allowed to go outside limits, could cause loss of control. As all passengers and internal freight were located forward of the main rotor, significant adjustments were required when, for example, delivering troops or cargo. As they deplaned, 60 lbs of de-icing fluid had to be pumped from a tank in the tail pylon to one under the cockpit floor. This process took 3½ minutes, which meant that a true 'tactical' delivery of troops (fast in, fast out) was not possible, although experienced pilots could get away with starting to transfer fluid forward on the approach, planning to land before the CG got too far forward, before, having unloaded the payload, taking off while the pumps were still running, this time hoping that the CG was not still too far aft as the wheels left the ground! Fluid also had to be pumped aft as fuel was used, so a Sycamore pilot was never bored. In common with other early helicopters, the Sycamore had no artificial stabilisation, hydraulic controls or rotor speed governing, Control forces in manoeuvre were high but could be cancelled out in cruising flight using a spring compensating system operated by trimmer wheels. Another unique feature was the single, centrally-mounted, collective lever and throttle, to be shared by the two pilots. The left hand seat pilot (usually an instructor) therefore had to fly 'left handed', requiring a very high degree of concentration.

Search and Rescue winching also required special techniques. The limited payload meant that the aircraft was usually operated by a crew of two. The navigator/crewman therefore had not only to operate the winch and guide the pilot to the survivor, but also, if a 'double lift' was required, to descend on the winch himself, continuing to guide the pilot over an extended intercom system using a waterproof throat microphone; the pilot was now in control of the winch. To provide the pilot with a view of the winchman on the end of the wire below the aircraft, a polished convex hubcap, from a Hillman staff car, was placed on the winch arm. The reflected image in this could be seen through an

ordinary rear-view mirror mounted in front of the cockpit. The complications of helicopter flying in those early days were thus compounded by the measures required to enable it to fulfil its operational role and overcome its severe payload limitations. (This writer gratefully acknowledges the help of former RAF Sycamore pilot and instructor, Tony Bell, in the preparation of the above paragraphs.)

275 Squadron

A detachment of No 275 Sqn was established at Aldergrove on 15 July 1957. F Flight, initially under the command of Flt Lt A G Mitchell, had flown 22 hrs 15 mins by the end of the month. It made its first scramble on 20 August, when MPlt Clarke and FSgt Nichols took off in XJ915, followed by Mitchell and Flt Lt G B Readman in XJ919. A small boat had capsized off the Co Down coast. A rescue was attempted by the Donaghadee lifeboat but, sadly, Captain George Cleland was lost. A few days earlier a reconnaissance was made of Rathlin Island prior to a visit by air by the Governor, Lord Wakehurst, on 14 August. The Sycamore, flown by OC 275 Sqn, Sqn Ldr G Hartman and Flt Lt Readman, took off from Hillsborough Castle at 1010 hrs and arrived over Church Bay some 50 minutes later, despite dense fog in the vicinity. The *Belfast Telegraph* reported, 'Lord Wakehurst leaned out of a window of the helicopter taking him on an official visit to Rathlin Island today and made a movie picture of the landing and welcoming party below.'

Further recce flights included surveys of Bishops Court and Castle Archdale as possible forward refuelling sites and of the landing facilities at Belfast's Royal Victoria Hospital and the Coleraine Hospital, where demonstrations of stretcher lifts were also given. Once more this was a front page story in the *Belfast Telegraph*, 'Patients had a free air display today when a helicopter carried out mock rescue operations to test an emergency landing site in the hospital grounds. The 'patient', Sqn Ldr K Courtnadge, was strapped to a stretcher and everything was done to make the rescue appear like a genuine case being brought to hospital after an SOS.' Police were on the spot to control the crowd that had assembled, including many members of staff and a television camera team.

On 14 September F Flight took part in the 17th Annual Battle of Britain 'At Home' day held at RAF Aldergrove, with a demonstration

Sycamore XG514 of No 275 Sqn engaged in a CASEVAC exercise.

of SAR operations. October was a quiet month with two stretcher lift demonstrations for the RNLI and at HMS *Sea Eagle* in Londonderry. November brought something slightly more unusual, an exercise with the RAF Regiment transporting radio sets to the top of Divis Mountain overlooking Belfast and winching them down to the waiting troops. OC 275 Sqn, Sqn Ldr J I Parker, visited from England on 18 December to attend F Flight's airmen's Christmas party while, during the course of the month, standardisation checks were carried out. There was a scramble on the 21st, looking for two men adrift in a boat on Lough Beg, and on Christmas Eve a doctor was airlifted from Ballycastle to Rathlin Island to attend an urgent case. Before the end of the month a flood area reconnaissance was carried out between Aldergrove and the Mountains of Mourne.

The New Year, 1958, brought a liaison visit across to Troon on the Ayrshire coast in Scotland on 5 January, followed later in the month by more flood reconnaissance sorties and photographic work in response to a rapid thaw. On 19 February, XG514, flown by Flt Lt Mitchell, was undertaking wet winching drill over Lough Neagh when the helicopter experienced engine trouble. A rapid return to dry land was made and a precautionary landing effected at Langford Lodge. March saw further exercises with the RNLI at Newcastle, Donaghadee and Portrush, as

well as a visit to Castle Archdale to check on its refuelling status. More photo reconnaissance sorties were flown in April, this time of local airfields, and oil was transported to RAF Bishops Court, which was another advanced refuelling base. On 23 May a call was received from the Coastguard seeking an escort for a yacht being towed to Bangor. A photo sortie was made to Enniskillen Hospital and a rescue demonstration was laid on at Omagh Hospital. In June F Flight was renamed B Flight and a liaison visit was made to the Isle of Man to exercise with all five of the island's lifeboats. On 8 July, Sgt W Breach and Flt Lt Readman were scrambled to attend the crash of an Army Air Corps Auster which had flown into some cables near Toome. When they arrived, the casualties had already been taken to hospital. Sadly, SSgt R E Hall had been fatally injured in the crash. The following day another scramble was made following the 'sighting of a parachute' near Newcastle, Co Down. Nothing was found. There were more emergencies on 13 July; a yacht got into difficulties off Bangor and was found by the helicopter, as was an upturned lifeboat off Carrickfergus on the other side of Belfast Lough.

It was reported in the *Belfast Telegraph* on 8 August that a helicopter, flown by FSgt M L Swainton, escorted by an Anson, piloted by Flt Lt W Box, had left Aldergrove on 5 August to take a stretcher case from the Scottish island of Coll to the larger island of Tiree, where a civil air ambulance was waiting to take the patient to Glasgow. A similar sortie was flown on 12 August. The activities for the month were rounded off by an Army co-operation exercise. Another CASEVAC mission was flown on 3 September, taking a patient from the island of Colonsay to Port Ellen on Islay. Further winching demonstrations were undertaken later in the month at Kilkeel and Carrickfergus. October, as in 1957, was a quiet month and the only incident of any note in early November was a sea search for a man overboard. Tragically, on 13 November there was another Auster crash and this time both the pilot, Capt M A Cracknell and his passenger, B Flight's Nav Leader, Flt Lt Readman, were both killed.

1959 began fairly quietly with routine training – dry winching; stretcher winching; wet winching over Lough Neagh; auto-rotations and general handling for all crews. January also saw the first of a regular series of communications flights from England in the squadron's Anson, VL357.

Sycamore XG509 of No 275 Sqn on a wet winching exercise. (Bristol Aircraft)

On 5 February a request was received at 11.29 am from the Ballycastle Coastguard. By 11.51, Sgt Breach and his navigator, Flt Lt N T Gardner, were airborne in XL823. They arrived at Ballycastle at 12.17 where they picked up a doctor who was flown to attend to a patient on Rathlin, 86 year old Peter McMullan, who had been taken ill. As no boat was available, the helicopter had been the only viable means of emergency transport. They took off again at 12.21 and landed by the patient's house six minutes later. The only telephone on the island was at McQuaid's Hotel, so they then made another short hop in order to contact base. They picked up the doctor half an hour later, had him back in Ballycastle by 13.21, and returned to Aldergrove before 14.00. The ready public acceptance by now of the helicopter's capabilities is borne out by the brief reference in that evening's *Belfast Telegraph*, which treated the event almost as a matter of routine. The only other significant event that month was the establishment of a fuel dump at Castle Archdale in Co Fermanagh. March was devoted to further training until, at dusk on 3 April, the detachment ceased operations, with a final communications flight by the Anson a week later. The last

SAR Sycamores to serve at Aldergrove departed on 4 April. They were: Flt Lts J Windust and N Gardner in XE317; Sgt Breach and FSgt E Brownlee in XG509, and FSgt M Swainton and Sgt G Britton in XL823.

118 Squadron

The gap left by the withdrawal of No 275 Sqn's B Flight was soon filled by No 118 Sqn which re-formed at Aldergrove on 1 September 1959 under the temporary command of Flt Lt F M Taylor AFC. It was initially equipped with three Sycamore HR14s, XE317, XG506, and XG521.

Rather than SAR, the primary role of the new squadron was to be Internal Security (IS), the task directive given to the CO being, '. . . to support the Army and RUC in anti-IRA operations:

(a) reconnaissance,

(b) cordon and search working with the Army and the Police on the ground,

(c) rapid air transport of small parties of soldiers/police in the operational role and

(d) training for (b) and (c).'

Up to 100 flying hours per month were allocated for operations and operational training with a maximum of 50 hours in any one week. Each helicopter was permitted to fly up to 35 hours per week. Flying from dawn to dusk was authorised plus an allowance for positioning in the hours of darkness in preparation for operations at first-light. The establishment provided for a squadron leader CO, four pilots, four navigators and 21 groundcrew. The normal crew was to be a pilot and a navigator with up to three passengers at the discretion of the pilot. Training and standardisation support were provided by No 225 Sqn at Odiham.

Fuel was to be provided by the Army at Forward Operating Bases (FOBs). Members of the RUC could be carried, subject to positive identification. One helicopter was normally to be held at three hours' readiness but this could be reduced to 15 minutes when considered necessary. Operational control was assigned to 39 Infantry Brigade Group.

On 1 September the squadron's ORB noted a rather low key inauguration, 'The Squadron was reformed with two Sycamore helicopters at Aldergrove, Northern Ireland, Flight Lieutenant

Miskimmin (who would soon be posted to become the Station Security Officer) being the only officer present and whose local knowledge proved most helpful to the rapid reformation of the Squadron. Airmen started arriving and drifted in throughout the day.' The next day, 'Flight Lieutenant Mick Taylor, the OC, and Flight Sergeant Tinkler arrived, together with Flight Sergeant Lewis who was to be NCO i/c groundcrew.' They were followed on the 3rd by, 'Flight Lieutenant Thompson, another pilot for the Squadron, with the promise of another pilot and three navigators to arrive in the near future.' The third helicopter was delivered on 4 September, while Taylor paid a visit to HQ 39 Brigade to, 'discuss the future role of the Squadron.' All hands were busy un-crating ground equipment and, 'scrounging from a very willing and helpful station – we may not be cooking yet, but the pot is beginning to boil.'

No 118 Sqn flew its first internal security sortie on 11 September when Taylor and navigator Fg Off G Lear flew a recce of the Limavady area in XG506. Now a retired wing commander, Gordon Lear has happy memories of his time with the squadron, 'Helicopters in those days were a bit of backwater, full of characters and oddballs with a vast wealth of experience. Mick Taylor was one of these who had just returned from Cyprus where he had been operating against EOKA in a vicious conflict. It was probably this campaign which finally led the powers to realise the full potential of helicopters as a tactical weapon.'

The squadron was declared fully operational on 12 September, with its temporary CO gallantly volunteering for the first dawn standby duty. To begin with, all flying was devoted to familiarising locally based Army units and the RUC with helicopter operations. Training was carried out with the Duke of Wellington's Regiment, the 11th Hussars and the King's Royal Rifle Corps from the old wartime airfield at Limavady (Exercise HOT ROCKS), at Palace Barracks in Holywood and with the police in Londonderry, rehearsing the procedures involved in recce missions, cordon and search, and troop transport. The day was deemed a success and aerial photographs of the activities were taken from the Austers of 13 Flight, 651 Squadron, which was also located at Aldergrove. On 19 September, Flt Lt Taylor flew two five-minute display routines in XG521 at the Aldergrove Battle of Britain Open Day. By the end of the month some 68 flying hours had been accumulated in 267 sorties, making 217 troop drops. Operational

sorties had been flown to Dungannon, Poyntzpass, Forkhill, Newry, and Newcastle.

The first border patrol was carried out in Co Londonderry on 5 October. Security patrols were the main task, either carrying out reconnaissance or transporting and supporting RUC foot patrols. It was discovered that adequate air-to-ground communications could be maintained using police walkie/talkie radios. Regular sorties were flown over the remote islands and shores of Lough Neagh looking for gun runners, the first of these being on 8 October whilst later in the month the Lisnaskea area featured. A cordon and search operation was mounted by all three helicopters, looking for the perpetrators of an IRA attack. By mid-October the initial training phase had been successfully completed and henceforth all bids for tasking would be considered by HQ 39 Brigade and allocated following joint Army/RUC consideration. On 24 October, a border patrol was carried out in South Armagh near Forkhill. Flt Lt Taylor noted at the end of the month, 'Despite poor weather October has seen the helicopter accepted as an important participant in operations against the IRA.' As an example of a typical sortie, on 30 October Plt Off J H Martin, MNav R W Chambers and Crewman J T Wales departed base at 0900 hrs, bound for Londonderry in XE317. They subsequently flew two communications sorties, twelve troop lifts and one recce; returning to Aldergrove at 1600 hrs, having accumulated 2 hrs 10 mins flight time during which 34 troops had been uplifted.

At the beginning of November Sqn Ldr D A Toon arrived as CO. This gave the squadron five two-man crews, and allowed Taylor to go on leave, to visit Buckingham Palace to be invested with his AFC and to get married (which, he wrote, had been 'much postponed.') David Toon, who hailed from Lancashire, was 34 years old and an experienced pilot, having previously flown Vampires with No 26 Sqn in Germany, CT-133 Silver Stars at the RCAF Pilot Weapons School, and Whirlwinds with No 155 Sqn in Malaya. He was described by Gordon Lear as, 'A shining career officer, who was posted in to command despite his lack of experience in this role. The fact that he slotted in seamlessly is testament to his leadership. The whole squadron blended into a cohesive unit with a wonderful sense of unity.'

The squadron's aircrew now consisted of pilots, Sqn Ldr Toon, Flt Lt Taylor, Fg Offs McCord and Martin, and FSgt Spinks and navigators

Flt Lts Williamson and Gray, Fg Off Lear and MNavs Chambers and Hall. The Sycamores had all been fitted with parachute flares which could be used for practice engine-off landings and/or real engine failures at night. David Toon later wrote, 'Unbelievably we were allowed to practise these, at night, with the engine stop-cocked! After some time, our engineers found out that the flares had been fitted without any clearances by Boscombe Down and they were removed!'

Despite poor weather early in the November, thirty policemen were dropped at Kinawley along a two mile stretch of border; a major exercise – GETAWAY – was held near Armagh along with the Austers, seeking and capturing escaped 'terrorists' and an operational search was made near Forkhill for IRA men who had blown up and shot at a police Land Rover. Other tasks came the squadron's way too – on 21 December, for example a Sycamore delivered Father Christmas to the station children's party!

There were sterner tasks in early 1960 however. The year began with a training detail to Kesh in Co Fermanagh to give training to twenty-one RUC personnel, while border patrols and recce flights were extended to all affected parts of the Province. Sqn Ldr Toon was able to note that it was surprisingly easy to spot illegal border crossings at first light, 'when footprints showed up clearly on the morning dew, which invariably was heavy in Northern Ireland.' He added, 'Our searches also showed up a lot of illegal smuggling of cattle across the border! It was also easy to identify IRA sympathisers – friends waved, and the others slung stones at us.'

On 25 January, XG501, flown by the CO, and Plt Off Martin in XG521, took part in an exercise with the RUC near Mullaghmore to see whether helicopters could be used for tracking persons making their way across the countryside. All three parties of 'terrorists' were quickly discovered. Unwelcome news was received to the effect that the squadron would disband in May to be replaced by a detachment from No 228 Sqn.

On 12 February all three helicopters were taking part in a cordon and search operation in Co Londonderry near Magherafelt, dropping off some 86 RUC officers, when shots were fired in the general direction of the aircraft – fortunately without injury. This is the first recorded occasion in Northern Ireland when a helicopter was engaged by fire from the ground. The police later arrested the perpetrators, who were

armed with Thompson sub-machine guns. No mention of this incident was made in the local newspapers, although, on 5 February, the *Belfast Telegraph* had featured on its front cover a photograph of the latest type of armoured vehicle to be supplied to the RUC, 'to reduce ambush hazards on the narrow, twisting roads on which it will be operating near the Border.' The CO noted in his log book that an officer from the squadron was posted in disgrace for 'loose talk' about the 12 February operation, 'to his wife, who was the daughter of the IRA Chief in Newry'(!) His personal and private opinion was that the officer in question should have been on the receiving end of a court-martial.

The Form 540 noted that by this time the RUC had become very air-minded and greatly appreciated the deterrent value of the squadron's helicopters. Operations continued on an almost daily basis, including flights to otherwise inaccessible spots such as islands in Lough Erne, interspersed with mandatory training flying and other sorties such as flying VIPs. Very inclement weather towards the end of February brought an opportunity to provide aid to the civil community, when farms in Antrim and Londonderry were cut off by snowdrifts. The headlines in the *Belfast Telegraph* were, 'Food Dropped to Isolated Families', and, 'RAF in Ulster bid to save 190 marooned sheep.' It further reported that a relief helicopter had landed on the golf course at Cushendall on the North Antrim coast. Members of the RUC and HM Coastguard were uplifted to direct the helicopters to specific locations.

The Skeeters of 13 Flight, Army Air Corps were in action very soon after being delivered from England. The *Belfast Telegraph* reported that provisions were dropped on isolated farms in North Antrim by helicopter. They were flown by Capt R F Dove and SSgt W L Goddard and were assisted by two local RUC sergeants, T W Kyle from Glenarm and James Swan of Cushendall. After a brief tour, Sgt Kyle's helicopter landed at Cairncastle and got provisions from Miss Mattie Moore's shop and dropped them at Mr Campbell Tweed's farm at Ballycoose. That afternoon, after refuelling, the helicopter again surveyed the area and dropped goods at isolated farms on the Star Bog Road, which runs from Kilwaughter to Feystown.

Some 220 lbs of provisions and 2,300 lbs of fodder were uplifted and delivered by 118 Squadron during February. This had involved 93 hrs 55 mins being been flown in 217 sorties and the Air Ministry was persuaded to rescind the earlier threat of disbandment and extend the

squadron's life until at least September.

In March the squadron's aircraft ranged widely across the whole of the province. The first VIP flight was on 7 March when Flt Lt Taylor used XE317 to take GOC NI District, Lt Gen Sir Douglas Packard, on a tour of units under his command at Eglinton, Omagh and Lisburn. Later in the month, while being flown by the CO, the same helicopter became unserviceable at Forkhill so Flt Lt Taylor flew a small team down in XG506 to effect repairs. On 28 March, Nos 118 and 651 Sqns combined to host, the grandly named, first Internal Security Convention. It was attended by all RUC County Inspectors and the COs of all regiments stationed in Northern Island and consisted of a series of presentations at HQ 39 Brigade Group before the delegates were flown from Helen's Bay on Belfast Lough to Newtownards airfield on the shores of Strangford Lough to witness a flying demonstration, 'The two Austers located the suspected terrorists, a pair of Skeeters made a low level recce and kept them under surveillance until two Sycamores (XG506 and XG521) brought in troops from the Royal Sussex Regiment to engage them.'

April brought a successful engagement when air support was requested at Belleek to search for terrorists who had attacked a police patrol. They were rounded up and arrested.

No 118 Sqn was transferred from Coastal Command to Transport Command on 12 May and subordinated to HQ 38 Gp. It had been planned to fly the Chief of the Defence Staff, Earl Mountbatten of Burma, on an inspection visit but this had to be postponed because of bad weather. The Form 540 for May listed some of the activities in which the squadron had been involved over the previous six months, 'Looking for hideouts, arms dumps, ambush positions, subversive activity, illegal border crossing points, fresh diggings and dug-outs.' Typical of these was a search for arms dumps on the North Antrim plateau in the middle of the month. On the 29th an unsuccessful search was made for Capt Robin Dove of 13 Flight, who, while out bird-watching on an island in Lough Neagh, had failed to reach his drifting boat and drowned. The total number of flying hours achieved in May exceeded 100 for the first time. Night flying training was also carried out.

The squadron was informed that, as a unit of Transport Command, it could now carry underslung loads of up to 500 lbs. The only snag

was that they had no cargo nets and when the CO attempted to obtain some he was advised that, 'Anything below the cargo hook is an Army responsibility.' Undaunted, he sent a request to HQ 38 Grp for, 'nets, cargo, rot-proof, 9-inch mesh.' He must have had some success as, on 17 June, the Sycamore's IS capabilities were demonstrated to Lord Wakehurst at Aldergrove. The first helicopter (Flt Lt Taylor in XG506) flew in with three fully armed troops, the second (Fg Off J H Martin in XE317) with a police handler and his dog and the third (FSgt LG Spinks in XG521) arrived with an underslung load. It was reported in the *Belfast Telegraph* that the Governor, 'talked to pilots who last winter had dropped supplies to snow-bound farms. He also called a helicopter on the radio and instructed it to land.'

Ten days later the CO, with navigator Flt Lt J H S Williamson was scrambled in XG521 for a CASEVAC mission to Enniskillen, conveying the patient to the Royal Victoria Hospital in Belfast. The *Belfast Telegraph* recorded the event as, 'A dramatic 70-mile dash to save the life of a 28-year-old farm labourer, Vincent Swift, critically ill with tetanus.'

This brought another record month to an end, with 113 hours flown in June. At this time the RUC advised that intelligence reports had assessed it as probable that the IRA would assume a more aggressive posture, moving from attacking isolated 'soft' targets to staging incidents to lure helicopters and their crews into ambushes or enticing them to fly over the border and so create an incursion incident.

On 21 July, the CO recorded in his log book an IS operation of three hours' duration in the vicinity of Bessbrook in XG506 – he could have had no idea of how many hours SH helicopters would fly to and from that location in the years ahead . . . Operations continued throughout the summer of 1960 with the only unusual feature being the delayed visit by Lord Mountbatten on 29 July, Flt Lt Taylor and Fg Off Lear picking up their VIP passenger and his ADC, Major H Baxter, from Sydenham that morning. The *Belfast Telegraph* covered the event with a large picture and the main headline on the front page. Taylor and Lear spent 2 hrs 15 mins conveying their passengers in 'the bright yellow Sycamore' to Bangor, Ballyholme, Aldergrove, Castle Archdale and back to Sydenham again. On conclusion of the official visit, Lord Mountbatten, who had brought his fishing tackle with him, carried on by road to Belleek for a few days angling. Apparently, he was not the

No 118 Sqn's XG506, wearing the unit's 'fighter bar' marking, inherited from its Jever-based Hunters in 1957. (MAP)

most patient of VIPs as regards his dealings with the squadron.

Rumours of the helicopters' withdrawal began to circulate again and caused much disquiet in the upper echelons of the RUC because, despite the Sycamore's limited carrying capacity, No 118 Sqn had given the force a great deal of flexibility and a considerable increase in operational capability. On 25 August the Deputy Inspector General of the RUC, A N Kennedy, wrote to the Senior Royal Air Force Officer, Northern Ireland, Group Captain C E A Garton, as follows:

Effectiveness of 118 Internal Security Helicopter Squadron in Northern Ireland

> The following report is forwarded in response to your request per Squadron Leader Toon for an appraisal of the effectiveness of No 118 Squadron.
>
> Since the month of September 1959, when the Squadron was posted to Northern Ireland it has proved of inestimable value to the Royal Ulster Constabulary in anti-IRA operations. It would be impossible to fully estimate what has actually been achieved through the use of helicopters but I am confident that they have been a very great deterrent to activities by subversive elements.
>
> The physical features of Northern Ireland are such that in many parts of the country excellent cover is provided for evilly disposed persons. When serious incidents occur in Border or other areas, follow up searches by the police take place. In cases

such as these the police avail of the services of 118 Squadron for the speedy dropping of men at strategic points to seal off escape routes and to keep observation over the area of search. This applies particularly in the remote mountainous or marshland areas or islands in such places as the Upper or Lower Lough Erne, not accessible by normal means of transportation. To reach such areas requires hours of travel on foot giving terrorists ample time to escape or hide up after incidents take place and any element of surprise is lost and areas of search are severely limited. The value of helicopter support in operations of this nature cannot be overemphasised and such support has undoubtedly increased the effectiveness of our forces. Even with a limited number of men, commanders can extend their area of operation.

For the last two months Northern Ireland has been comparatively free of political incidents, but it would be unwise to be deceived by this lull as information coming to hand indicates that the IRA are far from a spent force and are still actively engaged in training in many parts of the Republic in preparation for activities directed against Northern Ireland. This is amply borne out by the fact that the following incidents have occurred in Southern Ireland during the last few weeks:-

1. 1.8.1960. Francis Ross sentenced to three months' imprisonment in Dublin under the Offences Against the State Act, for subversive activities.
2. 7.8.1960. Large scale searches carried out by the Civic Guards at Newport, Co Mayo, where a party of armed men wearing battle dress was seen by the police.
3. 11.8.1960. Intense activity by the Civic Guards in the Swanlinbar area where a number of men in battle dress uniform were observed.
4. 17.8.1960. Francis McDonagh and John Geo Foster each sentenced to six months' imprisonment at Navan District Court for failing to account for their movements under the Offences Against the State Act. McDonagh also sentenced to three months imprisonment on each of two charges (a) membership of an illegal organisation and, (b) possession of incriminating documents.

5. 19.8.1960. Peter O'Donohoe and James A Mayne each convicted at Dublin District Court on the following charges:-

1. Failing to account for their movements under the Offences Against the State Act – 6 months' imprisonment.
2. Possession of illegal documents – for failing to account for their movements under the Offences Against the State Act – 2 months' imprisonment.
3. Membership of an illegal organisation – 2 months' imprisonment.

O'Donohoe was also sentenced to two months' imprisonment for illegal possession of firearms.

The Royal Ulster Constabulary considers that 118 Squadron plays a vital role in the fight against subversive elements, and any withdrawal of the helicopter force is bound to prejudice the effectiveness of future IS operations. Had it been available earlier in the Campaign, I have no hesitation in saying that it would have proved an even greater aid. When emergencies do arise the assistance so readily and promptly given by the Squadron is an inspiration to all men engaged on security duties. The Royal Ulster Constabulary is much concerned at the rumoured proposal to withdraw No 118 Squadron helicopters from Northern Ireland. There is an urgent requirement for their continued use in IS operations until the present IRA threat is removed from this part of the United Kingdom.

The Inspector General is at present on leave, but I have no doubt that he will whole-heartedly agree with what is in this report.

Albert Kennedy was a career policeman, born in 1906, the son of a Detective Sergeant. He had worked his way up through the ranks and was vastly experienced in all aspects of police work, which he had also studied abroad. He was known as a 'copper's copper' and his opinion was one to be valued. At the end of 1960 he succeeded Sir Richard Pim as Inspector General and was knighted for his services in 1965. It would appear that the representations made by the RUC were effective as, on 5 September, the squadron was advised by the Air Ministry that its three aircraft would remain at Aldergrove for the time being, pending further consideration of their retention. Gordon Lear also endorses the very

positive relationships established with the police, 'Helicopters were a revelation to the RUC. Before long we knew all the District and County Inspectors by name. Viscount Brookebrough also became a fan. He has/had a large estate in County Fermanagh which lay across our flight path to operations on the border. It was not unknown for him to phone the boss if we didn't drop in to see him on the way back to base, so sometimes we doglegged round!' Other landowners were equally agreeable, as Gordon Lear once more recalls, 'Paddy McCord and Bob Chambers returned from their day's task and claimed to have had breakfast in a castle with, I think, Lord Enniskillen. From then the game was on, when we had finished our day's mission we would look for a large country estate, circle it until someone came out to wave, land and invariably be offered breakfast. Happy days!'

Operations continued much as before, with a total of 197 personnel being uplifted in September and a short display was flown at the Station Battle of Britain Open Day. The CO had made a reconnaissance flight to Colebrooke in Co Fermanagh on 1 September, to check its suitability as a VIP landing site – this was the home of Northern Ireland's Prime Minister, Lord Brookeborough. Later in the month, in XE317 and accompanied by Gp Capt Garton, the Station Commander at Aldergrove, David Toon visited Tynan Abbey, the home of the Stronge family.[1]

On 6 October Sqn Ldr Toon was tasked to fly two police observers out of the old airfield at Cluntoe on a recce mission. A farmer subsequently rang the authorities to report that one of his cows had died of fright at the sight of the helicopter. The police immediately called in a vet who advised that the beast had in fact already been dead for at least 12 hours. The claim was not pursued. October had been the busiest month since February and it was also noted, with a degree of satisfaction, that it had at last been issued with a Land Rover which could be used for squadron support in the field, along with a trailer which had been borrowed from the Army. In November operations ranged far and wide – to the Donegal/Derry border, Portadown, the Mournes, Belcoo, Holywood, Whitecross, south Lough Neagh, Magherafelt and Tandragee, to name just a selection of locations noted in the ORB that month. One of these sorties was a border survey on 18 November by the CO in XG521 carrying two senior RUC observers, District Inspectors W Reid and J Hood, from Sydenham to Caledon,

Swanlinbar, Omagh and Pettigoe. Another was a search operation in the Mourne Mountains, the two RUC observers being Head Constable Paddy McAndrew from Newcastle and Constable George Grace from Dromara. Many years later Grace recalled they were up for about an hour and carried out low level passes which he found quite thrilling. They finished with a little sightseeing and a climb to high level followed by a rapid, engine-off descent to 500 feet, 'just to scare the pants off their passengers.' Another passenger that month was a Mr Eric Pollen, a BBC film cameraman, whom the CO flew up the north coast as far as Cushendall in XG521.

The Air Ministry had now decided that the squadron would be disbanded on 31 March 1961 with cover in future to be provided by No 225 Sqn having three helicopters on standby at 48 hours' notice at Odiham – in Hampshire! Sqn Ldr Toon wrote of the RUC's concerns, noting that, 'one of the shortcomings of No 118's operational effectiveness has been the remoteness of Aldergrove from the Border operational area [*from 40 to 80 miles*], the usefulness of aircraft from so distant a place as Odiham is questionable.'

On 6 December, adverse weather conditions obliged Flt Lt Taylor to make a precautionary landing in XG506 at another former World War Two base, Langford Lodge. Several sorties were flown later in the month bringing Santa to children's homes under the guise of 'continuation training'. The CO, for instance, noted in his log book for 23 December, 'XG506, Self, Flt Lt Williamson, F/O Jones. Father Christmas to orphanages at Ballycastle, Whitehouse and Holywood.' There was another aid to the civil community mission on 29 December when the CO flew 'Mr V A McCuaig – the uncrowned King of Rathlin Island' to hospital at Ballymoney in XG521. Tony McCuaig did indeed have something of a monopoly on the economic life of the island, owning the grocery shop, the public house and one of the boats which provided the link to the mainland. Dr John Blaney, who accompanied his patient in the helicopter, had made the outward journey by motor boat, 'through mountainous seas', his sole comment to the *Belfast Telegraph* being, 'It was a terribly rough trip out to the island in the boat.'

January 1961 began with routine activities and rather poor weather for flying, but saw an upsurge of violence, when, in the early hours of the 27th, Constable Norman Anderson was murdered near Rosslea by

Lincoln WD144 which crashed near Aldergrove on 22 March 1961 – the last Lincoln to be written off. (MAP)

IRA gunmen waiting to ambush him as he returned from escorting his girlfriend to her home just across the border. A couple of days later an attempt was made to bomb a road bridge in Co Fermanagh.

In February a high level of activity continued with 109 hours being flown in 197 sorties. More bridges were blown up, but five arrests of terrorists were made. Despite this the squadron was informed that it would disband on 14 April. The good news was that the squadron had been awarded the Transport Command Flight Safety Pennant for 1960. Flt Lt Taylor had to make another impromptu landing on 19 February, when XG506 suffered engine failure. He landed in a field not far from Aldergrove and the aircraft was towed back to base for remedial attention. On 24 March the CO conducted a photographic survey of the shipyard in Belfast.

There were two VIP sorties in March. On 20th, the CO and Fg Off Lear used XE371 to fly Lord and Lady Brookeborough from Colebrooke to Stormont, and four days later the same aircraft and crew conveyed the Secretary of State for War, John Profumo, on an inspection tour. He was picked up at Theipval Barracks at Lisburn, and flown from there to Lisanelly Barracks at Omagh, then to Eglinton and finally back to Lisburn. Flt Lt Taylor in XG506 and Fg Off McCord in XE317 made use of another old wartime airfield, Mullaghmore, on the 22nd for a recce of the Garvagh area. On his return to base Taylor was scrambled for a CASEVAC sortie in connection with a Lincoln, WD144, which had crashed nearby. The aircraft was written off and the four crew were injured. The last operational flight made by the Squadron before its disbandment was on the last day of the month, a border recce to Kesh, by FSgt Spinks in XG521, which had to be

curtailed due to bad weather.

Sqn Ldr Toon, who would be posted to the Air Ministry and would eventually rise to the rank of group captain, recorded his valedictory thoughts in the F540:

> 'Between September 1959 and March 1961 the Squadron has completed 2,761 operational sorties, 1,500 troop drops, 3 casevacs, 291 recces, 960 communication flights and 1,422 training sorties; to give a grand total of 4,183 in 1591.10 hours.'
>
> Throughout the period the groundcrew have worked magnificently under the able direction of Flight Sergeant Lewis to achieve an average serviceability of 69·4% – a most commendable achievement for a small establishment of only three aircraft.
>
> The Squadron is sad at its disbandment but it can at least take heart in the fact that it was reformed for a six-month period only, and it has in fact been actively, happily and productively engaged in its unique task for some 19 months.
>
> It is to be hoped that at some date in the not too distant future that No 118 Squadron will once again be reformed to take an active part in the history of the Royal Air Force.'

225 Squadron

But it was not the end. The question of retention of helicopter support in Northern Ireland had become the subject of correspondence between the Secretary of State for Air, Julian Amery, and the Home Secretary, R A Butler. Lord Brookeborough also intervened in the debate and Amery authorised a stay of execution. The remaining ex-No 118 Sqn personnel – two pilots, one navigator and 25 groundcrew under FSgt Lewis – were instructed to stay at Aldergrove pending a further policy decision. On 5 May, HQ 38 Gp gave permission for mandatory continuation training and essential operational flights to resume and on the 18th a letter from HQ Transport Command confirmed that the unit would now be styled as a detached flight of No 225 Sqn. The original three aircraft, XE317, XG506 and XG521, remained on charge along with Flt Lt Taylor, as temporary OC for the second time, Fg Off McCord and MNav Chambers. The unit carried on as before, 26 operational and nine non-operational sorties having been flown by the end of the month. However, as the OC noted,

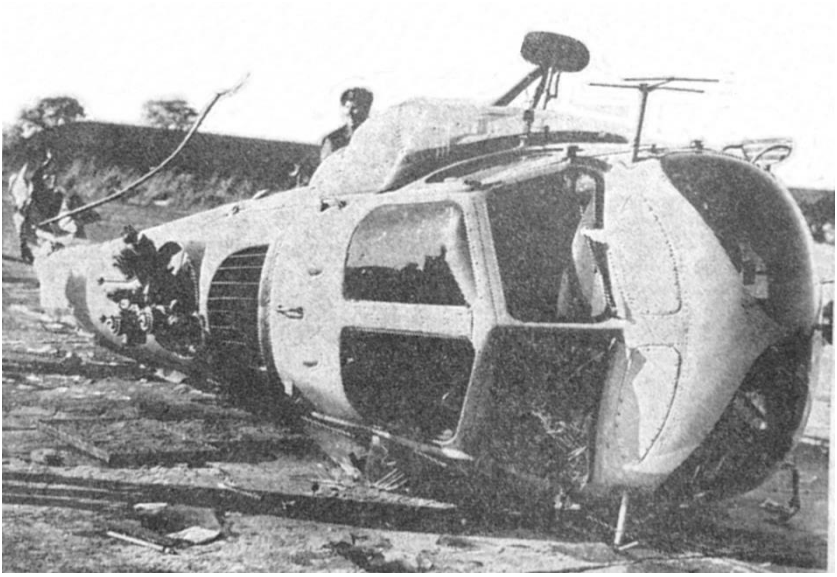
Auster AOP6, VF552, 651 Sqn. (MAP)

'The RUC were extremely keen to utilise the Sycamores again and made immediate plans. Because of the limited number of personnel as full a commitment as before could not be expected but with the co-operation of (*the Austers and Skeeters of*) 13 Flight, 651 Squadron all police bids for the month were met.'

The Form 540 entries for June recorded the full range of operations – recce, cordon and search, troop drops, border crossings inspection and the carriage of police observers; 48 hours had been flown and all commitments had been met. July saw the first of several 100% squadron efforts – tasks involving both pilots, the navigator, two crewmen and two helicopters. Flt Lt Taylor wrote that the future status of the unit was under discussion at the Air Ministry, but the evidence pointed to the re-establishment of No 118 Sqn. In the meantime, he was confident that the flight was meeting all that was required of it and that the morale of the aircrew and groundcrew was very high.

No 118 Squadron – again

And so it came to pass that, from 1 August 1961, the unit regained its identity as No 118 Sqn, with its re-formation officially backdated to 15 April.[2] The first sortie of the new era was flown by Flt Lt Taylor (still Acting OC, pending the arrival of a squadron leader) and Cpl Tech M McEwan, an IS task to Whitecross supported by a Skeeter from 13 Flight acting as top cover. Some 86 hours were flown in August. September brought more co-operative efforts with the Skeeters and the



XG521 after it had rolled over at Aldergrove, although no one suffered serious injury. (Belfast Central Newspaper Library)

cancellation of the Battle of Britain display due to, 'the remnant of Hurricane Debbie.'

Flt Lt John Dixon took over command on 5 October, vice Flt Lt Taylor who had been posted to Odiham where he was to convert to the twin-rotor Belvedere. The 13th of October – a Friday – proved to be unlucky for MPlt T J Szuwalski, Flt Lt R Naismith and WO J C Gage, when the rotor of XG521 hit the ground whilst landing at Aldergrove and the aircraft rolled over, fortunately with only minor injuries to those on board. It made headline news in that evening's *Belfast Telegraph*, with a dramatic picture of the helicopter on its side. Interestingly, the paper noted that the helicopter was used for search and rescue, air ambulance and communications – making no mention of its primary IS role. A fortnight later a replacement, XG544, arrived courtesy of No 71 MU at Bicester.

Its stay was short-lived, however, as XG544 was withdrawn in November and redeployed to Kenya on flood relief work. Since XG506 was undergoing a major servicing, this left just one Sycamore, XE317, available for tasking until the arrival later in the month of XG502. To

Pioneer XL555, of No 230 Sqn, one of a pair detached to Aldergrove in 1961 to cover a temporary shortage of Sycamores.

bridge the gap, a pair of No 230 Sqn's Pioneers was detached to Aldergrove for a month. They arrived in company with a Twin Pioneer which shepherded XG544 back to Odiham. The Pioneers flew several low level reconnaissance missions along the border carrying Army and RUC personnel, although 118 Squadron's ORB notes that they were of little practical use. During the brief period of the detachment, the IRA was active, killing a policemen, Constable William Hunter, in an ambush near Jonesborough, burning three vehicles on lonely roads and blowing up a bridge. The new CO, Sqn Ldr P F Hart arrived on 5 December. The year was completed by Flt Lt Dixon carrying out 'Exercise FATHER CHRISTMAS' in XE317 on the 22nd – three sorties from Palace Barracks in Holywood.

New Year's Day 1962 saw Sqn Ldr Hart providing aid to the civil community, using XG502 for a relief lift to isolated islands in Lough Erne. This exercise was repeated on the 4th, attracting favourable coverage from both the BBC and the local press. The *Belfast Telegraph's* Trevor Hanna wrote, 'Rescue aircraft flew low over frozen Lough Erne today, dropping food and clothing to island families cut off from the mainland. The RAF and the police combined in the airlift from a field at Lisnaskea. From the cockpit of a Sycamore helicopter I saw the islanders stumble over the snow-covered rocks to wave a joyful welcome as the RAF swept in with help. It was their first contact with

the outside world since the 50-mile-long waterway froze nearly a fortnight before.'

The new CO had had time to consider his command and wrote that while he had five pilots, he only had two, and occasionally three, aircraft available and he considered that an establishment of four would be sufficient. February brought the usual range of sorties, plus a CFS visit by Flt Lt R H Garwood to check-out all pilots with specific regard to engine-off landings and night flying. In the same month, the IRA called a unilateral ceasefire. March was busy with 108 hours flown, including survey flights for the Ministry of Commerce. All the pilots exceeded 20 hours for the month. XG544 returned, which meant that for the first time the squadron had four helicopters on charge. On 9 April the Finance Minister, and future Prime Minister, Captain Terence O'Neill and two RUC officers, County Inspector R J Waller and District Inspector W R Reid were flown by the CO in XE317 from Lisburn to Enniskillen to attend a security conference.

The highlight in May was the detachment of individual pilots to Odiham to complete a brief conversion to the Whirlwind HAR10. All went solo after a short course. There was a strong rumour that the squadron's Sycamores would soon be replaced by Whirlwinds. This would have been a considerable advance as the Whirlwind had a much more powerful Gnome turboshaft engine and could carry three crew and up to eight passengers. It had only recently entered service, with No 225 Sqn at Odiham in November. During the rest of May the squadron was kept busy on IS duties as a General Election was held for the Northern Ireland parliament at the end of the month.

Two aircraft, XG502 and XG506, flown by the CO and Flt Lt Dixon, were detached to Odiham for five days in June to participate in the celebrations to mark 50 years of military aviation being held at RAF Upavon. They flew sixteen communications flights, seven traffic control sorties, five recce flights and one CASEVAC, returning to Aldergrove on 17 June. They were in time to take part, along with MPlt Szuwalski and XG544 and 13 Flight AAC, in Exercise FINAL FLING near Garvagh on the 20th, contributing six communications flights, three recces and three troop drops. On 24 June, the CO, Flt Lt S N Orr and Cpl W Hear in XG544 were tasked to search for a party of five civilians whose boat had gone adrift on Lough Neagh. They were found and brought to safety. There were no IRA-related incidents that month.

Another Sycamore, XG502, sporting No 118 Sqn's fighter markings.

In July three helicopters took part in an exercise at Magilligan providing 37 recce and eight communications flights. On 28 July Flt Lt Dixon took XG502 to Lurgan Park to give a flying display in aid of the Variety Club of Ireland and its charitable works. The squadron was disappointed, but not surprised, to learn that, with the cessation of IRA activities, it was to be disbanded – and this time there would be no reprieve.

Sqn Ldr Francis Hart summed up his thoughts in the Form 540:

> 'The Squadron will be disbanded on August 31st and withdrawn to England. This news had been expected for some time, certainly since the IRA statement of February 26th. It is most regrettable that circumstances preclude the expansion of 118 into a Whirlwind 10 Squadron. This Squadron has always met its tasks and since December 1961 I know that only once has an agreed task been cancelled by unserviceability. That alone has justified my request for a fourth aircraft. The stand-by task of three hours has been met and exceeded. One call-out by the Prime Minister on a Sunday mid-day resulted in the aircraft being airborne in 1¼ hours, having waited 45 minutes for detailed information from the local police. Another call-out by the police at 07.45 hours on a Sunday morning, before the aircraft was pre-

flighted, was met by being airborne within 45 minutes and 30 minutes later 5 shipwrecked men had been lifted off a small isle in Lough Neagh to safety.'

Another TA exercise, a photo recce and a final border recce were undertaken in August. The last operational flight was made on the 18th by Dixon in XG502, a search of the Donegal coastline for a missing fisherman, for which diplomatic clearance was needed in order to overfly the border. Once more, and for the last time, favourable coverage was forthcoming in the *Belfast Telegraph*. On the last day of the month the CO and Fg Off Terry Laing carried out a Squadron Commander's Check Ride in XG544 for an hour and a half and MPlt Szuwalski took XG506 up for a ten-minute air test. And so No 118 Sqn, which had served with considerable distinction in its various existences, was finally disbanded at Aldergrove on 31 August 1962. Sqn Ldr Hart wrote,

'A very sad moment for the Squadron. For an efficient team to be broken up is always unfortunate and it is regrettable that circumstances preclude the personnel from continuing helicopter work together in another unit. The groundcrew and civilian contractors have done very well in having all three aircraft on the line for the end of August. For three engines to need changing in two weeks is most unusual. This demanded hard work during preparation for the disbandment, but no complaints were made despite the domestic worries that must have been current.

Operationally quiet. No news of IRA activity of note. It seems very unlikely that trouble will re-open for some considerable time – if ever! Essential information is being filed in Station Headquarters under secret cover for any future incident.'

XG502, 506 and 544 were flown off to Odiham on 3 September, while XE317 was handed over to Airwork Ltd. Sqn Ldr Hart later commanded No 26 Sqn, which operated the Belvedere in Aden.

Much had been learned over the five years in which the Sycamores had flown in Northern Irish skies. Sadly, the requirement for Support Helicopters in the Internal Security role would be needed again following an outbreak of serious civil unrest in 1969. For the next 38

years the RAF's Wessex, Chinook and Puma helicopters would provide invaluable service to the Security Forces and the civil community, until the conclusion of Op BANNER in 2007. But that is another story.

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Tony Bell.
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The McQuilkin family of Rathlin Island.

Notes:

[1] In 1981, 86-year-old Sir Norman Stronge and his only son, James, both former MPs, would be murdered by the IRA. The house was then burned to the ground.

[2] Secret Organisation Memorandum No 26 of 1961 had authorised the disbandment of No 118 Sqn with effect from 14 April. In the following August, Secret Organisation Memorandum No 254 effectively rescinded Memo No 26 by authorising the re-formation of No 118 Sqn with effect from 15 April. **Ed**

HONOURS FOR DISTINGUISHED FLYING

by Air Cdre Graham Pitchfork

Following a series of major air raids on London during the summer of 1917, and the consequent public outcry, the Cabinet commissioned the 'Air Organisation Committee' under the chairmanship of the South African General Jan Smuts. Some four weeks later the committee recommended the creation of an Air Ministry. After a further two months, a bill for 'The Air Force (Constitution) Act' was announced in Parliament and this received Royal Assent on 29 November 1917. An Air Ministry was sanctioned and on 1 April 1918 the Royal Air Force (RAF) was formed by amalgamating the Royal Flying Corps and the Royal Naval Air Service.

In the meantime, a committee had been established to consider decorations for the new service, and on 21 March 1918 it advised HM King George V on 'Decorations for the Air Force.' On 6 May the King approved the new decorations and directed that an announcement of the creation of Royal Air Force decorations should be made on the day of his official birthday.

The *London Gazette* of 3 June 1918 announced the creation of two decorations and two medals:

- The Distinguished Flying Cross (DFC) to be awarded to Officers and Warrant Officers for acts of gallantry when flying in active operations against the enemy.
- The Air Force Cross (AFC) to be awarded to Officers and Warrant Officers for acts of courage or devotion to duty when flying, although not in active operations against the enemy.
- The Distinguished Flying Medal (DFM) to be awarded to Non-Commissioned Officers and Men for acts of gallantry when flying in active operations against the enemy.
- The Air Force Medal (AFM) to be awarded to Non-Commissioned Officers and Men for acts of courage or devotion to duty when flying, although not in active operations against the enemy.

Prior to the formation of the RAF, officers and airmen had received the gallantry awards of their service. Officers serving in the Royal Naval Air Service received the Distinguished Service Cross (DSC) and non-commissioned officers and men were awarded the Conspicuous

Gallantry Medal (CGM) or the Distinguished Service Medal (DSM). Officers in the Royal Flying Corps received the Military Cross (MC) and non-commissioned officers and men the Distinguished Conduct Medal (DCM) or the Military Medal (MM).

Although the first awards of the new decorations and medals appeared in the same *London Gazette* of 3 June 1918, it was 17 December before King George V signified in writing his approval of the Royal Warrant instituting the four awards.

The Distinguished Flying Cross.

The Distinguished Flying Cross and the Distinguished Flying Medal

The *London Gazette* gave the following details of the awards:

'The Distinguished Flying Cross shall be silver and shall consist of a Cross flory terminated in the horizontal and base bars with bombs, the upper terminating with a rose, surmounted by another cross composed of aeroplane propellers charged in the centre with a roundel within a wreath of laurels a rose winged ensigned by an Imperial Crown thereon the letters R.A.F. On the reverse the Royal Cypher above the date 1918. The whole attached to the clasp and ribbon by two sprigs of laurel.

The Distinguished Flying Cross shall be worn on the left breast pendant from a ribbon one inch and a quarter in width, which shall be in colour violet and white in alternate horizontal stripes of one-eighth of an inch in depth.

The Distinguished Flying Medal.

> The Distinguished Flying Medal shall be in silver and oval-shaped, bearing Our Effigy on the obverse and on the reverse within a wreath of laurel a representation of Athena Nike seated on an aeroplane, a hawk rising from her right arm above the words 'for Courage'. The whole ensigned by a bomb attached to the clasp and ribbon by two wings. The Distinguished Flying Medal shall be worn on the left breast pendant from a ribbon of one inch and a quarter in width, which shall be in colour violet and white in alternate horizontal stripes of one-sixteenth of an inch in depth. All awards of the Distinguished Flying Medal shall be issued named to the recipient.'

Two further clauses in the Royal Warrant stated that those recommended for a further act of valour, courage or devotion to duty, 'shall be awarded a bar to be attached to the ribbon by which the decoration or medal is suspended, and for every additional such act an additional bar may be awarded.' Another clause entitled those decorated with the DFC or the DFM to use the post-nominals DFC and DFM after their name.

The DFC was issued un-named until 1984 whereas the DFM was issued with the recipient's service number, rank, initials, surname and his Service.

Within a year, the Royal Warrant had been amended and this was published in the *London Gazette* of 5 December 1919. The ribbons of all four awards (ie DFC, DFM, AFC and AFM) were to be 'diagonal stripes running at 45 degrees from left to right.' The introduction of the diagonal stripes caused confusion in the early years and, no doubt, some embarrassment, as there are numerous examples of officers and men wearing the ribbon incorrectly.

Sir Keith Ross, KBE, MC, DFC** AFC – but his DFC and AFC ribbons have their stripes reversed.*

Lt Gen Curtis LeMay wore his DFC ribbon with the stripes reversed – but he got it right as a 4-star!

The same *London Gazette* of 5 December 1919 announced that, 'Foreign Officers of equivalent rank who have been associated in Military operations with Our Army or Our Indian, Dominion or Colonial Military Forces, shall be eligible for the award . . .'

Over the years there have been some important amendments to the Warrants:

11 March 1941	Extended to equivalent ranks in the Fleet Air Arm.
10 November 1942	Extended to equivalent ranks in the Army.
27 July 1968	Royal Marines were made eligible.
20 May 1980	Posthumous awards permitted.
20 May 1980	Eligibility extended to women.
1 January 1984	DFC issued named to the recipient.

A significant change in the eligibility of personnel for gallantry awards occurred in 1993. On 4 March, the then Prime Minister, John Major, announced in Parliament that he had instituted a review of the honours system as part of a drive to remove distinctions of rank in bravery awards. In October, the Secretary of State for Defence, Malcolm Rifkind, announced the results of the review, which resulted in the discontinuation of the DFM (and the AFM and equivalent medals of the other services) and so the DFC became eligible to all ranks with

Russia/Baltic	Aden
Afghanistan	Nuer Country (South Sudan)
Kurdistan	Sudan
Somaliland	North West Frontier
Waziristan	Northern Kurdistan
Albu Kemal	Chitral Relief
Iraq	Palestine

Table 1. Campaigns during which DFCs and DFMs were earned between 1918 and 1939.

immediate effect.

By the end of the 1990s, all Commonwealth countries had established their own honours system and they ceased to award the DFC and the DFM.

Announcement of Awards

With the exception of foreign nationals serving with Allied Air Forces, all awards appear in the *London Gazette.* Awards appear in the State Intelligence section of the appropriate quarterly index under the heading 'Distinguished Flying Cross' or 'Distinguished Flying Medal.'

Awards before World War Two

In the period 1918 to 1939 (see Table 1), during which 1,217 DFCs, 88 First Bars and seven second Bars were awarded, together with 183 DFMs and four First Bars, there appears to have been no distinction between a single act of gallantry and one for distinguished service over a period of time.

Entries in the *London Gazette* varied. Not all included the recipient's squadron and many lacked a citation. One such was the award to Lieutenant F Woolley of No 79 Sqn announced in the *London Gazette of 3* June 1919:

'In recognition of distinguished services rendered during the war.'

It did not include his squadron and there

Lt Frank Woolley wearing the original horizontally striped ribbon.

was no detailed citation. After his name it stated 'France.' Woolley retired as an air commodore having been appointed CB, OBE and Officer of Legion of Merit (US).

Those that did include a citation were brief. An example is the entry for the award of the DFC to Lieutenant G E Randall of 20 Squadron gazetted on 8 February 1919:

> 'A brave and resourceful flight commander, who has, within the last previous four months to November 11th, led 71 offensive patrols. On 10th November, engaging a superior number of enemy aircraft, he himself shot down two, and the remainder were driven off by his flight. In addition to the foregoing he has four other enemy machines to his credit.'

Randall went on to receive a Bar to his DFC for action in Waziristan, but there is no citation included in the *London Gazette* entry of 12 July 1920.

Awards of the DFM were treated in a similar way. The majority do not have a citation published and those that do are brief. The citation for 1st Class Private (Acting Sergeant) E Clare gazetted on 21 September 1918 is typical:

> 'Has been engaged on seventeen long-distance bombing raids. He has displayed skill and coolness in handling his gun on the numerous occasions on which his formation has been attacked by hostile aircraft. Sergeant Clare has rendered valuable services as an observer on photographic recon-aissance as well as long-distance raids.'

A similar pattern of announcement was followed for the period between the two World Wars. The announcement of the award of the DFC in the *London Gazette* of 10 October 1922 to Squadron Leader W Sowrey AFC, is a brief entry:

> 'For distinguished services rendered during active service operations in Iraq during 1920-21.'

Sqn Ldr Bill Sowrey.

However, deeper research discovers

a recommendation, which states:

> 'For continuous devotion to duty and gallantry when flying. This officer was in command of No 30 Squadron in 1920 and of No 84 Squadron in 1921. He has continually led his officers on bomb raids and on demonstrations, and as a leader and as a pilot he sets an excellent example to all serving under his command.'

Sowrey retired as an air commodore in 1942 having been appointed CBE for services in East Africa.

In the case of the award of the DFC in the *London Gazette* of 6 October 1933 to Flight Lieutenant G D Harvey of No 70 Sqn, there is an equally brief announcement, which states:

> 'In recognition of gallant and distinguished services rendered in connection with the operations in Northern Kurdistan during the period December 1931-June 1932.'

However, a much more comprehensive recommendation was submitted by Air Commodore C D Breese, SASO HQ Iraq Command, and endorsed by Air Vice-Marshal E R Ludlow-Hewitt, AOC Iraq Command. Breese wrote:

> 'This officer displayed particular coolness and good judgement while carrying out a very large number of bomb raids. His disregard for danger while concentrating upon obtaining the most accurate results was quite exceptional. In addition to the normal raids, he carried out numerous night raids during the waning moon and also in pitch darkness, which must have had tremendous effect on the rebels.'

Unusually, Ludlow-Hewitt's remarks were written four months after those of Breese, and just two weeks before the announcement in the *London Gazette*, and they go into much more detail of Harvey's action. Since Breese had submitted two or three other recommendations for the DFC, perhaps the AOC wanted to ensure that Harvey received the award since only two were awarded (allocated?) for the brief campaign. Harvey retired from the RAF in October 1958 as an air vice-marshal having been appointed KBE and CB.

There were very few citations published for the award of the DFM between the wars. Each announcement in the *London Gazette* was under a heading identifying the theatre of operations. For example:

'For Operations in Waziristan, January 1922-April 1923.'

'For Operations against the Akhwan, Southern Desert, Iraq.'

FORCE	DFC	DFC*	DFC**	TOTAL
RAF	11,819	1,105	37	12,961
RCAF	4,015	213	6	4,234
RAAF	2,179	125	1	2,305
RNZAF	865	54	3	922
SAAF	407	28		435
RIAF	20	1		21
Army	87	2		89
Bur VAF	1			1
TOTAL	**19,393**	**1,528**	**47**	**20,968**
Hon Awards	927	34	3	964

FORCE	DFM	DFM*	DFM**	TOTAL
RAF	5,307	52	1	5,360
RCAF	516			516
RAAF	407	2		409
RNZAF	174	1		175
SAAF	23			23
TOTAL	**6,427**	**55**	**1**	**6,483**
Hon Awards	170	2		172

Table 2. DFCs and DFMs awarded during World War II.

Second World War – Types of Award

From 1939 the year of issue was engraved on the reverse lower limb of the DFC.

During the Second World War, 20,968 DFCs were awarded together with 6,483 DFMs – see Table 2. The first DFC of the war was awarded to Flight Lieutenant K C Doran for an attack on an enemy cruiser that took place the day after the declaration of war. Four months later he was awarded a Bar to his award. Sergeant W E Willits, the second pilot of a Coastal Command Anson, was the first to receive the DFM, which was gazetted on 3 November 1939.

There were two categories of award, *Immediate* and *Non-Immediate* or Periodic.

As the name implies, immediate awards were made for an act (or acts) of bravery or devotion to duty deemed to command immediate recognition. In such instances, it was recognised that the recommendation for the award should be passed as quickly as possible, through

the laid down chain of command, to obtain approval by the Air Officer Commanding-in-Chief (AOC-in-C) of the appropriate Command. The Air Council recognised that the prompt and adequate recognition of outstanding gallantry was of vital importance in sustaining the morale, initiative and devotion to duty of airmen engaged in flying operations and in 1939 the power to grant immediate awards was delegated to an AOC-in-C by HM King George VI. Immediate awards were notified to the units concerned most promptly and a recommendation was forwarded to the Air Ministry for covering approval as a soon as possible. The notification to units of immediate awards intimated that His Majesty The King had made the awards on the recommendation of the AOC-in-C.

The recommendations for non-immediate awards approved by the AOC-in-C were forwarded to the Air Ministry to be submitted to the King for his approval. Once the King had signified this, notice of the award was promulgated in the *London Gazette*. Non-immediate awards were to reward devotion to duty sustained over a period of time. This category of award could be made at any time during an operational tour but, in a large number of cases, it was given to recognise the successful completion of a full tour of operational flying.

Illustrative Awards of the DFC.

The *immediate* award of the DFC to Flying Officer D T Witt DFM of 7 Squadron illustrates the procedure and the speed the recommendation was processed. On 10 July 1941 (the day of the action) the squadron commander, Wing Commander H R Graham, initiated the recommendation and wrote:

> 'On the 10th July 1941 F/O D.T. Witt led a section of 3 Stirlings on a bombing mission to a target just west of BETHUNE. At 1215 hours when crossing the enemy coast between BOULOGNE and LE TOUQUET this section was subjected to intense anti-aircraft fire and one aircraft was blown to pieces in the air. Despite this, Witt continued to lead the one remaining aircraft to the target, which was attacked with determination and skill, despite another intense anti-aircraft barrage. The target was severely damaged. The success of this attack is attributed to the tenacity, skill and determination of Flying Officer Witt.

Dennis Witt after receiving his DFM.

> Flying Officer Witt has now completed 61 sorties and has had a large measure of success in the face of many a determined effort by the enemy to destroy him. On the 1st July he was captain of a Stirling N6005 when a successful raid was made on TEXEL and his rear gunner shot down one Me.109. He was also in a formation, which on 8th July seriously damaged a chemical factory at BETHUNE. This officer is an outstanding pilot who has gained signal success in operations against the enemy'.

The following day, the station commander of RAF Oakington added his remarks:

> 'F/O Witt has now flown 376 hours on operations and always displayed conspicuous courage, skill and devotion to duty. Photographs since taken of the target of the bombing mission on 10th July 1941, when F/O Witt was section leader, show clearly the enormous amount of damage done to the target. I concur and very strongly support the recommendation for an immediate award.'

Air Vice-Marshal J E Baldwin, the AOC of No 3 Group added:

> 'In supporting the above recommendation, all I can add is that Flying Officer Witt continues to show the same courage, zeal and determination that he showed at the commencement of his operational tour in spite of the large number of sorties he has completed.'

Finally, on 20 July 1941 Air Marshal Sir Richard Peirse, the Commander-in-Chief Bomber Command, approved the *immediate* award of the Distinguished Flying Cross. It was published in the *London Gazette* of 5 August 1941.

During a later tour with the Pathfinder Force, Dennis Witt was awarded an immediate DSO. He died in service as a group captain.

An example of a *non-immediate* award of the DFC is illustrated by the recommendation, sent by signal from HQ RAFME, for Warrant

Officer T C Morris of 74 Squadron:

> 'Warrant Officer Morris has been actively engaged on operations since the beginning of the Italian campaign in the Western desert. He has destroyed three enemy aircraft in the air with a further 'probable'. He has displayed great courage and initiative whilst taking part in over 39 ground strafing operations of enemy aerodromes and transport, also carrying out several reccos which have been of great value to the Army. At all times his keenness and ability have been well to the fore and he has set a fine example to the inexperienced squadron pilots showing interest and enthusiasm in giving the benefit of his experience.'

The recommendation was for the DFM but the originator had clearly misunderstood, or did not know, that warrant officers were awarded the DFC. A staff officer at the Air Ministry had struck out DFM and replaced it with DFC. The award of the DFC was published in the *London Gazette* of 22 August 1941. Morris was killed in a flying accident at Evanton in August 1943.

Illustrative Awards of the DFM.

On 4 October 1941 Sergeant Lloyd Morgan of 217 Squadron was recommended for the *immediate* award of the DFM. The recommendation stated:

> 'Sergeant Morgan, the pilot of Beaufort aircraft 'G' was ordered on 28th September, 1941 to carry out a night attack in company with four other aircraft on docks and shipping at St Nazaire with the oil refineries at Donges as the alternative target. Because of haze and low cloud, the primary target could not be located. The pilot therefore continued along the coast and approached the secondary target from the north when he obtained a clear view of several large storage tanks at Donges. The aircraft was then approached by an enemy night fighter but Sergeant Morgan took evasive action by diving to 100 feet, enabling the rear gunner to fire a burst of 50 rounds at the enemy aircraft and to extinguish a challenging searchlight with 150 rounds. Proceeding across the target at 700 feet, the bombs, two 500lb G.P., three 250lb G.P., instantaneous fusing, and one 25lb canister of incendiary bombs were released in a 30-foot stick directly among the tanks. All five were seen to burst and their

explosion shook the aircraft. A large fire was immediately observed, which was still burning fiercely when the aircraft was 25 miles from the target. On 30th September 1941, Sergeant Morgan was the pilot of Beaufort 'Z' detailed to carry out a night attack on the Kuhlmann Chemical Works at Nantes. When the target area was in sight, an enemy fighter was observed dead ahead, which the pilot avoided by diving to 150 feet and proceeding out to sea. Returning landwards, the pilot approached the target along the River Loire but the shipyards were not seen until the aircraft was directly overhead because of ground haze. The pilot prepared to make another attack from the northeast and then encountered intense machine gun tracer fire and searchlights. After climbing, the haze still obscured the target and the pilot therefore made his run at 700 feet and the stick of bombs was aimed at rectangular buildings and chimneys in the target area. The crew observed the bursts and the explosion violently rocked the aircraft. The fire that was started could still be seen 20 miles away on the homeward journey. The persistence and skill with which Sergeant Morgan carried out these attacks enabled the targets to be effectively bombed and ensured the safety of his aircraft. Since joining No. 217 Squadron, Sergeant Morgan has carried out 26 operational sorties and has always displayed skill and resolution of a high standard.'

This recommendation was approved and Sergeant Morgan was awarded an *immediate* DFM, which was promulgated in the *London Gazette* on 21 October 1941. During a later tour he was awarded the DFC.

The following signal from HQ RAF Middle East for a *non-immediate* award was received at the Air Ministry on 28 February 1942.

'The following recommendation for the Non-Immediate award of the Distinguished Flying Medal to No. 755262 Flight Sergeant Bernard Evans of No. 108 Squadron is forwarded. This NCO commenced operations as an air gunner on 15/5/40 with his squadron in France on Lysander aircraft. He carried out six daylight raids over advanced enemy positions during which time his aircraft was subject to many attacks by fighter aircraft. In all these sorties he displayed determination and courage of a high order. On the evacuation of his squadron from France he was

posted overseas and recommenced operations on a Wellington squadron in this Command. On 8/1/41 he saw service with this squadron in Greece and on his return to this Command proceeded with the squadron to Iraq where he was instrumental in creating great havoc among ground personnel in the face of opposition during low-level daylight attacks. His squadron returned to the Command after the detachment to Iraq and resumed operations, the majority of which were carried out over Benghazi in the face of the usual heavy enemy opposition. Flight Sergeant Evans was posted to this unit in August 1941 and since then he has carried out a large number of raids on low flying attacks against the enemy. His success as an air gunner has always been outstanding. As an example of this, on the nights of 19, 22 and 25 September 1941 when the aircraft were ground strafing the Benghazi-Tocra-Barce roads, he (as rear gunner) set fire and seriously damaged a large number of enemy transport and silenced enemy opposition. He has to date completed 48 operations with a total of 402 operational hours during this time with this squadron. He has carried out the duties of assistant gunnery leader and by his leadership in this capacity he has been an inspiration in the air and on the ground to all gunners with whom he has come in contact.'

The DFM to Flight Sergeant B Evans was announced in the *London Gazette* of 7 April 1942. Whilst serving on a Wellington OTU, Evans was shot down over Belgium on the first 'One Thousand' bomber raid to Cologne. With the help of the Belgian 'Comète' escape line he evaded capture, was escorted over the Pyrenees and returned to his unit. He was awarded an MiD.

The recommendation for Evans is unusually long for a non-immediate award and is in contrast to that for Sergeant W Foster, an air observer on 51 Squadron, which is more typical:

'This N.C.O. observer has now completed 24 operational flights over Germany, Norway, Denmark and France. Early in the war, he had the very bad experience of crashing and burning in an iced-up aircraft but has continued to show remarkable courage, zeal and determination. His bombing and navigation have been of a very high order indeed and he has materially assisted the successes obtained by the crew with whom he has

flown.'

The DFM to Sergeant Welch Foster was announced in the *London Gazette* of 30 June 1940. He was later awarded the AFC.

Honorary Awards

A total of 1,022 DFCs and 177 DFMs have been made to foreign nationals (non-Commonwealth) serving in Allied units but these do not appear in the *London Gazette*. Of these, 47 DFCs and 4 DFMs were awarded in the First World War. After the Second World War, eight DFCs and one DFM were awarded to members of the USAF for service during the Korean War and a DFC was awarded to a US Marine for the Iraq War

During the Second World War three foreigners were awarded the DFC and Two Bars.

- Major Martin Gran of No 331 (Norwegian) Sqn.
- Squadron Leader Stanislaw Skalski who flew with Nos 306 (Polish), 317 (Polish) and No 145 Sqns.
- Squadron Leader Remy van Lierde, a Belgian, who flew with Nos. 3, 164 and 609 Sqns.

Post War Awards

Since the Second World War, awards have been made for flying operations in nineteen theatres ranging from Korea to the Falklands and from Vietnam to Afghanistan – see Table 3. The most recent have been for action against ISIL in Syria and Iraq. Approximately 760 DFCs have been awarded with 42 first bars and five second bars.

The DFM has been awarded 142 times since 1945 before it was discontinued in 1993. The last to be awarded was announced in the *London* Gazette of 12 October 1993 and was to Staff Sergeant T W Sullivan of the Army Air Corps for: 'Gallantry in Northern Ireland.' The last award to be gazetted was to Sergeant P D J Holmes AFM, RAF: 'For gallant and distinguished services in the Gulf.' It was notified in the *London* Gazette of 9 May 1996 to be dated 29 June 1991, which suggests that it was for service in support of Special Forces.

In the immediate post-war years, citations published in the *London Gazette* reverted to the brief style of the period between the wars. A typical entry can be found for the DFC awarded to Captain K Perkins Royal Artillery of No 1903 (Independent) (AOP) Flight. The *London Gazette* entry of 10 November 1953 merely states:

Malaya	Falklands
Yangtse	Gulf War
Korea	Iraq No Fly Zone
Kenya (Mau Mau)	Kosovo
Aden	Sierra Leone
Oman	Iraq War
Borneo	Afghanistan
Radfan	Libya
Vietnam	Iraq/Syria
Northern Ireland	

Table 3. Post-war campaigns during which DFCs and DFMs have been awarded.

'In recognition of gallant and distinguished service in Korea.' However, research at TNA discovered the recommendation that led to the approval of the award:

> 'Captain Perkins has held the appointment of Section Commander, No. 1903 Independent Air Operations Flight and has flown Auster aircraft on 180 operational sorties over the Commonwealth Division front. He has controlled the Divisional Artillery and the Corps Artillery with outstanding success in 386 artillery engagements. By complete disregard of the hostile anti-aircraft fire he has achieved immense destruction to enemy fortifications, equipment and personnel. Captain Perkins has carried out several low flying reconnaissance missions over the Forward Defended Localities. His preliminary appreciation of the terrain, enemy light anti-aircraft potential and subsequent high class flying ability have resulted in excellent results which have indicated the fearless determination with which this officer has flown.'

Perkins retired from the Army as a major general.

The same situation arises for the award of the DFM. The *London Gazette* of 10 October 1953 includes the award of the DFM to Sergeant E C W Tait of 88 Squadron without citation. This was based on this recommendation:

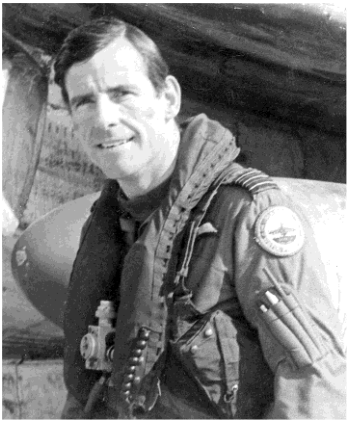
> 'Sergeant Tait is a conscientious, skilful squadron navigator on Sunderland aircraft. His invariable accuracy, precision and reliability earned the respect, not only of his own crew, but also

Sunderlands of the Far East Flying Boat Wing at Iwakuni.

of all squadron personnel. His ability and success have proved a fine example to squadron navigators, officers and non-commissioned officers alike, and without his lead there is no doubt the general standard of squadron navigation would be lower. He has completed 65 operations with the United Nations forces in the Korean Theatre. Without his skill as navigator, many of these operations under difficult, rigorous, and hazardous conditions would have been impossible. Sergeant Tait has shown exceptional leadership and a high sense of duty throughout his operational tour.'

By the mid-1960s the announcements that appeared in the *London Gazette* included lengthy citations, which virtually repeated the original recommendation. As a result, there is considerable detail. One example of such an award will suffice. In the *London Gazette* of 8 October 1982, the award of a DFC to Wing Commander P T Squire AFC was announced with the following citation:

'Six GR3 Harriers from 1(F) Squadron embarked in HMS HERMES on 18th May 1982, and a further four replacement aircraft were flown direct from Ascension Island to HMS HERMES' deck 3,500 miles away. During the re-invasion phase of the Falklands operations, 1(F) Squadron flew from the ship in a wide variety of bombing, PR and rocket attacks on targets ashore in the Falkland Islands in support of ground forces, usually at low level against defended targets. Wing Commander



Wg Cdr Peter Squire, When OC 1 Sqn.

Squire led his Squadron with great courage from the front flying 24 attack sorties. He flew many daring missions, but of particular note was an attack at low level with rockets on targets at Port Stanley Airfield in the face of heavy anti-aircraft fire when both he and his wingman returned damaged. Also a bombing attack on an HQ position when, on approach, a bullet passed through his cockpit, which temporarily distracted him, but he quickly found an alternative target and bombed that instead. During overshoot Wing Commander Squire's aircraft suffered engine failure and was damaged during crash landing at the forward operating base ashore on 9th June, but he continued flying after his return to the ship with unabated zeal. Wing Commander Squire has shown outstanding valour and steadiness under enemy fire, and has led by brave example.'

Squire rose to become Chief of the Air Staff and retired as Air Chief Marshal Sir Peter Squire GCB DFC AFC in December 2003. His father, the then Flight Lieutenant F Squire, was awarded the DFC in March 1943 making them one of very few father and son recipients of the award.

In recent years two awards have been unique. The *London Gazette* dated 7 March 2008 announced the award to Flight Lieutenant Michelle Goodman a Merlin pilot of 28 Squadron for gallantry in Iraq, making her the first woman to receive the DFC. Wing Commander (now Air Commodore) P Robinson, a Chinook pilot, has been awarded the DFC with two Bars for services in Iraq and Afghanistan making him the only person to receive the award three times since the end of the Second World War.

At the time of writing, the most recent DFC to be gazetted (6 April 2019) was to Typhoon pilot Flight Lieutenant A Vaughan for action over Syria.

AN ACCOUNT, BY THE LATE AIR CDRE F J MANNING, OF HIS LINKS WITH T E LAWRENCE (aka AC1 T E SHAW) IN 1934-35

Following Air Cdre Peter Gray's presentation at the 2019 AGM (Journal 74), some concern was expressed, which I support, over the less than adequate coverage of AC1 Shaw's (T E Lawrence's) work in helping to set up the RAF Marine Service. To throw more light on this, I offer the following notes, put together by my late father-in-law, Air Commodore John Manning CB CBE who, as a pilot officer, first met Shaw in 1934 and later became his final Commanding Officer. These illustrate the very high regard in which he, and others, held Shaw as 'one of the prime architects of our Air/Sea Rescue Service.' The notes are very much verbatim and slightly repetitive in parts, but I have not felt it right to edit them. (I Concur. ***Ed)***

Air Cdre Mike Allisstone

I joined the Royal Air Force in September 1933 as a transfer from the Royal Naval Reserve on a Short Service Commission, but after about three months I found that I just could not get over air-sickness and the medicals graded me as permanently unfit for flying. This should have qualified me for immediate discharge – being flung out onto civvy street – but I believe what happened was that AMP's Branch discovered that I was a qualified sailor and I was offered the job of Chief Instructor at the Marine Craft's Training School at Gosport, and it's to that station that I went in February 1934. It was whilst serving there that I became aware of a frequent visitor to the jetty at Calshot in a dinghy, and I remember my Flight Sergeant telling me 'Do you know who that man is, Sir? That's Shaw.' He, Shaw, apparently was working at Scott Paine's Yard in some capacity on behalf of the Air Ministry and would occasionally come down to Calshot to get repairs done, and spares which were usually demanded in a very dictatorial manner, from the seat of a dinghy. Later, when Orderly Officer one day, I came across this man standing on the tarmac at Calshot, looking straight up The Solent, (he was in uniform). I recognised him as Shaw and went up to speak to him. He saluted and spoke very politely and, after a few words only he said, 'Oh, by the way, Sir, I hear you're being posted to

AC1 Shaw. (T E Lawrence Society)

Donibristle.' 'Well,' I said, 'it's the first I've ever heard of it.' He said, 'I think you'll find it'll be coming through.' Sure enough, a week later my posting to Donibristle came through as Marine Craft Officer. Two weeks later, I saw Shaw again, and in passing me with a salute he said, 'I don't think its Donibristle any more, Sir. It's going to be Mount Batten.' And a week later my posting was changed to Mount Batten. I mention these two brief encounters because I think it indicates that Shaw was at least 'in the know' – even as an AC1 – about Marine Craft affairs other than 'tuning and testing' of engines. In the light of my later experience I would go so far as to say that he was probably consulted on such matters by Flight Lieutenant Beauforte-Greenwood (ret'd), the Head of the Marine Craft organization.

This takes me to the summer of 1934 and I took up that posting. It was very pleasant. I had a Marine Craft Section to myself. I was involved with flying boats. But I also began to pick up the story of Shaw's association with the motor boats at Plymouth because that is where I believe his maritime experience began, which is another story. But I can recall, for example, Wing Commander Sydney Smith's yacht lying in the hangar up there. He left it when he went to Singapore, and it was looked after by the Marine Craft Section. There were many stories in circulation about Shaw's life whilst he was an aircraft hand at Mount Batten from 1929, where on returning from Miranshah, he served as clerk to Wing Commander Sydney Smith the Station Commander. Shaw became a close personal friend of Smith and his wife.

I settled down to work there, quite content to see my Short Service Commission played out on that station. But somewhere around the October, I was warned for posting to the Marine Craft Detachment at Bridlington; in due course I was directed to go to Paddington Station in the late December to meet the retiring CO of Bridlington – a Squadron Leader Snow – and take over the unit. The handover/takeover took

place in the Buffet at Paddington Station. He spoke about the boats being in a garage; altogether ten, five armoured boats, five seaplane tenders. He spoke about Shaw being up there, in somewhat cynical terms, and wished me the best of luck, bought me a cup of coffee, and departed. I then, officially I suppose, became CO of Bridlington as a Pilot Officer, and I went up to Bridlington by the overnight train to report. I should explain that Bridlington served Catfoss, an armament practice camp. It was normally open only in the Summer. It would re-open usually in the Spring to prepare for the armament practice camps of squadrons. And overall, Bridlington with Catfoss were responsible to the Air Armament School at Eastchurch. It was a rather difficult line of communication but somehow it worked. I arrived at Bridlington and I was met at the station, somewhere around about seven in the morning by the Moorings and Marine Craft service contractor in Bridlington, a Mr Ian Deheer. He took me to my lodgings near the harbour – and when I had had a bath and got respectable – took me down to the Hangar, the RAF hangar at the harbour, where I was introduced to Shaw. Shaw was dressed in a blue jersey, a scarf, a kind of sports jacket, a very creased up pair of flannel trousers, no hat; and he very politely said, 'How do you do.' He almost immediately suggested that there was no point in my remaining at Bridlington since there were no other airmen, and the boats were still under repair by the contractor in the various garages throughout Bridlington. Most of the engines were being overhauled at Scott Paine's Yard at Hythe, Southampton. He thought the best thing I could do was to go back on leave; indeed he had inquired of Eastchurch himself whether that would be endorsed. He had Eastchurch's approval and mentioned that the next train back to London was in two hours' time. I was young enough not to need much persuasion about taking leave, and disappeared for another week. When I came back, Ian Deheer had prepared more acceptable lodgings for me and I settled in to take over this Unit which at that time had no airmen other than Shaw. There were, of course, Ian Deheer and his tradesmen, local Bridlington men finalising the maintenance work on the boats. And that's how I started at Bridlington.

Shaw's appointment there as an AC1 was very unorthodox. Not only was he in the lowest rank as an AC1 but he was an aircraft hand, the lowest form of unskilled life in a highly technical service. I think King's Regulations at the time (they certainly expressed it later on)

RAF 200 – the first of ninety-two 37·5 ft Seaplane Tender Mk Is.
(http://www.rafboats.co.uk)

specified that no-one was allowed to coxswain boats unless he had either a First or a Second Class coxswain's certificate, or superior qualification. But Shaw, totally without such qualifications, drove all manner of service boats. At the material time at Bridlington he'd completed an incredible number of tests on these boats including that epic trip of Seaplane Tender 200, the first of her class, which he took non-stop and single-handed from Hamble to Plymouth; his log-book is still in existence somewhere in MOD. Later he compiled the service handbook on this class of marine craft, a first class publication. So he was an unofficial and unqualified coxswain, and had no authority according to King's Regulations to have anything to do with these boats whilst afloat or indeed with their technical maintenance. Nevertheless his appointment, authorised by Air Ministry was in the form of technical liaison between Scott Paine, Beauforte-Greenwood (the head of Marine Craft at the Air Ministry) and with the maintenance and development work at RAF Felixstowe and at Bridlington where the RAF Detachment had a big concentration of these armoured motorboats and seaplane tenders. I'm afraid I can't define Shaw's appointment in better terms than that. I saw nothing to confirm this in writing. He was regarded almost as having the status of Air rank. Yet his true status was

Shaw with Scott Paine. (T E Lawrence Society)

that of the lowest grade of all – an aircraft hand, but everyone from the Air Ministry to Catfoss, and indeed my coxswains and fitters in the Unit, looked upon him as some very superior being, not only in the technical sense, but on account of his apparent flair for short-circuiting all conventions and channels to secure his objectives.

I had nothing in writing to say how Shaw must carry out these special tasks; for example, his liaison with Scott Paine, or with Beauforte-Greenwood, as well as his role in my Unit. The arrangements appeared to be entirely verbal, by a nod of the head, or by an unrecorded phone-call.

Shaw successfully stymied all suggestions of promotion. According to a statement that I heard him make, he could not pass, or would not pass, the educational tests and with that barrier he could never be assessed. But after Mount Batten and a threatened 'resignation' he was assigned to Scott Paine. His parent unit became Felixstowe and his records were documented there – held there – and I believe it was felt at the time that since Felixstowe was the Marine Aircraft Experimental Establishment, it was the most suitable service unit to 'parent' him. I do know that when the day came for his discharge, his records appeared

on my desk at Bridlington. I read them before I interviewed Shaw prior to discharge. I can't remember any assessments but I do remember a record that he had scars, gunshot wounds in his back.

In due course, the normal complement of airmen arrived. The boats were brought through the streets of Bridlington one-by-one on enormous trolleys towed down to the harbour and launched by the civilian contractors and tied up in the harbour. In dribs and drabs airmen were being posted in on a permanent posting because it was agreed that Bridlington would have to serve the now-expanded air force permanently, instead of summer only, and drafts were coming in daily of three or four at a time during January and February 1935. By the middle or third week in January about 30 airmen had arrived, taking up their respective jobs. The crew of a boat would be coxswain, deck-hand and wireless operator. In addition, a very splendid Flight Sergeant arrived, a Flight Sergeant Hardwick. He had had previous service in the Royal Marines, and never held any special regard for Shaw, only to treat him just as another airman.

There were many indications of Shaw's natural qualities of leadership, particularly at the time when the boats were being brought through the town and into the harbour. Generally one would find Ian Deheer and Shaw closeted together during the manoeuvring of the boats through the Bridlington streets and in their launching. I think Deheer would have done it quite well himself, but Shaw was one of those busy little men who had to be there all the time. When the boats were launched, he with my senior fitter, Sgt Camden, were then very busy with the other fitters getting the engines tautened down and it was in this particular field Shaw felt that his prime responsibilities rested. He would daily take one to sea in order to do the test running. In the letters of T E Shaw when writing to his many distinguished friends, he so often uses the phrase 'You see, I'm in the Air Force now, tuning and testing engines.' This was very evident at Bridlington, all the time.

Before going to Bridlington, I had been told that one of the difficulties Shaw had in his very early days in 1922 at Uxbridge was that, while an ex-officer himself, he felt that the recruits – and he himself shared that feeling – disliked the officers of the RAF whom he saw at Uxbridge. And one of the reasons was that they were so incompetent technically, in his opinion, that they really didn't know about aerodynamics and the performance of engines. But at Bridlington

there was no evidence of this feeling or attitude on his part. I never heard him give an adverse criticism of officers, but on the other hand I never heard him speak of any officer in terms of commendation. But I think the change in attitude was partly due to his complete dedication to the RAF Marine Craft Service, and its acceptance of him. At Bridlington, each of us was a little expert in his own right. Undoubtedly he had great respect for the corporal/sergeant level of technical management. I was a qualified Merchant Navy and Royal Naval Reserve officer, and I think he respected that. Beauforte-Greenwood, the Head of the RAF Marine Craft Service, was not a qualified engineer in the true sense of the word (he had extensive small boat experience) but I think Shaw found him an agreeable boss because of his influence, and as a useful ally. Another officer whom I think he respected was a Flight Lieutenant Harrington – Beauforte-Greenwood's assistant – who was a very competent marine engineer. There was no-one in the Marine Craft organisation who could be termed 'depot' category.

Shaw was accommodated at the Ozone Hotel, run by Mrs Barchard. This small hotel overlooked the harbour. Since October 1934, Shaw had been the sole RAF occupant: there were about 30 rooms altogether – an ideal lodging house for the RAF personnel at Bridlington. As the airmen flowed in, so the rooms were taken up. Unit social functions didn't really develop until some time after Shaw had left, when my full complement had been built up. Eventually we had a strong social relationship at Bridlington, particularly in the field of sports. But it did not exist in Shaw's time. However there were several instances prior to the arrival of the main body of airmen, when visiting officers from the Air Ministry such as Beauforte-Greenwood and Harrington would take Shaw over to the Yorkshire Yacht Club for drinks. Shaw seemed to be entirely at ease on these occasions, and indeed at times seemed to be the most light-hearted chap in the party. His sole refreshment would be a tonic water or bitter lemon, and he would be dressed in his familiar garb of sports jacket, flannel trousers and scarf. He once cashed a cheque at the bar of the club using the signature 'Ross'.

Mrs Barchard had been the proprietress of the Ozone for a number of years. I don't know exactly when the RAF acquired the accommodation as airmen's billets. Mrs Barchard had a very authoritative manner and impressive physique. She ruled the airmen with a rod of iron. There was never any need for me to do inspections

because she did her own. I remember, with her 'grace and favour', being allowed to go over the Ozone Hotel in my early days there and when Shaw was living there, to see where and how the airmen lived. In fact they had greater comfort than in a barrack room of course. I remember Mrs Barchard opening the door of a room and saying 'This is where Mr Shaw lives. He is such a gentleman.'

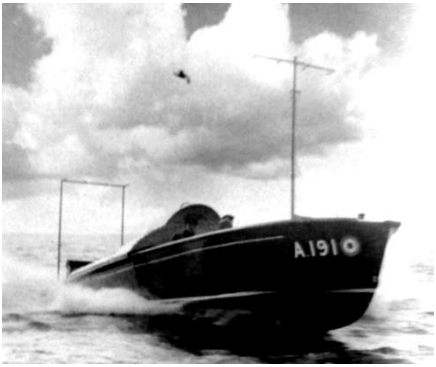
I shared other social occasions with Shaw. One was at the home of the Adjutant – the civilian Adjutant – at Catfoss. He was a retired Flight Lieutenant Equipment Officer by the name of Sims, Reggie Sims. He and his wife had known Shaw when he was stationed at Miranshah. Presumably Sims was the Station Equipment Officer. They lived with Shaw in their minds for 24 hours a day. I've never come across two people who were so overwhelmingly devoted to Shaw. At times it was somewhat overpowering, particularly the devotion of Mrs Sims. In February, five weeks after I had arrived, Sims telephoned me one day and said that Eric Kennington, the celebrated artist, was coming up from London to visit him, in what connection I cannot remember, and asked would I like to go over and have supper with the Sims at Hornsea. He, Sims, would come over and fetch me, and also fetch Shaw at the same time. I thanked him for the invitation, said I'd let him know within 24 hours whether I'd be able to accept it, but really the reason why I begged for 24 hours to think it over was because, in my rather old-fashioned upbringing, I was very doubtful whether it was right for me to go out to supper with one of my airmen and indeed whether it was right for me to drive with him! Looking back on it now, the thought is rather ridiculous, but it was real to me at the time. The fact that he had been a Colonel – Colonel Lawrence – once did not enter into the situation at all.

The airmen had a similar problem but from another angle. However, they resolved it quite simply; they accepted him as an airman. They knew about 'Lawrence of Arabia', but they associated it with a form of Beau Geste escapade; and they awarded no special points for that kind of thing. They were more concerned with the immediate Shaw and his capabilities in handling motor boats; and also whether he was gritty or co-operative. Their opinion seemed to be that he did pull his weight, had commendable technical qualities, and he was companionable, even if at times he wasn't startlingly hilarious.

To return to the Hornsea visit! Sims in due course turned up. It was

proper for me to sit in the front and Shaw to sit in the back of Sims' car. It would have been unthinkable for me, for the positions to be reversed! The drive was quite pleasant, with Sims almost overwhelmingly subservient to Shaw. In other words, the relationship had changed; the Service relationships had been abandoned the moment we got into his car. At Hornsea we were given a very warm welcome by Mrs Sims. By that time we had all forgotten about the Air Force entirely. I'd certainly forgotten about my previous worries because Shaw established an immediate rapport with Kennington – they were old friends – and we began to talk about almost everything under the sun (other than Marine Craft and Bridlington) and particularly about Kennington's experiences when visiting Arabia to draw the principal characters for The Seven Pillars. One character, a wild Arab actually attacked Kennington with a knife whilst the drawing was in progress. Whilst we were having this talk after supper, the Sims' young boy who then was about 5 or 6, was allowed to come down to see the great man, ie Shaw, bringing with him his Christmas present from his parents – a boys' Book of Heroes. In it was an account of Lawrence of Arabia and Shaw read this and thought it very amusing. I believe there was a sentence which said that Lawrence rode for so many days and so many nights on a camel with but a drop of water and a handful of dates. It was then that he produced his pen and made some marginal adjustments which stretched the facts further in highly fictionalised terms. He handed this book back to the young Sims and I suppose it may well have become a very valuable possession of the Sims family.

On another occasion we attended one of Bernard Shaw's plays produced by the local amateur dramatic society in Bridlington, at the Spa Pavilion. Beauforte-Greenwood and Norrington were there. It must have been linked with a special visit to the Unit by Beauforte-Greenwood, Norrington and another Marine Craft officer, Flight Lieutenant Weblin (who commanded Bridlington 1932/33, formerly a Lt Cdr RN ret'd). They were all there, I recall, to see the last of the 10 boats safely out of the garages and into the water (and also to pay 'homage' to Shaw in his last few days of Service life). We rounded off this visit by seeing this performance, in which Ian Deheer played a leading role. Shaw watched the play very attentively, and seemed to comprehend more amusing passages than the rest of us, frequently chuckling to himself when the rest of the party was silent and 'po-



A191 – the second, of the seven, 37·5 ft armoured target boats. (http://www.rafboats.co.uk)

faced'. He sat right in the middle of us all, again with the scarf and the sports jacket. The wives of Ian Deheer and Weblin were there, and he was extremely sociable with them; he always seemed to be very much at ease in ladies' company. I remember him autographing their programmes and behaving in an almost juvenile way in the vestibule at the interval; in great form, nothing to suggest he resented women's company. What impressed me on these isolated social occasions, was his extraordinary normality in personal relationships, rather than abnormality, with people in all walks and conditions of life.

It was from Bridlington that Shaw left the Air Force, and as his Commanding Officer – his last – I was required to deal with a few formalities. During his final days at Bridlington we discussed his departure, and his future. I asked him why, if he was so happy with the Service, he didn't continue. And he said that his 12 years were up; he didn't think he should take on for any more. At the time I thought of these engagements in orthodox terms; if you went beyond 12 years it would have to be either a pensionable one, or a very special and unusual extension – of a year or two. But I now know he was never on orthodox engagements. He was on a unique take-it-or-leave-it form of contract in which he could leave the Service at any time subject to a month's notice either way. But 12 years appeared to be the point at which he had decided to call it a day, although clearly, the man was rather upset about going. He'd finished his job at Bridlington. All boats were in the harbour and in running order. He displayed immense pride in their performance and, I am sure, also in the fact of their existence. He could justifiably claim to have made a significant contribution to the conception and development of these boats, particularly the armoured boats which had been designed as high speed targets simulating the characteristics of battleships under bombing attacks by aircraft. In

another conversation I remember him saying that one of his problems after leaving the Service would be that of his income; he felt that if he was not careful he'd either be a pauper without an income at all, or so wealthy that he'd be worried about the use of it. He wanted to establish a balance, ensuring his independence – perhaps not in comfort but certainly with peace of mind – he felt that he could exist on, for example, two pounds a week or something like that. He was trying to strike this rather austere balance between having nothing at all and letting his talents rip, so to speak, and bring him what would have been an income of gross inconvenience. I also, incidentally, by the time he left, started to talk to him fairly freely about his life in Arabia. We reached, during his last fortnight of service, a kind of chatting stage and I found him very patient and helpful with my ill-informed observations. But I was no exception in being able to quiz him about his Army life. Most of the officers I have mentioned knew very little about Arabia, and they too chanced their arms in speaking to him about it. Some of our questions must have been very boring to Shaw. He once recommended that I should read Liddell Hart's book about the Arabian venture – the only one worth reading in his view. He advised me NOT to read Lowell Thomas's book 'With Lawrence in Arabia'. But there is no doubt that of all the interests that Shaw had in his rather unusual life, his last 6 years in the Air Force represented a haven, represented an object of great devotion, gave him a technical challenge which he couldn't have believed would arise. It came by chance. He took the opportunities made available to him at Mount Batten, and made the best out of them, and with distinction. Purely by chance, arising out of the rescue operations associated with a flying boat crash in Plymouth Sound in 1929,[1] his long association with motor boats began. Once involved, entirely unprofessionally at first, he soon became deeply committed to a personal crusade of technical improvement of RAF safety launches. In retrospect we know that his contribution to the development of new boats of revolutionary design was immense. My own view is that he was one of the prime architects of our Air/Sea

[1] This was actually the loss of a Blackburn Iris III, N238, which crashed in Plymouth Sound on 4 February 1931; nine of the twelve on board died. Shaw was first on the scene, in a seaplane tender, accompanied by OC Mount Batten, Wg Cdr Sydney Smith. **Ed**

Shaw 'in his familiar rig – scarf, sports jacket, flannel trousers' (Ian Deheer)

Rescue Service. Although he did not live to see this service grow beyond its adolescence, I feel sure that had he lived to see the 64 foot launches in operation during the last war, and had known of the thousands of lives they helped to save, he would have felt both contentment and pride in his achievements; something that 'the Lawrence' appeared not to experience after his Arabian venture.

On the day of his discharge, Shaw was marched in by Flight Sergeant Hardwick. Shaw was in uniform for the first and last time during my time with him. I had his records on the table, and I was required to ask certain questions about any help he might require to assist his resettlement in civilian life. These I can't recall now. We then talked about his immediate plans and he told me that he was going to cycle from Bridlington to Bourne to meet for the first time the author Frederic Manning with whom he had exchanged letters for a number of years. On the way to Bourne in Lincolnshire he heard that Manning had died and so he altered course and cycled down to Clouds Hill. As far as I know he went the whole way on push-bike via Cambridge. A few of us saw him off from the harbour-side at Bridlington, including Ian Deheer who took a snapshot of him just before he pedalled off. He was again in his familiar rig – scarf, sports jacket, flannel trousers, sitting on his bicycle and leaning against the harbour wall. This was the last photograph ever taken of him. He gave a half smile, and a half wave of the hand and he was on his way. We never saw him again.

During the last week in April 1935, I received from Shaw, via Ian Deheer, my own personal memento of our association at Bridlington. It was a print of a charcoal portrait of Shaw by Augustus John: a three-quarter size portrait of Shaw in uniform – cap and No 1 Dress. On the back of the print Shaw wrote – 'For his last Commanding Officer –

For his last Command Officer — my wishing that he was it still — from Shaw.
Bridlington. March 1935.

only wishing that he was it still – from Shaw. Bridlington. March 1935.' Shaw sent a similar print to Ian Deheer, under a covering letter (from Clouds Hill dated 20 April 1935) in which he explained why he didn't send my copy directly to me. The relevant paragraph is as follows: 'Will you be good enough to present the second print to P/O Manning! I have no Air Force List to find his initials, and I expect you see him very often! I hope Bridlington goes well. It will not be our fault, anyhow, if it does not: for we made the boats pretty good. I hope he is not finding the weather (and Catfoss combined) too interfering.'

Not knowing my initials is rather a lame excuse for not sending the print directly to me! But he was on Christian name terms with Ian, who addressed him as 'T E', (Norrington called him 'TES(S)!'), and it was easier for him to dash off a few lines to him. I was a more remote man (aged 23!!) on the Unit – we each kept our distance! So his words on my print 'only wishing he was it still' has nothing to do with a desire to come under my command again: no favourable reflection of my leadership here! What it does imply in my view is that to have me as a Commanding Officer again would mean that he would be back in the Royal Air Force again – and with 'his boats.' From the time he left us, until his death, there were frequent references in his letters, to a wide range of correspondents, to his sadness at being out of the Service: all, in one form or another, indicate that he was pining to be back. Two days after he left us at Bridlington, he wrote a letter to a Peter Davies. In it he describes his feelings about leaving the Service:

> 'On Tuesday I took my discharge from the RAF and started southward by road, meaning to call at Bourne and see Manning: but today I turned eastward instead, hearing that he was dead.
>
> ******** ******** ********
>
> My leaving the RAF numbs me, so that I haven't much feeling to spare for a while. In fact I find myself wishing all the time that my own curtain would fall. It seems as if I had finished now.'

Note. This document, and Air Cdre John Manning's other papers, are catalogued and available to researchers at the Liddell Hart Centre for Military Archives of King's College, London.

FIVE EXPLANATIONS AS TO WHO NAMED MALTA'S GLOSTER GLADIATORS 'FAITH', 'HOPE' AND 'CHARITY' IN 1940-41

by Richard Raskin[1]

Abstract

One of the most remarkable stories of the Second World War concerns the role played by a small number of obsolete biplanes that took to the skies over Malta in June 1940 and engaged wave after wave of modern Italian fighters and bombers. Malta's outdated Gloster Gladiators, flown by volunteer pilots with little or no fighter experience, came to be known as Faith, Hope and Charity. But who gave them these names and when were they widely known? Each of a number of commentators suggests one and only one possible explanation as to the origin of the names. The purpose of the present article is for the first time to assemble and discuss five explanations that have appeared in the literature as to how and when Malta's legendary Gladiators were christened.

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When Mussolini declared war on France and Great Britain on 10 June 1940, he immediately set his sights on Malta, the main base of the British Mediterranean Fleet. It was within convenient striking distance from his air bases in Sicily, of great strategic value, and thought to have no fighter aircraft to defend herself. Mussolini is said to have boasted that Malta would be conquered within a matter of days and that he would be in Valletta in two weeks.[2]

Shortly before 7am on 11 June, the first Italian bombing raid of Malta began. Eight raids would be carried out that day, by waves of Savoia Marchetti 79 bombers escorted by Macchi 200 fighter planes.

When war first broke out in 1939, there was widespread agreement that Malta was indefensible.[3] Opponents of that view soon gained enough ground for the War Cabinet in London to earmark four fighter squadrons for the defence of Malta but in the Spring of 1940, no fighter aircraft had as yet been stationed on the island because they were now more desperately needed elsewhere and above all in the protection of Britain herself.[4] On May 28, 1940, the Cabinet came dangerously close

One of Malta's Gladiators, N5520, was fitted with a Mercury VIII engine taken from a Blenheim I, along with its variable-pitch, three-blade DH-Hamilton Standard propeller (IWM)

to offering Malta as a concession to Italy for staying out of the war, but Churchill and the socialist members of the Cabinet prevailed over the Conservatives, in a 3 to 2 vote.[5]

In March 1940, Malta's Air Officer Commanding, Air Commodore Foster Maynard, learned that eighteen Gloster Sea Gladiators belonging to the Navy were being stored in packing crates at the Air Repair Section at Kalafrana. They had been left behind by the aircraft carrier HMS *Glorious* when she rejoined the Home Fleet to take part in operations in the Norwegian campaign. Eight of the crated Gladiators that were being held in reserve for her 802 Naval Air Squadron were now dispatched to the *Glorious*. And the remaining ten were soon, in principle, to be transferred to the HMS *Eagle*. Maynard wanted a small number of these biplanes since, although they were obsolete, they could at least provide a rudimentary fighter defence. He approached HQ Mediterranean Fleet which promptly authorised the transfer of four of the crated Gladiators. These aeroplanes – with serial numbers N5519, N5520, N5524 and N5531 – were unpacked, assembled and delivered to the Hal Far airport as the basis for a new Fighter Flight unit, established on 23 April. Maynard now needed pilots who would train to fly the Gladiators, and eight volunteers – including Maynard's

personal assistant, George Burges, began their basic training, though none of them had fighter experience. But a few days later, Maynard was informed that the ten Gladiators would now have to be transferred after all to the *Eagle*, and on 29 April, the Malta Fighter Flight was dissolved and the four Gladiators taken apart and packed in their crates. Then reversing itself again, the Navy decided it only needed three of the aircraft after all and on 4 May, the Malta Fighter Flight was reinstated and the four Gladiators reassembled and test flown. By the end of May, two more Gladiators were unpacked and assembled (N5523 and N5529) and one more was kept for spare parts.[6]

Countless articles, books and websites have rightfully celebrated the exploits of a handful of obsolete Gloster Gladiators. These are the aeroplanes whose volunteer pilots defended Malta against the modern bombers and fighters of the Italian air force that raided the island for the first time on 11 June 1940. Though, as already described, six Gladiators had been removed from packing crates and assembled at Kalafrana in April and May that year to constitute a fighter defence for the island, only three of the outmoded biplanes could be serviceable and airborne at any one time due to a shortage of engine parts and pilots. And whether the Gladiators that were engaged in dogfights with enemy aircraft over Valletta or Sliema were always the same three aircraft or three of a possible five or six, is of no consequence whatsoever. Nor is there anything mythical about the role they played in the conflict. During the first weeks of the bombing raids, for the Maltese watching the skies from rooftops and cheering on their defenders, there were three antiquated biplanes fearlessly engaging the bombers and fighters planes of the *Regia Aeronautica*. And those three defenders came to be known as Faith, Hope and Charity.

Most discussions of these events simply state that the aircraft were named, dubbed or christened Faith, Hope and Charity, with no indication as to who did the naming. But some commentators have either explained the origins of the names or have, in passing, expressed assumptions about those origins. Each of those commentators suggests one and only one possible explanation. The purpose of the present article is for the first time to provide an overview of five explanations that have appeared in the literature as to how the names Faith, Hope and Charity were given to Malta's legendary Gladiators.

1. Gladiator pilot John Waters

The single most detailed explanation for the christening of the Gladiators credits a pilot, John Waters, with the idea of giving them their names during the month after the bombing raids had begun:[7]

> 'One quiet evening in early July, when there hadn't been a raid for several hours, the pilots were sitting on the grass at Hal Far, watching the three Gladiators being refuelled.
>
> 'You know,' Jock Martin said reflectively, 'we ought to give them a name.'
>
> Someone suggested Pip, Squeak, and Wilfred; but this wasn't received with much enthusiasm. It was John Waters – quiet, good-looking, and technically the most brilliant pilot of the seven – who made the inspired suggestion.
>
> 'How about Faith, Hope and Charity?' he said.
>
> The names caught on. They spread beyond Hal Far, beyond Valletta and the Three Cities, beyond the shore of Malta itself. Soon, every time the Gladiators took to the air, people would stop, point skyward, and cry:
>
> 'Look! There they go. *Faith, Hope* and *Charity*!'
>
> To most Britishers on the Island the names brought no more than a wry, appreciative smile; but to the Maltese they brought something more. For the people of Malta are intensely religious, and it meant a great deal to them that the men and machines which were defending them so valiantly had been christened with the words of St. Paul. Now more than ever before, the three Gladiators came to epitomize the island's spirit of defiance; they became symbols of a cause which began to take on something like the sanctity of a crusade.'

Two other commentators subscribe to the same explanation.[8] However, attributing the naming of the planes to Gladiator pilots in July 1940, is inconsistent with the view expressed by the pilots' own Group Captain George Burges:[9]

When asked about the famous names given to the Gladiators, George Burges is quite adamant that – in his day – and he was to remain on the Island for another year – the three planes were never called 'Faith, Hope and Charity.'

And Burges's view was shared by Malta's Air Officer Comm-anding, Air Comm-odore Foster Maynard, whose idea it had been to

Above, N5520 (Times of Malta) *and, below, N5519* (IWM) *the latter fitted with the standard fixed-pitch Fairey-Reed propeller with a spinner.*

use the crated Gladiators in the first place, and who stated that 'he first heard these names in connection with his Gladiators when he returned to the United Kingdom in 1941'.[10] Furthermore, the earliest mention of the three names in the principal local newspaper, *The Times of Malta*, is on 25 October 1941, in the transcription of a radio broadcast given the previous evening by Wing-Commander Grant-Ferris MP and entitled 'Malta's Air Defence'. The opening sentence reads: 'It does not seem so very long ago, and indeed it is little more than a year, since the days when the Fighter Defence of Malta depended upon the magnificent efforts of those three old Gladiators, 'Faith' 'Hope' and 'Charity' – when they took to the air and gave chase to swarms of Mussolini's Air Force.'

In the light of these statements by Burges and Maynard, and considering the fact that no source is given for the reported conversation involving Martin, Waters and other Gladiator pilots, there are ample reasons for questioning the explanation offered by Cameron.

2. RAF Corporal Harry Kirk

Citing an article by Roy Nash entitled 'The Unknown Air Ace' in *The Daily Star*, but without indicating a specific date in March 1958, Holland offers this as 'the only explanation [he] was able to find for the naming of the Gladiators':[11]

> 'On the first day [11 June 1940], an Italian plane pursued by one of the Gladiators was seen to dive, with smoke trailing behind it. It did, in fact, make it back to Sicily, but for those on the ground watching the dogfights above, this was the first victory to their gallant defenders, and the three planes they saw swooping and turning in the skies over Grand Harbour. Harry Kirk, an RAF pilot based at their headquarters in Scots Street, saw the Gladiators flying in tight formation and thought they looked rather like the three silver hearts on a brooch of his mother's. Each heart had a name – Faith, Hope and Charity. 'Look, there go Faith, Hope and Charity,' he told a fellow airman. The names stuck; soon everyone at HQ was calling them that.'

Having tried unsuccessfully to obtain a copy of Nash's article without an exact date of publication, I have no way of assessing the reliability of this claim.

3. A Maltese newspaper

An anonymous author wrote about the three names in a footnote to a description of the Gladiators:[12]

> 'These names were not actually applied to the aircraft at the time; it was months later when a Maltese newspaper reported the air duels that the monikers stuck.'

This claim would be more convincing if the name of the newspaper were provided as well as the title of the article in question, the name of its author and the date of its publication. In the absence of those details, there is no reason to treat the claim as anything but second or third hand hearsay. The same applies to another commentator's statement that contemporaries of John Waters attributed the Gladiators' names 'to journalists at a later date'.[13] Here again, a glaring lack of precision does not inspire confidence in the claim

4. The people of Malta

A number of commentators attribute the naming of the three aircraft to 'the Maltese,' 'the people of Malta' or 'the locals.' This makes their naming a collective act expressive of the profoundly religious nature of the Maltese people. And although one may be sceptical of any view attributing invention to a collectivity, rather than an individual, this approach is especially interesting when it plays on a contrast between

British and Maltese cultures. That is the case in this passage which begins with sets of names for the planes that were inspired by British cartoon characters and that were soon forgotten:[14]

> '[The aeroplanes] were known for a time as 'Pip', 'Squeak' and 'Wilfred', and as 'Freeman', 'Hardy' and 'Willis', like the cartoon characters or the 'shoebox' assemblies they at first might have seemed to be. But as they survived and prospered against odds, the Maltese called them almost naturally 'Faith', 'Hope' and 'Charity'. Which fitted them so well and signified the feelings of those who watched their tremendous efforts and hair-raising exploits.'

This contrast between British and Maltese cultures is even more striking in a fictional work called *The Legend of Faith, Hope and Charity*:[15]

> 'Do you know what the people of Malta call your planes?' Lucija asked.
>
> Robson was puzzled by the question. 'They are Gloster Sea Gladiators mark ones. There's N-5-5-2-0, N-5-5-1-9, N-'
>
> 'No! What do you think we call your planes?' Lucija interrupted.
>
> Still confused, Robson shrugged his shoulders and offered no answer.
>
> 'They are more to us than three planes, and definitely more than some silly numbers. We call them Faith, Hope and Charity. I know you have heard of Faith, Hope and Charity before?'
>
> 'They are the Christian virtues according to St Paul, Robson answered instantly, recalling many of the sermons he had attended with his mother.
>
> 'Marvik told me about your friendship with a Bishop, so I knew you would understand. The first morning of the war, I was horrified to see all those bombers attacking Valletta. But I also saw three small planes fly to meet them. The whole island saw it. And every time the bombers come, the same planes always fly to meet them. Your planes are symbols of our spirit. How can this island fall to the enemy when there are men willing to face such odds,' Lucija explained, her voice was choked, and her eyes full of tears. […]
>
> In the car, on the journey back to Hal Far, Robson voiced the

names ‘Faith, Hope and Charity’ aloud. He liked the resonance and he smiled as he contemplated their meaning.

There are other commentators as well who share the view that the Gladiators were christened Faith, Hope and Charity by the Maltese people.[16] And one commentator attributes the naming of the planes to ‘the Maltese personnel’.[17]

5. An Information Officer

In another work of fiction, an intriguing possibility is evoked in this way:[18]

> ‘So, tell me, what do you know about Malta?’
>
> ‘I know about Faith, Hope and Charity.’
>
> Everyone knew about Faith, Hope and Charity. The newspapers back home had made sure of that, enshrining the names of the three Gloster Gladiators in the popular imagination. The story had courage-in-the-face-of-adversity written all over it, just what the home readership had required back in the summer of 1940. While Hitler skipped across northern Europe as though it were his private playground, on a small island in the Mediterranean three obsolescent biplanes were bravely pitting themselves against the full might of Italy’s *Regia Aeronautica*, wrenched around the heavens by pilots highly qualified to fly them.
>
> And so the myth was born. With a little assistance.
>
> ‘Actually, there were six of them.’
>
> ‘Six?’
>
> ‘Gloster Gladiators. And a bunch more held back for spares.’
>
> Pemberton frowned. ‘I don’t understand.’
>
> ‘Three makes for a better story, and there were never more than three in the air at any one time, the others being unserviceable.’
>
> The names had been coined and then quietly disseminated by Max’s predecessor, their biblical source designed to chime with the fervent Catholicism of the Maltese.
>
> ‘It’s part of what we do at the Information Office.’
>
> ‘You mean propaganda?’
>
> ‘That’s not a word we like to use.’
>
> ‘I was told you were independent.’

The burnt-out remains of one of Malta's Gladiators with a replacement Hurricane in the background. (IWM)

'We are ostensibly.'

That censorship was a fact of life in Malta during the war should not be forgotten. R Leslie Oliver writes in his foreword to his book:[19]

> 'My thanks go to Mr R Wingrave Tench, the Deputy Chief Censor of Malta, who has been most helpful and constructive in his criticisms and censored my book more promptly than I could have hoped.'

And a great deal of the Gladiators' importance had to do with morale as its most decorated pilot pointed out with admirable candour:[20] 'People got the impression that our aircraft were shooting down enemy planes left, right and centre,' says George Burges. 'They did not, but morale was kept high'.

Given the realities of censorship and the need to give high priority to the morale of the local population, the creative license taken by novelist Mills with respect to the naming of the three Gladiators may not have been entirely off the mark.

On the other hand, it could be argued that, at least during the period when Gladiators were the only fighters Malta had as a defence against the Italian air force – from 11 June to 21/22 June 1940, when first two and then six more Hurricanes arrived[21] – the last thing the censors

would want known by the local population and by the enemy was that the island could muster no more than three obsolete aircraft at any one time in her defence. Once Hurricanes, and eventually Spitfires, were there to defend the island, no harm could be done by revealing the true extent of Malta's initial defences when the bombing raids began. This may explain why in the daily accounts of the Gladiators' exploits in the local newspapers, the planes are invariably described as 'British fighters,' or 'our fighters,' or 'our fighter aircraft' without a word about their being outdated or outnumbered or flown by volunteers with little or no experience as fighter pilots. In other words, the contemporary accounts describe what might be understood as a somewhat level playing field, with 'our fighters' pitted against 'their fighters,' not our tiny number of Gloster Gladiators valiantly trying to hold back a modern air force. It is only when accounts of those exploits are made months or years later that the David-versus-Goliath aspect of the conflict in June 1940 is fully revealed.

Here are three representative samples, all excerpts from articles that appeared during the first week of bombings in *The Times of Malta,* illustrating how radically the contemporary accounts differ from the retrospective ones, not in their emphasis on the effectiveness of Malta's planes but in the omission of their outdatedness and maximum number:

> 'Following yesterday's report of the first day's eight air raids over Malta, it is now confirmed that two enemy machines were destroyed by anti-aircraft fire. Both fell into the sea. A third was damaged by our fighters which chased the enemy.'
>
> Two Enemy Planes Brought Down: Our Fighters Chase the Enemy; *The Times of Malta*, 12 June 1940, p6.

> 'But the raid: The leading formation of the enemy air raiders consisted of bombers and these machines were immediately attacked by our fighter-craft.
>
> Several bombs were dropped in the neighbourhood of Kalafrana. There was no damage or casualties.
>
> The second formation of enemy bombers was also attacked by our fighters and quickly dispersed.
>
> The third formation of enemy aeroplanes were fighters, possibly 'Macchi 200s', but these were also dispersed in an engagement with our own fighters.

Now fitted with an early, two-blade Watts propeller, what is left of N5520 is preserved in Malta's National War Museum at Fort St Elmo as 'Faith' – but was that her name at the critical time – in July and August 1940? (Len Harvey)

> The fact that enemy bombers were yesterday accompanied by fighter-craft is obvious evidence of the healthy respect and even fear which Italian pilots regard our fighters.'
>
> Two Sunday Raids; *The Times of Malta*, 17 June 1940, p2.

> 'A total of fifty five bombs were dropped on Malta yesterday in three air raids by the enemy, all of short duration, thanks to our fighters and anti-aircraft. The first air raid was the earliest we have had so far – at 6.15 am. It ended at about 7 am, the raiders having been driven away by our fighters**.'**
>
> Italy's Attack on Malta; *The Times of Malta*, 18 June 1940, p1.

It is quite conceivable that an information officer encouraged withholding the fact that Malta's fighters were Gloster Gladiators. And in the unlikely event that in June 1940, the names Faith, Hope and Charity were in use, it might have been a strategic decision not to mention them, since they give away the number of Malta's airborne defenders.

These then are five explanations mentioned in the literature, attributing the idea for naming the three Gladiators to:

- Gladiator Pilot John Waters
- RAF corporal Harry Keith
- A Maltese newspaper
- The people of Malta
- An information officer

While the present article has by no means settled any issues, it has at least charted the range of explanations that have been evoked to explain a particularly meaningful aspect of the Gladiators' role in Malta

in the summer of 1940.

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Notes:

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[2] Oliver, R L; *Malta at Bay, An Eye-Witness Account* (London, Hutchinson, 1942) p11.

[3] Cameron, I; *Red Duster, White Ensign* (London: White Lion, 1974) p15.

[4] Polmar, N; *Aircraft Carriers, A History of Carrier Aviation and Its Influence on World Events, Vol. 1 1909-1945* (Washington, Potomac, 2006) p109.

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[6] Holland, J; *Fortress Malta, An Island Under Siege 1940-1943* (London, Weidenfeld & Nicolson, 2009) p28: Shores, C and Cull, B; *Malta: The Hurricane Years, 1940-1941* (London, Grub Street, 1987) p5-7.

[7] Cameron, *op cit*, p42.

[8] Poolman, K; *Faith, Hope & Charity*. *The Defence of Malta* (Bristol, Cerberus, 2004) p60-61: J Wismayer, *The Times of Malta*, 26 August 2007, p28.

[9] Spooner, *op cit*, p19.

[10] Mason, F K; *The Gloster Gladiator* (London. Macdonald, 1964) p82.

[11] Holland, *op cit*, p40.

[12] Anon, 'Gloster Gladiator – World War II Aircraft; The Hitchhiker's Guide to the Galaxy: Earth Edition', http://h2g2.com/approved_entry/A10223885 (2006).

[13] Shores and Cull, *op cit*, p370.

[14] Hogan, G; *Malta: The Triumphant Years, 1940-43* (London, Robert Hale. 1978) p27

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[16] Oliver, *op cit*, p12; Grover and McGaffin, *Life Magazine* (4 May 1942), p44; Wragg, *Malta. The Last Great Siege 1940-1943* (Barnsley, Pen and Sword, 2004) p117.

[17] Kelly, G A; *The Times of Malta*, 26 August 1960, p7.

[18] Mills, Mark: *The Information Officer* (Hammersmith, HarperCollins, 2009) p15-17.

[19] Oliver, *op cit*, p3.

[20] Holland, *op cit*, p40.

[21] *Ibid*, p41.

THE BIRTH OF THE ROYAL AIR FORCE MUSEUM

by Peter Elliott

The Royal Air Force Museum (RAFM) was opened in 1972, some 41 years after the RAF had first looked to set up its own museum, and 54 years after the RAF was formed.

Why did it take so long?

Why was a museum felt necessary? And how did it end up at Hendon?

Why does the United Kingdom not have a National Air Museum?

This paper describes:

- The attempts to set up an RAF museum in the 1930s, and the reasons for their failure.
- The search for a site.
- Battles with the Treasury
- How the Museum developed

And what might have been – a look at some of the plans to expand the RAF Museum in the 1970s and 1980s.

The successful creation of the museum was due to the work of two people: MRAF Sir Dermot Boyle, and Dr John Tanner. Dr Tanner often

Dr John Tanner and MRAF Sir Dermot Boyle, the co-founding fathers of the RAF Museum. (RAF Museum)

claimed that the idea of an RAF Museum was first mooted in 1917, when Lord Rothermere directed that 'one example of each type of aircraft used during the war was to be preserved for posterity', to be supplemented later with specimens of aircraft introduced into the Royal Air Force. Rothermere had indeed directed that aircraft should be preserved, but the collection 'should be part of the National War Museum' which was later renamed the Imperial War Museum (IWM).[1]

Nearly 80 aircraft were selected, of which about half were eventually delivered and stored at the Agricultural Hall in Islington. None of those have survived – there are other examples of some types, but the specific aircraft are long gone. The Imperial War Museum opened in the Crystal Palace in 1920 and moved to the Imperial Institute in South Kensington in 1924 – it didn't move to its current site in Lambeth until 1936, by which time the RAF had already tried twice to establish its own museum.

By 1931 the RAF was unhappy about the way it was represented in the IWM: the IWM's remit did not extend beyond the end of the First World War, so most of the RAF's life and work was not represented. A paper discussed by the Air Council noted that there was 'no institution or building for the preservation of the records of the Flying Services' and there was concern that aircraft, equipment and documents of much historical value [*would*] be lost for all time.'[2] The IWM and Science Museum had collections of aircraft, but it was difficult to find 'adequate space for the air services in a 'mixed' museum'. The Royal United Services Institute (RUSI) also had a museum which included some aeronautical material. The paper continued 'the very distinctive character of the Service requires a well-organised museum of its own, not conditioned by the exhibits of the other Services.' A plan of the IWM's galleries at the Crystal Palace shows that the space allocated to the Air Force was only about 20% of that allocated to the Army and the Royal Navy. When the IWM moved to South Kensington less space was available, and the exhibition was dominated by heavy weaponry.[3]

Was this desire for a museum purely corporate vanity? There is probably a deeper root than that.

For most of its life the RAF has faced calls from the Army and Navy for it to be disbanded and its resources reallocated to the services from which it was formed. Sophy Gardner has detailed the way in which the RAF, as the junior service, fought to establish its national identity in the

1920s and 1930s – this was particularly important as much of the RAF's work was overseas in areas such as Iraq, Transjordan and the Northwest Frontier.[4] High-profile events such as air displays at Hendon, the Schneider Trophy races – in which the RAF flew the British aircraft – and record-breaking flights helped to achieve this, and the RAF Memorial on the Embankment was raised in the relatively swift time of four years, in contrast to the Admiralty's fruitless attempts to build a Royal Navy memorial in London.

An RAF Museum would have been a very effective shop window for the service; unfortunately, the time was not right.

The memorandum acknowledged that the ideal – a full scale Air Services Institution or Museum – was clearly impracticable in the current circumstances: the Wall Street Crash had led to a worldwide depression. There was mass unemployment in the UK and public spending was under great pressure. There was no money for a new museum, so some temporary measures were suggested, including a survey of historical records held by various institutions and by RAF stations; some space might be available for the storage of such items. The document closed with general questions:

- Should the scheme include both Military and Civil Aviation? It acknowledged the argument that the latter could be covered by the Science Museum, but there were 'arguments both ways'.
- What about relations with the IWM, which covered only the First World War? Some war period material would be appropriate for the Air Ministry scheme.
- How might the scheme relate to other Service museums?

It also noted that 'the ultimate scheme would presumably be 'Imperial' as well as 'British'' which suggests that it would include the air forces founded in Australia, Canada, India and New Zealand in the 1920s and '30s.

The Air Council approved in principle 'the institution of an aeronautical museum as an ultimate ideal to be aimed at in the future' and arrangements were made to store suitable exhibits at RAF Cardington. A letter was sent to all Commands asking for lists of items of general and of technical interest, including aspects such as personnel, technical development and armament, as well as written and printed records. There's a rather light-hearted reply from the Air Officer Commanding, RAF Middle East, Air Vice-Marshal Newall, who asked

While on long-term loan to the Shuttleworth Trust the LVG C.VI flew regularly from 1972 until 2003 when it returned to the RAF Museum. It is currently in store at the Cosford site. (Gareth Horne)

for clarification of the requirement saying, 'It occurs to me that a set of Air Force Lists would best preserve the history of the personnel of the Royal Air Force' – it gives details of officers which implies that he thought the other ranks would not be represented. He also wrote, 'There may be an odd propeller or so in certain messes from which electric light bulbs are suspended… or remnants of an old rotary engine used as a font in some church.'[5] The, occasionally wry, Newall went on to become Chief of the Air Staff in the late 1930s and was awarded a peerage.

Some four years later the Council discussed Memorandum 570 *The Museum Interests of the Air Ministry*.[6] It reported on the IWM's planned move to Lambeth and noted that only three aircraft could be accommodated in its Air section, with one more in each of the Naval and Army sections. Five more aircraft would revert to RAF ownership 'for the Air Services Museum' and it was suggested that a system be set up to earmark specimens of aircraft and engines as they pass out of service. Only two of those five have survived – the Sopwith Triplane in Hangar 2 at Hendon and the LVG in store at Cosford.

The memorandum gave brief comments on the Science Museum, RUSI and the 'Civil Aviation Collection' gathered by Major Villiers. That collection comprised 'some 90 models of historical and current

interest; some go[*ing*] back more than 100 years, and they include Service aircraft as well as civil and experimental.' It had been lent to RUSI for its Centenary Exhibition and had also been on loan abroad. The paper concluded that the Science Museum and RUSI were 'already collecting items for which an Air Services Museum, if it existed, would have first claim' – in other words, the RAF was losing opportunities. The Science Museum had been reducing the more specialised aviation exhibits to a minimum but was now reversing this policy. It was seeking to take over a large part of the collection that it had stored on behalf of the IWM. The Scottish National Naval and Military Museum, being formed at Edinburgh, had Air Council recognition and would receive 'duplicates of any item which can properly be spared.'

The Air Council agreed that there was no possibility of obtaining a suitable building for the museum, and to seek the appointment of a retired RAF officer on the IWM's Board of Trustees. The general aim of the proposed Museum should be a compromise between the broader interests of the general public and the Flying Services, and the specialised interests of service technique. No public announcement regarding a museum would be made. Material currently held in Stores Depots would be retained, and specimens of current equipment, as they became obsolete, would be earmarked where they were worthy of permanent retention, but contractors would not be asked to donate exhibits.[7]

The Air Ministry advised the IWM, Science Museum, RUSI and the Scottish National Naval & Military Museum that their ultimate ideal was to create a separate Air Services Museum, but they could only 'preserve and store exhibits which might be of value if and when an Air Services Museum becomes an immediately practicable aim.'[8]

Once again, the time was not right to create a museum. The rise of Hitler and German rearmament had brought a change in defence policy, and in 1934 the first of several RAF Expansion Schemes was announced. Building up numbers of aircraft, more RAF stations and recruiting personnel was obviously a much higher priority, and very expensive. The Air Estimates for 1935 sought a total of £20·65 Million – later increased to £25·99 million – an increase of nearly 48% on the £17·56 million requested for 1934.[9] The Air Services Museum project had, once again, to go on the back burner and would remain so for more

Seen here displayed at an RAeS Garden Party at Wisley in 1956, the Nash Collection's SE5A and Fokker D.VII had been purchased by the Society in 1953. The whole collection was loaned to the RAF Museum in 1964; the MOD acquired title in 1992 and it was gifted to the RAF Museum in 2004. Six of the aircraft, including these two, are currently displayed in the Grahame-White hangar at Hendon. (RAeS)

than 20 years.

During the Second World War the Air Ministry's Air Historical Branch gathered documents and objects of historical interest, while the IWM – with its remit broadened to include the Second World War – was also collecting material. In 1945 control of civil flying was moved from the Air Ministry to the new Ministry of Civil Aviation, leaving the former in charge of military flying – although the Admiralty and War Office also represented the air interests of the Royal Navy and Army. With the country trying to recover from the physical and economic legacy of the war, an aviation museum – whether focused on the RAF, civil aviation or both – was unlikely to receive much support.

In 1953 an editorial in *The Aeroplane* called for improvements in the Science Museum's aeronautics display.[10] A major impetus came in January 1954, when the Royal Aeronautical Society (RAeS) announced that it had agreed to purchase the Nash Collection of historic aircraft. During 1953 Richard Nash had decided to dispose of his collection, and fears were expressed that the collection might vanish overseas; in

November he had received an offer 'from America'.[11] Nash had presumably approached the Shuttleworth Trust, since Air Commodore Allen Wheeler (a trustee) had written an article the previous November discussing the need for a national museum.[12] Whilst almost half the article is devoted to the Trust's work, Wheeler wrote, 'But nothing the Shuttleworth Collection (or any other private venture, such as Mr Nash's valuable collection) can do will fill the requirements for a comprehensive museum of aviation organized nationally.' He pointed out the difficulty of selecting artefacts and suggested concentrating on 'the early monoplane era' as 'it is always easier to assess what is a genuine milestone when technical achievements are viewed in retrospect over at least ten years.' Wheeler suggested that a combined effort, sponsored by the Royal Aero Club, might go a long way to launching the project. In the meantime, he said, 'the most pressing need is to collect […] all the items which should go into such a museum. They could be listed as the property of a national museum when it is finally formed.'[13]

This article brought a response from Nash, who explained that in addition to the 14 aircraft in his collection, built between 1908 and 1920, another 16 had been destroyed during the war. Prior to 1939 he had been approached by the Brooklands motor course authorities who suggested displaying his 'entire collection of over 100 specimens, including racing cars which had performed on the track between 1907 and 1914.' In the late 1940s he had proposed an exhibition at the Crystal Palace site, the new London Airport and in central London. He suggested that a national museum should cover the period to 1945, and then include 'landmarks up to the ending of the jet era and the initial atomic-powered period.'[14]

A letter in *Flight* in January 1954 proposed forming an association to operate historic aircraft, but seemed to rely on the Air Ministry's support in terms of providing aircraft and allowing the use of an airfield – large enough for large aircraft – 'at a reasonable rent'. Minor maintenance could be carried out by 'ex-RAF members of the association having the necessary experience' with the support of aircraft manufacturers and maintenance companies at reduced rates. Finance would come from subscriptions, admission fees and through fees for the aircraft appearing in other organisations' flying displays. This

Preservation of the Grahame-White Hangar had been identified as an objective as early as the 1950s. It was eventually dismantled and reassembled on its present site in 2002-03, followed by the Grade II Listed Watch Office, which was similarly demolished and rebuilt, using much of the original structure and materials, in 2010.

approach seems rather simplistic, and it seems that it was not taken further.

The Royal Aeronautical Society called a meeting in October 1954 to consider the creation of a National Aeronautical Collection of historical aircraft. The 17 organisations attending included Government Departments, National Museums, and various aviation groups.[15] The meeting was chaired by Peter Masefield, evidently the driving force behind this initiative. Masefield's career had included acting as an adviser to the Government on civil air transport, and board appointments at Bristol Aircraft and British European Airways. He was President of the RAeS from 1959-60.[16] Masefield had already written to Lord Trenchard and other senior officers seeking their support for 'the foundation of a National Aeronautical Collection on similar lines to the National Maritime Museum and Trust'.[17] Trenchard duly wrote to the Chief of the Air Staff expressing his support. The meeting agreed that some form of National Collection was desirable, and Masefield suggested that it could be located at Croydon airport or RAF Hendon – in particular they would like the Grahame-White Hangar, now the RAFM's Hangar 2.[18] A working party was formed to carry the project

forward.

Although the Air Ministry seems to have supported the project, there were dissenting voices: Air Vice-Marshal R B Jordan drew attention to the need for hangar space, which would grow as more aircraft joined the collection, and suggested that using models and photographs would be more attractive than aircraft, concluding that 'a hangar in the winter is a cold, damp and draughty place, and I cannot see crowds of people trooping out to this kind of hangar at Hendon to see a National Collection of Historic Aircraft.'[19]

A report in November 1955 that an American museum was seeking to acquire British, German and French aircraft of the First World War brought a further call for a national aviation museum, probably as a result of fear that important artefacts from Britain's heritage would be lost overseas.[20] The RAeS continued discussions with the Air Ministry and drafted lists of British and foreign aircraft and engines that could form the national collection. The aircraft lists were eventually published in 1959, as the Society announced the formation of its Historical Group. Plaques would be presented to the owners of aircraft 'considered to be of historic importance'.[21] Many of the listed aircraft still survive, and a few are still airworthy. During 1959 the Science Museum began planning its new aeronautical gallery; perhaps the seed planted by Masefield's lobbying had taken root.

The discussions with the RAeS evidently made the RAF and Air Ministry reconsider their historic aircraft. Criticism had been voiced in 1956 regarding the condition of aircraft in the annual Battle of Britain display in London and the future of the display was in doubt.[22] The Defence White Paper of 1957 (the infamous 'Sandys Review') had drastically reduced the size of the RAF, not least by disbanding the Royal Auxiliary Air Force squadrons, most of which had fought in the Battle and the Air Ministry had to re-think how Battle of Britain displays on the Horse Guards Parade ought to be continued.'[23] It might be possible to lend some of the Second World War aircraft to the Shuttleworth Trust, but the trust was not keen; it saw its role as preserving and operating the early aircraft collected by the late Richard Shuttleworth, and it was felt that the Trust's tradesmen did not have the skills required to deal with relatively modern aircraft. In fact, Nash had written to Shuttleworth in December 1939: 'After this war, we will have

Among the many aircraft saved for posterity by the establishment of the RAF Museum was its famous Lancaster, R5868. It had spent ten years in the open as RAF Scampton's gate guardian and was 'heavily corroded, especially in the wings' by 1970, when it was refurbished for permanent display – under cover – at Hendon. (RAF Scampton)

to try and add a Heinkel, Messerschmitt, Spitfire and Hurricane to our collections, as these in twenty or thirty years' time will be just as ancient as our Pups and Camels etc.'[24] The Trust would need more hangar space 'for which [the Air Ministry] might have to foot the bill indirectly.' Some of the RAF's wartime aircraft could go to the Science Museum, but it would be difficult to borrow them back. The RAeS was offered a Spitfire and Hurricane which the RAF could exhibit every September, but there is no trace of their response.[25]

There was little enthusiasm in the Ministry of Works (responsible for the national museums' premises) for another museum. Officials were sceptical about the appeal of an aviation museum, since aviation had a relatively brief history. They were also concerned that the creation of 'an air museum' would encourage the Army to demand similar treatment, and feared that their funding would suffer.[26] It was acknowledged, however, that Britain was 'playing a leading part in aeronautics and it may be that eventually there ought to be some sort of museum of this kind.'[27]

The Treasury was similarly unimpressed: the Army was trying to establish its own museum and one official wrote, 'If we go high and handsome about an Army museum, we shall find the RAF wanting something done for them.' He later added that the air museum was

unlikely to receive material to exhibit beyond 'gifts by aeroplane manufacturers of old aeroplanes which they have been rather too shamefaced to scrap hitherto.' Another concluded, 'this project should be played long and killed – with kindness if possible.'[28] The National Air Museum project was eventually shelved when the Treasury made it clear that the necessary financial backing would not be forthcoming, citing 'pressure to spend considerably more on existing national institutions' and pointing out that aviation was already represented in the IWM and Science Museum's collections.[29]

Around this time the Air Ministry was preparing to move into new accommodation in Whitehall, now the Ministry of Defence Main Building. The ministry's Historic Aircraft Working Party, set up in 1957, proposed in 1959 that displays should be set up in the reception hall of the new building and the Air Council Suite.[30] The former would be open to the public at weekends, but this was ruled out in 1960 as it would be too small and objections were raised about 'turning part of the Air Ministry into a peepshow' together with concerns over 'small boy trouble'.[31]

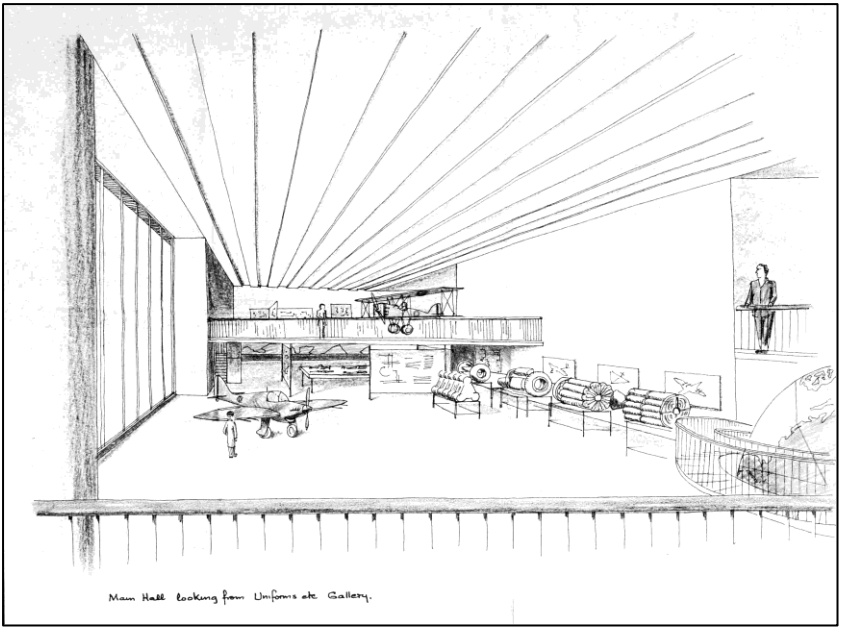
The Working Party was succeeded in 1962 by the Air Ministry's Historical Advisory Committee, chaired by MRAF Sir Dermot Boyle. He had been part of a committee reviewing the RUSI's museum collection, as that museum was closing and new homes had to be found for the collection. His new committee's task was 'to advise the Air Council on the identification, acquisition, preservation and display of articles of historic interest to the RAF and to the nation.'[32] Their First Interim Report highlighted 'the lack of an official museum in the Royal Air Force as compared with the Army and Navy' and urged the formation of an RAF Museum. The ideal location would be in London, but it was recognised that this was not achievable.[33]

A formal paper proposing the formation of the RAFM was submitted to the Treasury by the Air Ministry in September 1962.[34] The Treasury staff were wary, describing the request as 'a shrewd move […] for it makes it a little more difficult to reject out of hand' and they were concerned about both the requirement for hangar space and the danger that the project may be used as a means of keeping open an airfield which could otherwise be sold, thereby depriving the Treasury of both savings and the income from the sale.[35] Nevertheless, Treasury

approval in principle was granted in 1962, and the committee searched for a site. A hangar at RAF Upavon in Wiltshire proved to have woodworm and other defects, and therefore was discounted. RAF Henlow in Bedfordshire proved more acceptable.[36]

The committee also stressed the need to appoint a curator, and Dr John Tanner was appointed in 1963. Tanner had been the Librarian at the RAF College, Cranwell, and had created the College's museum. He had written to Boyle regarding the RUSI closure, and in May 1962 sent him a paper outlining his thoughts on how an RAF Museum might be created.[37] Tanner pointed out that there was much public interest in the RAF and that 'a Royal Air Force Museum would in time be a major public attraction, and one that could yield benefits to the Service disproportionate to its cost.' The RAF would reach its 50th anniversary in 1968 and 'the time to start a Service museum is when the service is young, not when much of the material has been given time to disappear.' He argued that the best place for the museum would be Cranwell – the officer cadets at the college were 'perhaps the most important group of young people in the Service' – and pointed out that the Royal Military Academy at Sandhurst was home to the National Army Museum. He implied that the RAF's future leaders – Cranwell prepared men for long-term commissioned service – would be inspired by the deeds of their predecessors and go on to make further RAF history. A museum at Cranwell would have recruiting power, as visitors included large numbers of air cadets and 'parties of influential headmasters' who were presumably encouraged to recommend the RAF as a career. Exhibits might include personalia, documents, uniforms and decorations but there was no suggestion that aircraft would be included – the spaces Tanner identified were far too small for even the smaller aircraft – and he put emphasis on using modern display techniques including dioramas and working models.

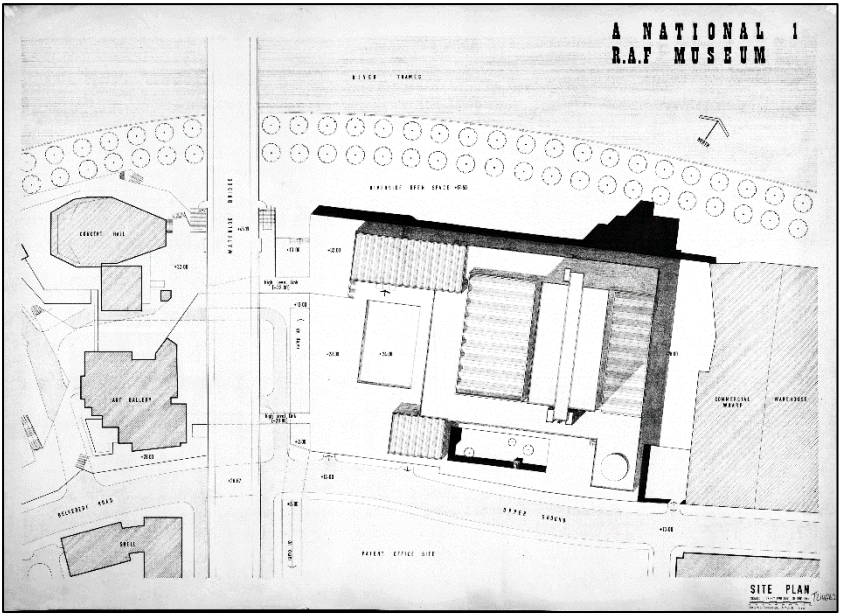
Boyle became the first Chairman of the Museum's trustees; early in 1963 he wrote to the Ministry's Permanent Under-Secretary, suggesting that a Historic Aircraft Museum be formed at Henlow 'as a separate project from the [RAFM]' and pointing out that the location could attract a large audience if 'the display of these aircraft to the public […] were deemed desirable.'[38] Discussions within the Air Ministry led to support for such a collection, as a training aid for engineers.



A sketch of one of the galleries of the proposed museum site at Henlow. (RAF Museum)

It is difficult to determine whether this was an alternative to the idea of an RAF Museum, or a 'Trojan horse' attempt by Sir Dermot to get a foothold on a site suitably close to London. He had written to Allen Wheeler the previous October, outlining 'the sort of shape of things to come' which included an RAF museum with only one or two aircraft, which would ultimately be in London but initially would be elsewhere in the country, and a 'historic aircraft museum' for the static display of aircraft, located on a suitable airfield; it might be possible to fly some of the aircraft, but that would depend on suitable financial arrangements.[39] It is noteworthy that Henlow is close to the Shuttleworth Collection's site at Old Warden. In 1964 it was announced in Parliament that the RAFM would be sited at Henlow.[40] It was proposed that the Museum would open in 1968 to mark the 50th anniversary of the RAF's formation.

The RAFM was still hopeful of obtaining a site in London although government policy preferred siting major national institutions in the



The South Bank site, now occupied by the Royal National Theatre, was evidently considered as a possible location for the RAF Museum. This plan is dated 1965. (RAF Museum)

provinces, 'not only to relieve congestion in London but also to stimulate the cultural life of the regions.'[41] Boyle had inspected the disused Brompton Underground station, and Tanner declined an offer of space at Kensington Palace in 1965.[42] Much energy was expended on campaigning for a site on the Mall, which is now occupied by the Institute of Contemporary Arts (ICA): it would not be capable of accommodating aircraft, which would be made available (at Henlow) for research by 'serious students'.[43] Negotiations with the Crown Estate Commissioners dragged on into 1966, with Boyle requesting a review by the Prime Minister and a letter to *The Times* from nine Marshals of the Royal Air Force demanding the Mall site be allocated to the RAFM.[44] Tanner, whilst stating 'it is not my intention to denigrate the work of the ICA', wrote a vitriolic paper (apparently sent to the Minister for the RAF) which leaves no doubt regarding his opinions.[45]

Peter Masefield also contributed to the search for a site, suggesting in a letter to *The Times* that there was a site 'which appears to be unused

Having formally opened the Museum on 15 November 1972, Her Majesty the Queen inspected the site accompanied by Dr Tanner. (RAF Museum)

and suitable, in the museum area of South Kensington – the site once reserved for the National Theatre, now to be elsewhere.'[46] That was Cromwell Gardens, opposite the V&A.[47] Intriguingly, the Museum's archive includes drawings, dated 1965, of an RAF Museum building on the site *currently* occupied by the Royal National Theatre, on the South Bank.[48] No other reference to this site has been found.

Finally, in May 1967 the Treasury agreed that the Museum would be sited at RAF Hendon, which had a rich history dating from its foundation as the London Aerodrome in 1910.[49] The site would be made over to the Trustees for 99 years by deed of gift, the construction of the building funded by an appeal and the running costs paid by the Ministry of Defence; the Air Ministry had been absorbed into the MOD in 1964.[50] The RAFM was opened by Her Majesty the Queen on 15 November 1972; the central Aircraft Hall displayed a range of aircraft in chronological order, while eleven galleries told the story of military

The initial core of the Museum was created by combining the two remaining Belfast-trussed 1917-pattern General Service Aeroplane Sheds (themselves Grade II listed buildings) in which to display full-sized aircraft and cladding the structure with external offices, a theatre and conference facilities. (RAF Museum)

flying and included dioramas, models, artefacts, and uniforms, with one gallery devoted to winners of the George Cross and Victoria Cross. Gallery XI 'The RAF Today' was funded by the RAF's Inspector of Recruiting. The new museum immediately proved very popular – so popular, in fact, that the number of toilets provided proved inadequate. The Treasury declined a request for funds to build more toilets, citing the agreed principle that the museum's capital costs should not come from the Exchequer. A Treasury official stated, 'If we give an inch with Dr Tanner, we are likely to be asked for a mile.'[51]

In January 1972, before the RAFM opened, the Ministry of Defence had raised with the Department of Education and Science (DES) the possible transfer of the RAFM and National Army Museum to the DES as the MOD felt that it was 'not naturally organized to look after museums'.[52] Such a change would have removed the MOD's control over the Museum and made it easier to broaden its scope to cover all forms of aviation. The idea was rejected, partly because the two museums and 'some scattered naval museums' were too small and specialised, and there were 'important effects upon the Imperial War Museum.'[53]

In the early 1970s Tanner campaigned more openly for a National Aviation Museum, emphasising the major contribution that the RAF had made to British aviation. A significant number of aircraft in the

RAF's historic collection were not on public display and expanding the RAFM's estate and remit would enable him to create further exhibitions. The DES convened a meeting in September 1974 between the RAFM, Science Museum, IWM and MOD to discuss future acquisition policy and the relationships between the museums. It also addressed the question of whether civil aircraft should be displayed at airports or alongside military aircraft. Options included 'a federal structure with [a] coordinating board [or] a unitary structure: a National Aviation Museum, with various sub sites.'[54] In 1975 the DES expressed concerns that the Treasury would want MOD's other major museums to be transferred to it; the DES might then insist on amalgamating all the Service museums with the IWM, under a single body of trustees.[55]

A briefing paper for the new Chairman of Trustees, written by Tanner in 1975, states that Tanner's 1962 paper was on 'the need for a national air museum and how it could be started' and 'this paper was adopted as basic policy' – but his paper is only about an RAF museum.[56] It continued, 'The name was a problem: logically it should be 'The National Aviation Museum' but the bulk of air history is linked closely with the Royal Air Force; it became clear that the best site was in the hands of the RAF, as were the majority of those items needed for the initial displays; furthermore, the Service's emotive appeal would make it easier for the necessary capital of one million pounds to be raised by public subscription.'[57] This suggests that Tanner's original intention may have been to create the RAFM as the thin edge of a wedge which would broaden out a wider remit; alternatively, he may have exploited the very positive public response to the RAFM's opening.

Tanner had written a lengthy paper outlining a plan for the RAFM's future, calling for:

1. The establishment of the National Air Museum, 'an umbrella title sheltering several bodies that would together form the National Air Museum, each having separate geographical titles' The RAFM would retain its name, with the sub-heading 'The National Air Museum'.
2. Expansion of the RAFM using sites at Biggin Hill and Gaydon; the RAF's regional collections at sites such as Colerne, Finningley and St Athan would be disbanded, and the aircraft moved to Biggin Hill and Gaydon.

The second major development at the Hendon site was the opening, in 1978, of the Battle of Britain Hall, now re-purposed to present 'RAF Stories: The First 100 Years, 1918-2018'. (Oxyman)

3. No expansion at Hendon until the 1980s, when the RAF was scheduled to leave the site and the museum could take over some of the buildings.[58]

The announcement in the 1975 Defence Review that the RAF would leave Biggin Hill, one of the most famous airfields involved in the Battle of Britain, led to a proposal by Tanner to set up a Battle of Britain Museum at the airfield.[59] He produced a 12-page paper, in which he stated, 'what this country needs and will have is a National Air Museum' and warned that the RAFM was in danger of being outstripped: 'other institutions – and one great one in particular – will quite properly try to assume the task.'[60] This seems to allude to the IWM's expansion of its Duxford site. In April 1974 he had written to the Greater London Council outlining a scheme for a Battle of Britain display at Alexandra Palace.[61] Neither project went ahead, but the Trustees of the RAF Museum approved the creation of a building at Hendon dedicated to the Battle of Britain. The MOD refused to fund either the construction or running costs, so it became a separate organisation – the Battle of Britain Museum – with the same trustees as the RAFM; it opened in 1978. An appeal raised money for the new museum; the running costs were covered by admission charges, but entry to the RAFM remained free.

Tanner's 1975 *Aide Memoire* states that the Trustees had agreed that the RAF museum should '[*do*] for the air what the National Maritime

Museum does for the sea' and tell 'the story of the flying Services as they, and the RAF in particular, [*emphasis added*] created most aviation history.'[62] The National Maritime Museum was conceived in 1927 as a 'national naval and nautical museum' although the Royal Navy had established a museum at Portsmouth in 1911.[63] The appeal leaflet issued in 1964 to raise funds for the RAFM had stated that the museum was 'the only national museum concerned solely with aviation. The many aspects covered include the military and civil […] The emphasis is naturally on the uniquely great achievements, in peace and war, of the Royal Air Force.'[64]

The Standing Commission on Museums and Galleries identified a possible need to 'rationalise the collecting policies of the national and departmental museums with a legitimate interest in aviation' and convened a meeting in November 1978 attended by the Fleet Air Arm Museum, IWM, RAFM, Royal Scottish Museum and the Science Museum. It was agreed to compile a census of historic aircraft in national and departmental museums, and those in private hands; it recommended export controls on historic aircraft, and encouraged the development of a museum in the North of England.[65] A senior MOD official who attended the meeting later expressed his view that 'there is no prospect of the [RAFM] becoming the national aviation museum. There will be a national collection […] in which the [RAFM] can play a significant part.'[66]

In 1979 the RAFM took over the running of the RAF's Aerospace Museum at Cosford, one of the service's regional collections, under a management agreement. Tanner was an honorary museum adviser to British Airways, some of the company's retired airliners were displayed at Cosford, and there was a small exhibition at Hendon.[67] Tanner's 1975 plan had included Gaydon as the RAFM's Midlands branch, and Cosford fulfilled this role.

The suggestion of a museum in the North of England led to a joint venture between the RAFM and Manchester City Council – the Manchester Air and Space Museum – which opened in 1983.[68] It is now the Air and Space Gallery of the Museum of Science and Industry, part of the Science Museum Group, with many aircraft on loan from the RAFM.[69]

The RAFM trustees agreed in 1980 to set up a National Air Museum

Trust, probably in reaction to advice from the Treasury Solicitor that the RAFM's deed of trust could not be changed, but it could co-operate with another charity.[70] Tanner had argued that 'the name of the main Museum remains a problem; it does not define the Trust's intended role, and sounds purely military in context; [*which*] makes giving difficult for many companies and impossible for numerous Trusts. I think the answer is to extend the name to: Royal Air Force Museum of Aviation History.'[71] It seems, however, that this did not proceed.

In the early 1980s the Government was keen to reduce the size of the Civil Service. Under the National Heritage Act 1983 the staff of national museums ceased to be civil servants and were employed by their museums' trustees.[72] On 1 August 1984 the RAFM was devolved from the MOD and became a Non-Departmental Public Body, sponsored by the MOD.[73] Grant-in-Aid is intended to provide 'core funding', supplemented by the museum's own fundraising programmes.

The passage of the Bill revived discussions between MOD and the Office of Arts & Libraries (OAL) regarding the possible transfer of the three Service museums. Tanner had argued for a change; the Air Force Board were apparently content to consider any proposal from the Trustees, while the MOD would consider transfer to the OAL after a few years.[74] The OAL would consider a transfer of responsibility for the museum, if appropriate financial arrangements were made, but was not keen to maintain 'a Museum of the RAF as such' and would prefer a 'Museum of the Air comparable to the existing National Maritime Museum […] or the National Railway Museum for the railways.'[75] A lengthy paper, ostensibly by Cameron but bearing hallmarks of Tanner's drafting, reiterates the aim of parity with the National Maritime Museum and compares the MOD's treatment of the Museum with the benefits apparently enjoyed by OAL's museums; OAL staff found it 'simply unbelievable'.[76]

The final expansion at Hendon during Tanner's directorship was to have been a National Air Museum building, which would include a Bomber Command Hall.[77] Pressure from the Bomber Command Association persuaded the trustees to give precedence to the 'Bomber Command Museum'.[78] This opened in 1983 and – like the Battle of Britain Museum – relied on an appeal for its construction costs and

The Hendon site shortly before the car parking and green areas were extensively remodelled in 2018. (Google Earth)

admission fees for income, and was the subject of a separate trust. In the economic climate of the 1980s it proved impossible to pay off the loans raised to cover its construction and in 1987 the MOD agreed a rescue package. The Ministry provided some £1·8 Million to clear the debt, to be recovered via reductions in the Museum's Grant-in-Aid over five years. A single admission fee was introduced to cover the original RAF Museum (to which admission had previously been free) and the Battle of Britain and Bomber Command Museums, and work began to amalgamate the three trusts. The reduced Grant-in-Aid was not restored at the end of the five-year period.[79]

After fighting for some 25 years to establish a national air museum, Tanner retired at the end of 1987 and was succeeded by Dr Michael Fopp.

The crucial factors in the failure of Tanner's bid to develop the RAFM into the National Air Museum were funding, and the scope of the museum. The OAL was unwilling to run a purely RAF museum, while the MOD did not want to broaden the RAFM's remit – not least because any expansion of the museum would result in extra costs, to be met from the Defence budget. The MOD repeatedly argued that the RAFM's Trust Deed restricted its operations to RAF history.[80] OAL required a 'PES [Public Expenditure Survey] transfer' of money from the MOD to cover the RAFM's running costs.[81] The debt incurred through the Bomber Command Museum project was a concern for both

parties. As might be expected, the MOD was reluctant to see any reduction in its budgets; the RAF was also concerned that it would have a lower profile in the new museum, with an impact on recruitment – a concern similar to those in the 1930s which had led to calls for a separate RAF Museum.

Conclusions

To sum up the story of the RAF Museum's birth:

- The RAF's desire to have its own museum has its roots in the need to keep the public – particularly taxpayers and potential recruits – aware of its achievements and current operations.
- For much of the 20th century, money to create such a shop window was not available: economic crises, preparations for war and the need to rebuild Britain after the war all claimed higher priority.
- By the early 1960s opportunities were emerging and John Tanner's vision of an RAF Museum came at the right time.
- It was not easy. The Treasury viewed the creation of an aviation museum with disdain and thought it would be of little interest to the public – they had had a similar view of the proposed National Army Museum.
- The crowds that came to Hendon once the RAF Museum had opened in 1972 proved the Treasury wrong and encouraged Tanner to pursue his vision of a National Air Museum, by expanding Hendon, taking over Cosford and developing a new museum in Manchester. However, funding problems brought this expansion to an end.

Tanner was an authority on heraldry and designed the Museum's arms.[82] The motto *Per Ardua Alis* is a variation on the RAF motto *Per Ardua Ad Astra* and was probably inspired by his struggle to set up and expand the Museum. One translation is 'Through difficulties on wings' which may reflect a quotation from Plautus (chosen by Tanner) that greeted visitors to the newly opened RAF Museum: 'Flight without feathers is not easy.'

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[79] *Ibid*, Minutes of Trustees meeting, 14 September 1987, paragraphs 5.1-5.14.
[80] TNA AIR 20/13344, Enclosure 107, 'Record of a meeting to consider the establishment of a national air museum', 25 November 1978.
[81] TNA ED 245/30, Letter from the Deputy Under-Secretary of State (Air) MOD, to Hodges, 19 May 1983, paragraph 2a.
[82] Andrea Tanner, interview.

THUNDERHEADS AND BRIGANDS

by Tony Fairbairn

This is a slightly edited version of an article which was originally published in the Autumn 2019 edition of Air-Britain's *Aviation World*, pp205-207.

The Bristol Brigand is best remembered for its service in the attack role with Nos 8, 45 and 84 Sqns, and with 228 OCU for the initial instruction of radar navigators training for tours on night fighters. Attracting far less publicity down the years is the handful of Brigands which were modified for the meteorological reconnaissance role and served for a short period, 1949-51, flying from Negombo in Ceylon (now Sri Lanka).

With the end of World War Two in 1945 the requirement for meteorological forecasting in support of air operations was drastically reduced and 1946 saw the disbandment of the majority of the specialist met recce squadrons and flights. Nos 269, 517, 518, 519, 520 and 521 Sqns all took their leave and disappeared into history. One of them, Aldergrove's No 518 Sqn, was renumbered in October 1946 to become No 202 Sqn, and it soldiered on as such, still in the met recce role, until 1964. Also at Aldergrove, No 224 Sqn reformed in March 1948 with Halifax GR 6s for met recce duties, mounting detachments to Gibraltar before moving to The Rock permanently in October of that year. There was now a need to provide weather forecasts for the busy flow of aircraft between the UK and the Far East. By 1949 Negombo was an important staging post on the Transport Command trunk route to Singapore, and for civilian aircraft transiting eastwards.

On the military side, the Handley Page Hastings was now appearing alongside the long-serving Avro York. There were, for example, 85 Transport Command movements through Negombo in January 1950. A Dakota was stationed there on detachment from one of the Singapore-based transport squadrons for air-sea rescue duties and there were periodic visits by Coastal Command Lancasters and Bomber Command Lincolns. February 1950 saw visiting Dakotas, Brigands and Sunderlands, all from Singapore-based squadrons, participating in Ceylon's Independence Day celebrations. From the commercial point of view BOAC had an office on the base to support its schedules and the previous October had featured the proving flight of the airline's

VS817, the first Brigand Met 3 off the production line, eventually served with No 1301 Flt. (via Phil Butler)

Canadair Argonaut service. Air India and Air Ceylon were also 'local' users.

The weather around Negombo, located in the Indian Ocean, is tropical and it experiences two monsoons. The south-west monsoon brings very heavy rain and strong winds to Ceylon and the west coast of India between May and September, while the less severe and shorter north-east monsoon produces wind and rain to the north-east between December and February. These are separated by inter-monsoonal periods when heavy rain and thunderstorms can still occur across Ceylon; indeed violent changes in the weather are a constant local hazard. The flight crews requiring forecast information on this lively climate were many and varied at this point in aviation history.

To meet the task, No 1301 Met Flight was formed at Negombo in May 1949 with an establishment of six Brigand Met 3s which had been specially modified by Bristol at their Filton factory with long-range tanks, an oxygen supply, de-icing equipment for wings, tail and propellers, and additional instruments and kit including a hand-held camera for recording cloud formations. No 1301 Flt was commanded by a flight lieutenant with a staff of 30 air and ground crew. The crew of a Brigand Met 3 comprised a pilot, a navigator/meteorological observer and a signaller.

A typical day's work for the crew of a Brigand weather ship began with a met briefing at 0530. By 0630 it was time to board the aircraft and fire up the 2,500 hp Centaurus engines. The sphere of operations

extended out from Ceylon into the Indian Ocean for about 500 miles, well within the Brigand's 2,000 mile range. A number of standard weather missions were flown, determined by the direction of the monsoons, a typical sortie being a triangular affair; west for some 500 miles to the island of Minicoy, then south 160 miles to Faadhippolhu Atoll, one of the Maldive Islands, and a third and final leg of 485 miles north east, back to Negombo. After take-off, the Brigand was climbed to 1,700ft, with the navigator taking a series of met observations every 50 nautical miles, together with a sea-level observation half way along the first leg. A second sea-level observation was made on reaching Minicoy after 2·4 hours flying. The aircraft was then climbed to 25,000ft and course set for the second way point, Faadhippolhu, after which it headed for home, but 200 miles up this last leg, a box descent was begun down to sea level. The Brigand landed back at Negombo around 6 hours after take-off.

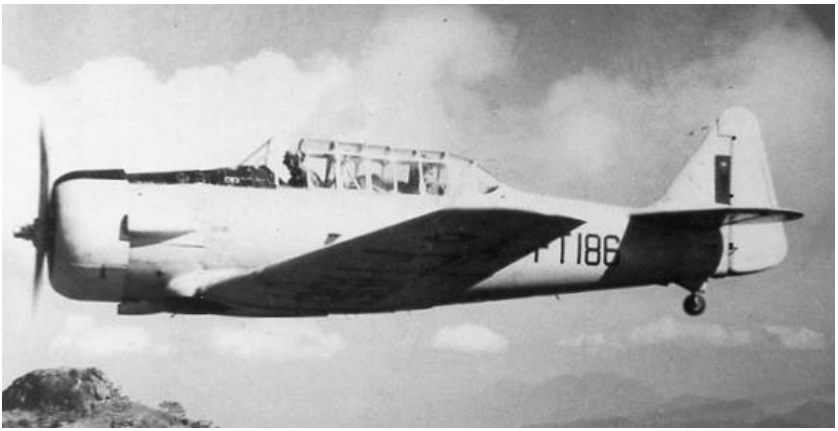
That thumbnail sketch of a typical sortie conceals a range of specialist tasks that No 1301 Flt routinely performed, perhaps the most spectacular and hazardous of which was penetration of cumulonimbus clouds. If a thunderhead happened to lie on the planned route the Brigand just went through it – on taking up duty at Negombo, crews quickly had to learn to take the weather as it came. The optimum speed for this, in terms of safety and efficiency, was found to be 175 kts, which, fortuitously, corresponded with the cruising speed normally flown on weather missions. Prior to entering the cloud, the aircraft's autopilot was disengaged, the heater on the pitot head was switched on, and the crew tightened their seat harnesses. At low levels, engine cruising rpm were set as low as 1,600 to provide suction for the flight instruments. The standard operating procedure for flying through thunderstorms was to rely on the artificial horizon, with minimum corrections to the aircraft's attitude, and virtually ignore the remaining flight instruments. Turbulence within the 'cu-nim' clouds occasionally caused aerials to be destroyed and de-icing equipment to be torn off the questing Brigands.

Within this activity of cloud penetration, flying conditions varied at different altitudes. At low-level the cloud-base was usually around 800ft, (though it could be as low as 300ft) and here the main weather feature was rain. At times this could be so heavy that the crew could not even see the engine cowlings; de-icing mesh was shredded, and the

No 1301 Flt's VS821 on a hardstanding at Negombo in 1950.
(J Ludlow)

roots of the wooden propellers could be severely damaged. Between 8,000ft and 15,000ft straight and level flight was maintained in order to obtain accurate readings from the meteorological instruments such as the psychrometer – a wet and dry-bulb thermometer which measured relative humidity, and which required a constant airspeed. It was at high-level – 20,000ft and above – that things could get really nasty. During the south-west monsoon cumulus clouds over the Maldive Islands frequently reach 25,000ft, with distinctive 'anvils' being found between 23-27,000ft. 'Cu-nims', on the other hand, could go as high as 35,000ft. Trumping that were the mighty thunderheads encountered in winter over southern India and the surrounding seas, which stretched up to 40,000ft. These provided Met Brigand aircrews with the very worst of flying conditions. Turbulence could be severe, with aircraft experiencing sudden changes of altitude of as much as 2,000ft, up to 45-degree changes of direction, and airspeed going 'off the clock'. All in a day's work for No 1301 Flt.

So how did the crews cope with this 'tumult in the clouds'? As already mentioned, much of the flying was over featureless ocean and relied on dead reckoning, radio bearings, and – at low-level – drift readings. This, together with the requirement to act as a meteorological observer, initially proved a considerable challenge for the navigators, although they had received specialist training in the science. Signallers, on the other hand, were required to transmit three quite lengthy meteorological messages on each sortie, in addition to their normal



Having been on No 45 Sqn's books since 1945, Harvard FT186 was left at Negombo for the benefit of No 1301 Flt when the squadron relocated to Malaya in 1949.

position reporting duties. The excellent reliability of the Brigand's Marconi TR1154-55 radio was a significant factor in the high standard of work achieved by the crews.

So much for the aircrew; what about the aircraft? Of the sixteen Brigand Met 3s built (VS817-832), six, VS817 and VS820-824, formed the equipment of No 1301 Flt which re-formed on 1 May 1949. These aircraft were delivered, initially, from Filton to 19 MU at St Athan; they were then ferried out from Manston to Negombo in May and June 1949. Over the course of its career as a strike aircraft, the Brigand would gain a mixed reputation, culminating in one aircraft shedding a wing in flight, but No 1301 Flt enjoyed a fine safety record with its slightly-modified version. Following the unit's disbanding on 30 November 1951, its aircraft were ferried back to St Athan for scrapping. A similar fate awaited the other ten Met 3s, none of which had seen any productive service, apart from VS818 which had been used by the A&AEE's Handling Squadron for evaluation and the preparation of Pilot's Notes. For the record, No 1301 Flt inherited No 45 Sqn's Harvard, FT186, only to bequeath it in turn to Negombo's Station Flight in July 1949.

In retrospect, the Brigand Met 3 was a sensible choice for its role, its time and its place. Its robust metal construction, appropriate for its

tropical operating area (Mosquitos need not apply!), together with its twin engines and a three-man crew, made it quite an economical prospect compared to the four-engines and seven-man crew of the contemporary Hastings Met 1. Tirelessly setting out each day from their idyllic island base on Ceylon for another boisterous head-to-head with the elements, the Met Brigands flew some 600 sorties, making a valuable contribution to flight safety and meteorological research, and wrote a brief but colourful chapter of RAF history in the Far East.

A No 45 Sqn PERSPECTIVE

an adapted extract from the Editor's *The Flying Camels*

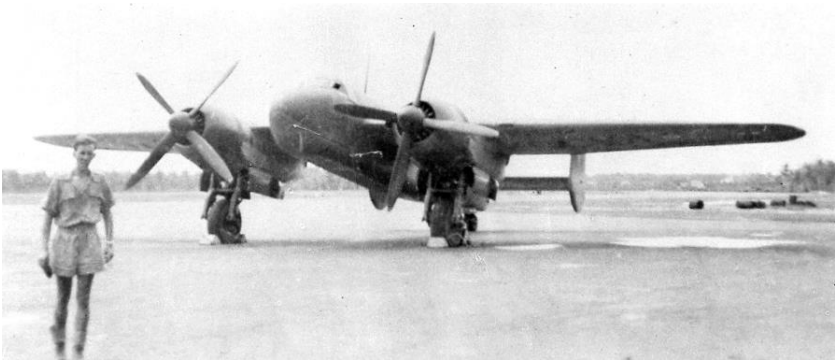
In July 1946, the Negombo-based, Mosquito-equipped No 45 Sqn was re-roled from Light Bomber to Maritime Strike. With no ships to sink, however, its primary task was to be the conduct of twice-weekly meteorological reconnaissance sorties. These began in August when nine such exercises were flown. They followed a triangular route, flown at about 10,000 feet: west to Malé, south to Addu Atoll and then back to Ceylon. Each trip took about five hours and could involve a lot of instrument flying in quite lively conditions. The paucity of on-board navigation kit and the absence of any external aids over the ocean meant that the only means of keeping a handle on the aircraft's whereabouts was to carry a manual air plot supplemented by what could be deduced about the wind by constructive use of the drift-sight. Every 30 minutes the crew was required to send a W/T report containing the essential atmospheric data required by the forecasters and eventually the aeroplanes were fitted with bespoke thermometers for this purpose. While these 'met recce' sorties undoubtedly satisfied a useful requirement, and were quite demanding for both crew members, they could also be very boring.

Contemporary plans envisaged there eventually being three maritime strike squadrons in the Far East (Nos 27, 45 and 84 Sqns). All three were to be equipped with the Bristol Brigand. Unfortunately, the Brigand's development programme was proving to be a protracted affair and ACSEA feared that they might well run out of Mosquitos before any of the new aeroplanes materialised. Their concerns were well-founded, and the squadron lost a Mosquito on 5 November when Flt Lt A V Proctor and FSgt G D Thomas failed to return from a met

On 5 November 1946, No 45 Sqn's Mosquito VI, TE640, disappeared to the east of Ceylon while flying a met recce sortie.

recce sortie, the twenty-eighth since the squadron had begun the task. Based on their W/T reports it was estimated that their aeroplane, TE640, must have gone down in the vicinity of 9ºN 85ºE. For the next five days the squadron swept the area with five-aircraft formations carrying out parallel track and creeping line ahead searches, but nothing was ever found. This unexplained loss revived lingering doubts about the robustness of the Mosquito (*see RAFHS Jnl 74, pp65-81*) and on the 11th they were grounded for yet another series of precautionary inspections. These revealed nothing of significance, however, and flying was resumed on the 16th. So many flying hours had been expended on the search for TE640 that it was not possible to mount any more met recces in November and the task was withdrawn in December.

By this time, confidence in the troublesome Mosquito was such that, as a short-term interim measure, pending receipt of the Brigand, it had already been decided to replace them with Beaufighters. They began to arrive in December 1946, the last three Mosquitos being flown away (ferried to No 18 Sqn at Mingaladon) in June 1947. In the meantime, having first completed a short conversion course on the Beaufighter, Buckmaster and Brigand at Kinloss, a new CO, Wg Cdr G C O Key, had assumed command in the previous November. In preparation for the imminent arrival of the Brigand, the squadron had already taken on charge the first, of two, Buckmaster trainers in October – but it was a

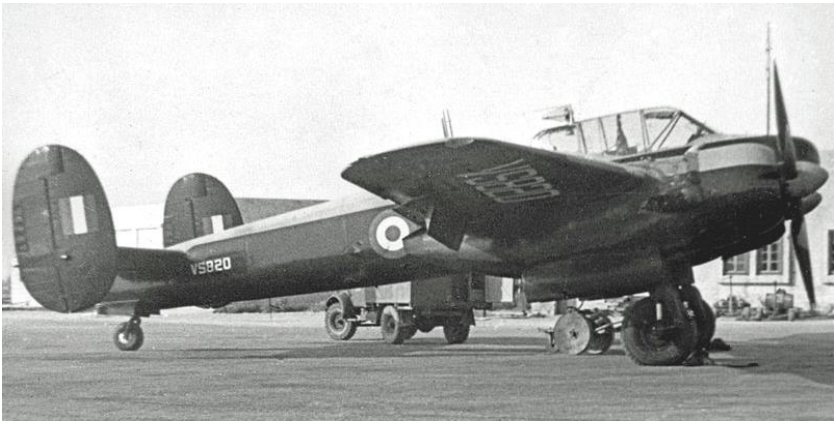


No 45 Sqn's second Buckmaster, VA367, arrived in November 1946, only to be grounded in the following July.

false dawn. In the following July, corrosion was detected in the fuel tanks and both aircraft were grounded. They never flew again; neither were they replaced.

Meanwhile, the squadron had become accustomed to its Beaufighters and in November 1947, albeit a little incongruously, it was redesignated as a Light Bomber unit, so met recces, which had never been re-instated, were no longer on the menu – neither were Brigands. Gordon Key's conversion course proved to have been somewhat premature and he never saw a Brigand while he was CO, neither did the next CO – nor the one after that.

Rumours about the mythical Brigands began to gather strength again during 1948 but they were overshadowed in August by the despatch of a detachment of Beaufighters to Malaya to participate in the initial attempt to suppress an increasingly overt communist-backed insurrection. The rumours were finally given some substance in December, however, when a batch of Brigand-trained tradesmen arrived on the squadron. The sting in the tail was that the new aeroplanes were not being delivered as bombers after all; they were to be used for met recce. Exactly who was going to fly them remained a trifle vague because the squadron was becoming increasingly focused on its commitment in Malaya. Nevertheless, the squadron's Flt Lt R C Stewart had gone back to the UK in September for a conversion course and he was expected to bring the first Brigand out in February 1949. Late as ever, and with Bob Stewart at the controls, the first Brigand,



Brigand Met 3, VS820, seen at Luqa in June 1949 while being ferried to No 1301 Flt at Negombo. (R A Scholefield)

VS822, eventually reached Negombo on 25 May – a mere three months behind schedule. By this time, however, the rump of the squadron had already been ordered to move to Malaya to join the operational detachment and it was in the final throes of packing.

With the departure of No 45 Sqn's rear guard on 29 May, the original plan, for the Brigands to be maintained by the squadron's groundcrew, had had to be revised. An independent unit, No 1301 Flt, had been established to carry out the meteorological task on 1 May and on 8 June it was embodied with Flt Lt Stewart as its first OC. Aircraft movement cards record that three, of an eventual six, Brigands that reached Negombo,VS821, 822 and 824, had been allotted to No 45 Sqn before being reassigned to No 1301 Flt on 14 June 1949. But these can have been no more than paper transactions as the squadron's rear party had left Ceylon for Malaya a fortnight before the last of these aircraft had even reached Negombo. Regardless of the bureaucratic paperwork, all three had always *de facto* been on charge to No 1301 Flt.

Brigands had been anticipated by No 45 Sqn ever since September 1946. The appearance of one, four days before the rear party left Ceylon, may have convinced the sceptics that such aeroplanes really did exist but there was no prospect of anyone actually flying one as the aircrew had already gone before the first Brigand had landed. The last of the four remaining Beaufighters had headed east across the Bay of

Bengal on 16 May. FT186, the Harvard which the squadron had first acquired at Cholavaram back in 1945, was bequeathed to No 1301 Flt.

No 45 Sqn did write one small footnote to the met recce saga. In 1950, by which time the squadron was based at Tengah and flying Brigands (for real this time!), it was tasked with a brief spate of cloud flying, probably inspired by the USAF's recent publication of a book on thunderstorm penetrations based on a series of investigative flights conducted in 1948-49. As one of squadron's pilots, Sgt Maurice Clarke, recalls:

> 'The Americans had used Black Widows packed with sophisticated equipment. The Brigand, undoubtedly robust, was FEAF's answer and one was fitted with a five-shilling accelerometer! About three of us flew these storm penetrations as our navs tried to write down all the relevant figures – quite impossible when we were being bounced through a large, or even a small, Cb. We had no oxygen, so flight had to be restricted to below 10,000 feet. The biggest problem was the Brigand's large glazed canopy. When the lightning started, and it became almost continuous, everyone on board was flash-blinded. To overcome this we had old maps and sticky tape to try to black ourselves out. I don't think that we got any useful data, but the experience taught me a lot about flying in heavy weather. If we had been able to fly at higher altitude, I have no doubt that icing would have created very considerable problems.'

This brief flirtation with the weather did not result in any significant incidents but there were several in the Far East in later years. Typically, these involved aeroplanes suffering severe damage from mega-hailstones and lightning strikes and some unexplained losses which were believed to have resulted from structural failures caused by extreme turbulence. Furthermore, certain types of second-generation gas turbine engines, notably the Sapphire and Proteus, proved to be particularly susceptible to problems attributed to the high humidity associated with dense tropical cloud. By the 1960s the prevailing doctrine within FEAF was that clouds were only put there to be avoided.

FOR AIR POWER READ ELECTRIC POWER

aka a 20thC version of 'swords into ploughshares'

Above – the erstwhile RAF Coltishall and, below, Wymeswold.

ERRATA

The following errors occurred in our previous publication, *The Hercules in the RAF*.

1. Page 43 – 2nd para, ‘137,000 lbs’ should read ‘13,700 lbs’.

2. Page 43 – 3rd para, ‘102,000 lbs’ should read ‘10,200 lbs’.

3. Page 52 – 2nd para, second line – Lockheed’s does not need its apostrophe.

4. Page 64 – Ed’s note at end of Gp Capt Bedford’s contribution, ‘page 112’ should read ‘page 122’.

All *mea culpa*. **Ed**

BOOK REVIEWS

Note that the prices given below are those quoted by the publishers. In most cases a much better deal can be obtained by buying on-line.

Through Adversity by Ben Kite. Helion; 2020. £23.96.

This is the first of a two-volume work that will cover, as the subtitle of Vol 1 says, *Britain and the Commonwealth's War in the Air 1939-45*. In statistical terms, Vol 1 runs to 492 gloss-coated pages with more than 150 photographs, 14 excellent maps, sundry diagrams and twenty-five annexes, most of the latter reproducing tables and data from HMSO publications. The vast majority of the pictures have been drawn from the AHB collection and, while most have been published before, they are of uniformly high quality and have been carefully selected to illustrate the narrative.

Over the last three-quarters of a century the direction and conduct of WW II have been exhaustively recorded and analysed so, rather than re-examining primary sources (although there are some references to documents at Kew), the author has based his account on the official histories published by HMSO, AHB's narratives and monographs, and an extensive bibliography including works by acknowledged experts in the field – John Terraine, Alfred Price, Christina Goulter, Roy Nesbit, Kenneth Poolman, *et al*. As an aside, it is gratifying to note that several of this Society's 'Bracknell-series' publications have been referenced. All of which implies that there is little, if anything, new here. But that is not the point. The author did not set out to rewrite WW II – this is no polemic. It is a concise, yet thorough, overview of the air campaigns of WW II.

After a brief introductory section, Vol 1 covers three aspects of air warfare. First, 'air superiority', including, *inter alia*, the Battle of Britain, offensive sweeps over France, Malta, countering the V-1 and the war in the Far East. The second section deals with 'strike', essentially the development of the bomber offensive. Finally, 'the air war at sea' covers Coastal Command's campaign against the U-boat, anti-shipping strikes and the activities of the Fleet Air Arm. In each case, the narrative provides an account of how tactics and equipment evolved and of how operations were carried out, with representative examples. Where appropriate, problems of conflicting priorities are examined, notably the pros and cons of maintaining the bomber

offensive versus prosecuting the anti-U-boat campaign, and conclusions are drawn. Similarly, there is criticism where it is deserved, as in the Navy's attitude towards its air arm. But, again, this is no polemic, so the author's reasoned conclusions are simply offered, rather than being driven home.

While the core content of this book is accurate and uncontentious – and very well-written in easy flowing prose – its USP is its frequent inclusion of first-hand accounts, drawn from the many autobiographies among the 300+ titles in the bibliography. As with the photographs, these extracts have been very well-chosen and their, sometimes graphic, descriptions of specific incidents add flesh to the bare bones of the history, and it is these that make the book so eminently readable, and indeed valuable.

Errors? Unfortunately, a close reading of the text does reveal a few niggly problems, eg pre-war references to the RAuxAF are anachronistic, as the AAF didn't acquire its Royal prefix until 1947; the RAFVR provided manpower, but it did not sponsor units; describing Dowding as a fighter pilot in WW I is a bit generous; the Hurricane wasn't 'stress-skinned'; HMS *Hermes* was east of Suez in May 1941, not ferrying aircraft to Malta; and noting the Catalina as the PBY-17 is a curious oddity. Typos? – I found a missing umlaut and an 'on' that should have been an 'of' – but that's it.

It is, perhaps, a little surprising to find that a book of this nature is the work of a serving Army officer, a brigadier no less. That said, I doubt that an air commodore could improve on it. Furthermore, a degree of endorsement may be read into the author's acknowledgment of the assistance of such authorities as Seb Cox at the AHB, Air Cdre John Meier, Director of the RAAF's equivalent, and Graham Mottram, an erstwhile Director of the FAA Museum. The RAF's ultimate stamp of approval is implicit in a foreword contributed by the current CAS.

Coherent and comprehensive, and very nicely presented by the publisher, this book is unreservedly recommended. Roll on Vol 2.
CGJ

Halton Boys by Sean Feast. Grub Street; 2020. £25.00.

I need to get the downside out of the way first. This book really needed one more proof-reading to pick up typos and inappropriate terms, like Exercise Kingsman (for Kinsman), Oberusel (for Oberursel),

caché (for cachet) and desultory (for desolate?) – there are others. He might also have been able to remove some of the howlers that the reader will encounter, eg Oboe did not employ Lorenz beams; the Canberras of the Binbrook Wing did not constitute the 'only operational jet bomber unit in the world' in 1951 (the B-45 beat it by several lengths with the Il-28 taking a comfortable second place); it took more than one searchlight to 'cone' a bomber; and how did a Ju 88 fly 'mournfully'? There are some problems with numbers too. For instance, the Tiger Moth was the DH 82 (not 98); a reference to the 'F-84G Sabre' doesn't ring true; and a note on the dust jacket says that 1,200 of the 50,000 boys trained at Halton were commissioned (that would be 2·4%), while on page 9 the Foreword says that as many 30% were commissioned, although on page 23 we are told that it was only 20% – so which was it? And I will take some convincing that the photograph of a pair of No 14 Sqn's Gordons (page 66) was taken in Aden. Little of this will trouble the layman, of course, but there is more of this sort of thing and it will provoke a lot of double-takes for a reader familiar with air force lore.

Having got that health warning out of the way, what of the book's core – the tales it tells? That is a much more satisfactory picture. This title in Grub Street's ever-lengthening 'Boys' series is a little different in that much of the content is presented in the third person, rather than as personal accounts. That was bound to be the case, because the stories told stretch back 100 years, so many of the players are no longer with us. In selecting the personalities featured, the author has succeeded in his declared aim of presenting a broad spectrum of individual 'Brats' and their many achievements. So we have all the famous 'stars' that one might expect: the Olympian – Don Finlay, the CAS – Sir Keith Williamson; the VC – Thomas Gray and, of course, Frank Whittle and the jet engine. But along with these are another dozen or so air officers; Sammy Allard and Frank Carey who became notably successful fighter pilots, 'Taff' Holden who famously flew a Lightning (see Jnl 72) and Lawrie Haynes, who rose to the very top of British business, filling key management posts with the likes of the Highways Agency, British Nuclear Fuels and Rolls-Royce.

These aside, there are numerous examples of exploits which attracted some of the many decorations won by Halton Boys, including an AM, several GCs and DSOs and no fewer than 216 DFCs and 260

DFMs. Notable among these was Robert Ellis, who won a DFM as an LAC, flying in the back seats of No 39 Sqn's Wapitis in 1930, and a Bar as a corporal in its Harts in 1932. And then there was John Clements, a WEM, who spent much of WW II working on radar development, testing ten different varieties of AI, ASV and H2S installed in eighteen types of aircraft. This work involved making some 300 flights, including a ditching in a Botha, surely sufficient to have justified stretching AMO A.89/1942 to permit the wearing of an 'RO' flying badge, but 'their Airships' did not concur. The Polish contingent is acknowledged, the focus being on Eugene Borysuik who had a successful post-RAF career with GEC/Marconi. Another notable post-RAF tale involved Peter Goodwin, who, having become a pilot while still in uniform, was flying with a Kuwait-based airline when Saddam invaded in 1990; Goodwin spent the next several months serving as a human shield in Iraq. There are many, many more such stories.

There is, however, one seeming anomaly – the inclusion, in a book specifically devoted to the RAF Apprentice Scheme and to 'Trenchard's Brats', of an account of Cpl W S Reed's adventure. It was certainly a tale worth telling, involving his being obliged to spend an entire flight, from take-off to landing, clinging to the wing struts of a DH 9A in Iraq. But this happened in September 1921, and despite Reed's being described as 'a Brat' in the narrative, this incident pre-dated, by more than a year, the graduation of the 1st Entry in December 1922. Would this not explain why, as the author observes in a note, 'there are no Halton records surviving for W S Reed'? Or am I missing something?

Notwithstanding my opening remarks, this 248 page hardback with its 100+ photographs, is a very entertaining read and a worthy addition both to the annals of Halton and to the 'Boys' series.

CGJ

Rate of Climb – Thrilling Personal Reminiscences from a Fighter Pilot and Leader by Air Commodore Rick Peacock-Edwards CBE AFC**.** Grub Street; 2020. £20.00

The reminiscences of Air Commodore Rick Peacock-Edwards will have been eagerly awaited by the many friends of this talented aviator and gregarious and well-liked officer. Their patience has been amply rewarded by his 192-page book (with its 41 colour & b/w plates) which

offers a very agreeable account of his passion for flying and for living life to the full. It is written in a straightforward style, sometimes with a hint of the RAF Staff College teaching of the early to mid-1980s. The early account of his childhood and upbringing in the UK and South Africa, son of a Battle of Britain fighter pilot and a 'lively lady', the daughter of a tea planter in Ceylon, leads inexorably to his later life – as a passionate fighter pilot himself and a very lively party animal.

Rick P-E's description of RAF training in the 1960s rings true, even if he claims more enthusiasm for the time spent at RAF South Cerney in initial officer training than others might, 55 years on. No 6 Flying Training School at RAF Acklington, now one of HM's prisons, to this day commands huge affection amongst its alumni and the author is one of these. His description of his time there is unstinting in its listing of those with whom he shared the experience and of those at whose hand they learnt. All are treated in a kindly way, a feature throughout the book of his attitude to those around him during his service and later. Having evaded the clutches of the helicopter world, advanced flying training on the Gnat at Valley and a pre-Lightning course on the Hunter at Chivenor took him unerringly to Coltishall and No 226 Operational Conversion Unit, to the Lightning and to his goal of becoming a fighter pilot.

The author's subsequent career as a fighter pilot, leader and commander is covered in greater and lesser detail in the pages that follow, most notably describing his formative years at RAF Gütersloh on No 92 Sqn when his piloting and social skills were tested and honed. Coltishall on the OCU staff, CFS at Little Rissington and No 4 FTS Valley on the Gnat and Hunter continued his progression, with marriage and promotion to squadron leader thrown in, before his return to the Air Defence world and a posting via No 228 OCU at Coningsby, to No 111 Sqn at Leuchars, as a Phantom Flight Commander.

After 15 years of continuous flying, an MoD staff job beckoned, followed as was so often the way, by the Staff College training that might have seemed a necessary preparation for such duties. Both are dealt with briskly, because what followed was in many ways the professional highlight of his career. The newly promoted Wing Commander Peacock-Edwards was tasked with the introduction of the Tornado Air Defence Variants, the F2 and F3, into Royal Air Force service. His tour as OC No 229 OCU at Coningsby and its operational

alter ego, No 65 (Reserve) Squadron, is covered in detail, as are his subsequent appointments, in MoD, first with the Tornado F3 desk and as Deputy Director of Air Defence, followed by his tour as Station Commander at RAF Leeming. Time spent in the USA as Assistant Air Attaché allowed his social attributes full rein, as did his final full appointment, as Inspector of Flight Safety where he was again in his natural environment, the cockpit. His observations on that appointment and, specifically on Boards of Enquiry and the then prevalent 'blame culture' are both measured and humane.

The final pages of *Rate of Climb* rather gallop through Air Commodore P-E's multi-faceted activities in what others might have chosen to be retirement. It is in this section of the book that the author reverts to a writing style reminiscent of the archetypal 'service paper' so beloved of the Bracknell Directing Staff of that era, section headings and annexes and all! Truth to tell, there is so much meat in the Peacock-Edwards story that a mere 192 pages were never going to be sufficient to do it full justice. Our editor would not forgive me, were I not to mention the sometimes sloppy proof-reading of this otherwise excellent book. It is a good read and evokes many memories of a bygone Air Force, told by one of its best liked fighter pilots.

AVM Sandy Hunter

A Pilot's Tales by Howard Murley. Privately published but available via Amazon; 2018. £19.11.

This book was written in the late-1980s. The author died in 2016 and, two years later, his widow, Betty, arranged for it to be published as a 181-page softback. It can only loosely be described as an auto-biography, more a collection of anecdotes – literally 'a pilot's tales'.

The first chapter covers Plt Off Murley's crew's on-the-job conversion to Lancasters and their first sortie on type – to Kiel. This was in August 1944; they had already flown nine missions in Stirlings. The story then backtracks to 1942 to provide a short account of grading on Tiger Moths at Hatfield and marking time at Heaton Park before crossing the Atlantic to learn to fly on Stearmans in Canada. As always in this book, no attempt is made to provide a comprehensive account – it is a series of snapshots. Flying training at Bowden, for instance, is covered by the recollection of a solo navigation exercise in which he got a bit lost. Next up we are at an unidentified hutted OTU in

Buckinghamshire in the winter of 1943 (Wing perhaps?) where the main preoccupation is keeping the cold at bay by feeding the stove with less important bits of barrack furniture and, eventually, parts of the less important bits of the structure – 'When I left, the sag in the roof was barely noticeable . . .'

There are more of these brief episodes – a Stirling sortie (the second of an eventual thirty-nine with No 218 Sqn) against Brest; the recovery of a Stirling 'on three' following engine failure and doing it again in a *Flak*-damaged Lancaster. A post-war switch to air transport saw a stint working with the Army, developing parachute delivery of a variety of loads, initially using Halifaxes and Dakotas but later the brand new Valetta and Hastings. Murley participated in the Berlin Airlift, but this is given only a brief mention, far more space being devoted to a four-month transatlantic detachment of a Valetta and a Hastings to work with the USAF and RCAF in 1949. Next up was formal qualification as a test pilot via secondment to the USN Test Pilot Training School at Patuxent River where he flew his first jets, the F6U Pirate and F9F Panther but, again, this interlude is covered by just a couple of brief anecdotes – including participation in a post-graduate trial to assess the feasibility of operating a Neptune, Jimmy Doolittle-style, from an aircraft carrier!

Back in the UK he joined the RAE at Farnborough but was occasionally loaned out to fly from sites like Bitteswell and Chalgrove. Apart from trials work involving Vampires and Meteors, he flew aeroplanes as exotic as the Fi 156, the AW 52 and the Wyvern. Many readers will recall the iconic Avro formation at the 1953 SBAC Show – the two gleaming all-white Vulcan prototypes in line astern flanked by the four vari-coloured Avro 707s. Murley was flying one of the 707As on the starboard side, but there is no mention of this particularly notable event in his pick'n'mix recollections. Instead, we have a chapter on his tour as a Flight Commander on Canberras with No 12 Sqn – recollections of LABS training at Tarhuna, low flying in the UK and Lone Rangers to African destinations. By 1964 he was back at the RAE but, instead of test flying, that chapter is concerned with a very unwelcome obligation to make a 'voluntary' parachute descent – as it turned out, he quite enjoyed it. His last military chapter describes a flight in the SE5A that had been rebuilt at Farnborough. Wg Cdr Howard Murley DFC AFC* left the RAF in 1975 to spend the next

fifteen years at Jackson, Mississippi, flying on survey and photographic work in aeroplanes like the Aero Commander and the Piper Lance, and as a flying instructor on a variety of Cessnas and Pipers – some amusing vignettes here.

So what? So it's an anthology; the theme is simply the love, and enjoyment, of flying and some of the activities associated with it. To use his own words, Murley 'relished (*his*) post-war RAF years and the many and varied opportunities they gave me.' He offers no judgements and makes no criticisms but, in a postscript, he expresses his gratitude to the RAF Medical Branch for two interventions which resolved serious conditions and thus kept him in the cockpit. *A Pilot's Tales* is not an 'important' book, but it is well-written, in easy-going informal prose and his stories are interesting and entertaining.

CGJ

An Officer, not a Gentleman by Mandy Hickson. Self-published (available via Amazon); 2020. £8.55.

Whilst it's been thirty or so years since the RAF allowed females into the cockpit, the decision to permit them to fly fast jets is more recent. Likewise, it is within recent memory that the RAF turned away females who scored more highly in officer and aircrew selection than males who were accepted. What the 'price' was for this waste of talent and ability will never now be known.

Mandy Hickson (née Wells) was amongst the first females to fly the Tornado GR operationally but the numbers who fly fast jets today remain disproportionally small and Hickson's experiences of her passage from schoolgirl to the completion of several tours on the front line are well worth reading about.

For many members of this Society, Hickson's journey to the frontline will be remarkably familiar: air cadet, UAS, officer selection and training, probably followed by the dreaded 'holding post' or even the plural version! There is an interesting phase where, despite having amassed significant flying hours for one so young, been highly rated in the UAS and won its principal aerobatic trophy, Hickson was not selected as aircrew and only after joining her officer training course, was she re-branched. The cynic in me suspects that there were some things in the background and it was only her own determination and the support she garnered, which allowed her into the cockpit.

Hickson is remarkably honest about the lows she experienced during her training and she makes no attempt to gloss over them or 'airbrush' them out as she takes the reader through to her appointment on a front line Tornado squadron. She has some 'lucky breaks' in being able to experience things which others didn't, but having spent a particularly cold May many years ago at Mount Batten, I sympathise with her experiences of combat survival and rescue at St Mawgan – and across the cold and windy Dartmoor!

Hickson opens her story with an operational incident over Iraq and a significant part of the book is, rightly, about her time flying on an operational squadron and the route to it. When she leaves operational flying, her account seems to be rushed as though her story and air force career are running down. Following her nearly 17-years in the RAF, which embraced approaching 2,000 flying hours, three stints in the Gulf and 50 combat missions, she spent seven years as a volunteer reservist, flying with an air experience flight. She concludes with an account of a meeting in which she was able to enthuse, a somewhat unhappy teenage female air cadet.

Mandy Hickson's story doesn't really end with the concluding pages of the book and as the reader will discover, there is a link to a video clip, which might reasonably be titled: 'What Mandy Did Next'. (*There are actually several; members might care to sample this 15-minute example* https://www.youtube.com/watch?v=Mj0ZJ5kcEOs ***Ed***)

This 284-page softback, with its 12 pages of monochrome photographs, is not a major work of moment; rather it is the story of one woman's determination to realise her potential, regardless of the challenges she had to face in what was still very much a man's world. Despite one or two items which surprised me, I found this an interesting book but, with the inexorable rise of women in the armed forces in general and the RAF in particular, it cannot be long before a book like this is seen as nothing remarkable.

Wg Cdr Colin Cummings

Safety is No Accident: From V-bombers to Concorde by John R W Smith, Pen and Sword, 2020. £25.00.

After graduating with a degree in aeronautical engineering, the author joined Avro in 1963 as an aerodynamicist in the flight development department. He became a flight test observer in 1964

whereupon his professional expertise expanded to embrace automatic flight control and navigation systems. In 1974 he joined the Civil Aviation Authority as a flight test engineer and eight years later moved to its Projects Department, leading teams of CAA specialist engineers investigating design and test results for aircraft types seeking UK certification. On further promotion he became responsible for Light Aircraft Certification as well as managing the CAA's design and production approval process for UK aircraft manufacturers. In 1993 he became the CAA's Head of Aircraft Certification.

I outline all this to flag up that this well-illustrated, 288-page hardback is not an account of pilot derring-do; rather it is a chronicle of the time the spent on the development and certification test flights of the Avro 748, the Andover, Shackleton, Victor K2 and Nimrod among others. Thereafter, his scope within the CAA ranged from single-engine light aircraft to participation in the Concorde certification flight test programme. As such, Smith gives us a very detailed overview of the recording and analysis of flight test results among which are some fascinating snippets of which I wasn't aware. For example, we had auto land on the Vulcan and Victor to enable landing in all weathers. On neither aircraft was it used in anger, which is not surprising given that there was supposed to be a long transmitting cable laid underground for more than a mile into the undershoot along the extended runway centreline. The extensive cost of re-equipping all Bomber Command main base runways ultimately led to the MoD reconsidering the operational necessity of all-weather landing and the project was cancelled.

Not being a Kipper Fleet man myself, I wasn't aware of the plan to give the Shackleton extra power on take-off by installing a pair of Viper jet engines, one in the rear of each outboard Griffon nacelle. Perhaps unsurprisingly, this aggravated the problems with cracks in the spar which plagued all marks of Shackleton. Another project on which he worked was the conversion of the Armstrong Whitworth Argosy for buddy-buddy in-flight refuelling. Despite the viability of the concept, MOD eventually decided – funny old thing – that the idea was not worth progressing. You wonder where some of these barmy ideas came from, but it is interesting, from a historical point of view, to learn that sensible people even considered them in the first place.

I won't go on. Suffice to say that this book is a very detailed

chronicle of the trials and tribulations of flight test observers in the 1970s, ‘80s and ‘90s. It is rather technical in places and there are some quite lengthy descriptions of flight and navigation systems which normally only appeal to the very specialist reader. There is also an element of hype about the book. For example, there is the glorious colour picture of a Skybolt-armed Vulcan, XH537, on the book’s cover, but Skybolt was cancelled two years before John started working for Avro and he admits that his only involvement with the programme was in analysing some post-test results. That said, we don't often get a view from ‘down the back’ of cutting edge aircraft where stretching the envelope can be tedious, repetitive and downright scary, depending on type and time. So John is to be commended for chronicling a personal record of a largely analogue time that is long since passed.

As a simple pilot, I can't pretend that it is a riveting read but for all those backroom boffins and engineers on which aircrew very much rely, this book might very well be written for you.

Wg Cdr Andrew Brookes

Close Call, Vol 1 – Defeat in France to el Hamma, 1939-1943 by Vic Flintham. Hikoki; 2020. £29.95.

The author intimated that he might one day write a book on, what he then called, forward air control, eight years ago in this Society’s Journal No 54 (p137). This is the result or, to be precise, the first half of the result. However, while an essay on, what he had subsequently restyled close air support (CAS), may have been the author’s original aim, he confesses, in his Preface, that determining ‘how the book might turn out has proved difficult.’ That is evident from the eventual content, which addresses far more than its fairly precise sub-title – *RAF Close Air Support in the Mediterranean* – might lead one to expect. It doesn’t help that he eschews ‘doctrine’, regarding it, and its associated terminology, as essentially post-war constructs. Nevertheless, a working definition of CAS would surely have served to sharpen the focus. Today, it is described as action by aircraft against hostile targets requiring detailed integration with the fire and movement of friendly forces to provide offensive and defensive firepower to destroy, disrupt, fix or delay enemy forces in close proximity to friendly ground forces (*my underlinings*). While that may be paraphrasing the definition in a 21st Century edition of AP3000 – it is what CAS has always been about.

In the context of doctrine, it just so happens that the first of the ten classic Principles of War – Selection and Maintenance of the Aim – can usefully be applied to writing history. By not defining his aim more precisely, the author allowed his eye to be taken off the ball to address 'interdiction of the lines of communication and supplies' and much else – including the activities of the Americans – which surely fall outwith that very specific 'RAF' in the sub-title. Hence a certain lack of focus. To put it another way, the further back you stand, in order to see 'the big picture', the less significant are each of the individual brushstrokes – and this book was supposed to be about just one of those.

Then again, in his Introduction, the author declares that his book is 'not a continuous history of the war in the theatre' – but it kinda is. While stating that he will focus on a number of key battles, beginning with El Alamein in October 1942, he actually starts with an account of Op COMPASS in December 1940 and carries on via the Egypto-Libyan toing-and-froing of the likes of BREVITY, CRUSADER and Alam Halfa, taking in East Africa along the way. This had been preceded by a chapter summarising the evolution of CAS during WW I and the inter-war years, another covering the fall of France and the Norwegian campaign and a third devoted to the creation of Army Co-operation Command. So it is page 76 before we eventually engage with the book's sub-title and 137 before we reach El Alamein. The narrative concludes with an account of the invasion of North West Africa and the surrender of Axis forces in Tunisia in May 1943.

This 208-page A4 hardback has been produced to Hikoki's customary high standard and it contains a formidable amount of material, including a dozen very useful diagrams illustrating the ways in which information flowed within the communications networks that were introduced and progressively refined as the CAS concept evolved. The problem is that they are somewhat overshadowed by sixteen maps, eighteen colour profiles of representative aeroplanes, a remarkable sixty ORBATS, at various times and places, and no fewer than 230 photographs.

This overabundance of ancillary information has had an adverse impact on the structure – the layout – of the book, because space constraints made it impossible to match all of those illustrations with the relevant passages in the narrative. It would have relieved the pressure somewhat, if the ORBATS had been corralled within an

appendix. Just as an example – it happens elsewhere – the description of the comms links in use at El Alamein are summarised on page 134, but the associated 'wiring diagram' was on page 128. The same thing happens with photographs; there are so many of them that some have had to be shoe-horned in wherever space could be found, regardless of the adjacent text. One might also question the relevance of some the aeroplanes illustrated. The inclusion of types like the Defiant, Harrow, Hudson, Albemarle, Hotspur and Valentia, in the context of CAS, feel like stretching a point about as far as it will go. There are one or two howlers embedded within the narrative and in the captions to some photographs, and some errors and omissions on some of the maps.

But enough of criticism. While, a reviewer is obliged to express his reservations, he should not overstate his case. While it does have some faults, this is *a lot* of book, with a lot of pictures and a lot of information and, as such, it is good value for money. But it would have benefited from independent proof-reading and editing, the former to correct some of the niggling errors, the latter to sharpen the focus. What is presented as the story of the development of close air support actually reads more like an account of the war in Western Europe and Africa with occasional embedded references to CAS. It is, however, none the worse for that and it is well worth the investment – but read it with some circumspection. I look forward to Vol 2.

CGJ

Fighters in the Blood by Air Marshal 'Black' Robertson. Pen and Sword; 2020. £25.00.

The title of this autobiography from Air Mshl Graeme Robertson, universally known as 'Black' for reasons which become clear early in the narrative, suggests that it's just another account of the career of a Cold War fighter pilot. Not so. It's much broader than the customary, 'there I was in the crew room' material because the author's father was a Spitfire pilot during the Second World War and throughout the text the unique collection of letters between his parents, his father's recorded reminiscences, together with his own much longer flying experience, are used to compare the similarities and differences between the two careers, both socially and in the cockpit. Although a generation apart in Service traditions and with a huge disparity in aircraft technology, he draws a common picture of loyalty and integrity

in and around squadron life.

After Cranwell his first tour as a Hunter pilot in the Gulf was followed by six tours on the Phantom. He had two stints at Coningsby in the mud-moving role, first on one of the early squadrons then the OCU, followed by a tour with the USAF on exchange duties. He changed roles to become an air defence Flight Commander in the UK and finally a Squadron Commander in RAF Germany and the Falkland Islands before his final cockpit duty as Station Commander at Wattisham. These tours contain accounts of life in the air and on the ground where traditional standards of honesty and integrity were taken for granted in the Service and, later in life, were fundamental to both his professional and social beliefs.

While his style and content depart from other accounts by Cold War fighter pilots, the regular cross references to the experiences of his father, accompanied by acknowledgment of the good fortune which they shared, are entertaining and an education. Accidents to both, some serious in the case of his father who lost an eye and, as a result, his flying category, are described in some detail and the author acknowledges his own mistakes and ill-judged minor incidents, some of which led to disciplinary action, none of which seem to be a brake on his career. Names abound in the narrative with praise and criticism (including of himself) directed appropriately, and while some of those involved remain nameless to avoid embarrassment, colleagues in the know will deduce who were the personalities involved and what were the circumstances.

Written in an effortless fluent style his philosophical diversions compare his father's adventures with his own and reveal a thoughtful and perceptive mind. Behind the words however there is a hint of frustration that, as a long time career pilot, he never saw action – in contrast to his father and two of his Cranwell entry colleagues. All three were awarded Distinguished Flying Crosses, the latter pair in the Falklands campaign.

Away from the cockpit, tours in the Ministry of Defence in five different and successive ranks, one in the very demanding appointment as Director of Air Staff Briefing, a single-Service post, and two on the joint staffs exposed him to the realities of inter-Service lobbying, particularly for budget allocation. His personal beliefs relying on trust and integrity, fundamental to his professional relationships, were

exposed for their naivety under the influence of internal Whitehall politics. He criticises the decision which saw the Service Chiefs being rusticated from the MoD in Whitehall to their single-Service Headquarters where such a move gave the initiative to civil servants during a major reorganisation. Today, top level advice from single-Service experts is either diluted or countered by civil servants before it is seen by Ministers. The following words from that great visionary Bristol engineer, Sir Roy Fedden, say it all and can be adapted to apply to defence as well as to technical matters.

> *'It may not always be the best policy to adopt the course that is best technically but those responsible for policy can never form a right judgement without a knowledge of what is right technically.'*

I suspect that this culture remains dominant today and Black Robertson's experiences probably served him well where, after his retirement from the Service, he became the senior military adviser to BAE Systems. There he was exposed to industrial politics at the very top, but I can't support his contention that he was a 'nearly man'. Is this a reference to his acknowledgement that he was never exposed to the hazards of active service or that he didn't reach the level of the Air Force Board? I am not certain of what he means but, in my view, he had a very successful career of which he can be proud. I much enjoyed *Fighters in the Blood* and have no hesitation in recommending it strongly, particularly to those who served throughout the Cold War and who may have similar regrets over their lack of combat experience.

Gp Capt Jock Heron

***Daily Telegraph* Airmen's Obituaries – Book Three**. Compiled and edited by Air Commodore Graham Pitchfork. Grub Street; 2020. £20.00.

This is the third volume of *Daily Telegraph* Airmen's Obituaries published since the turn of the century and, as with its predecessors, it makes interesting, if sobering, and to a certain extent sad, reading. It is interesting because it reminds us of lives well-lived, usually beyond our own experience and even, in some cases, imagination; sobering because many of the accounts recognise actions of great courage and fortitude and sad since the subjects, some of whom we might have known, are

no longer with us.

Air Cdre Pitchfork will be known to many through the wide range of books and magazine articles on aspects of military aviation that he has written, many of them devoted to the sub-specialisation of medals. Whilst Pitchfork penned the Foreword to Book Two in the Obituaries series, I suspect that he may have been more heavily involved than that suggests: this third volume, however, is clearly attributed to him.

The format of all three volumes is similar in that each takes about 100 deceased movers and shakers of the aviation community and describes their lives briefly but succinctly, reminding, or informing the reader of their individual contributions in whatever form(s) that took. The first two volumes categorised the subjects into groups, eg fighter pilots, aircraft designers, etc, but this 344-page hardback is simply ordered chronologically by date of death. Each tribute has a photograph of the subject, often in the environment for which they were best known.

In his introduction, Pitchfork informs the reader that the *Daily Telegraph* has published 476 airmen's obituaries since the appearance of the previous edition, in 2007, but only 91 of them have been selected for this volume. It will be readily apparent to the reader that, however disappointing, if more obituaries were to be included the quality of the book's presentation would have to be sacrificed, or the book would become unmanageably large and hugely more expensive.

I venture to suggest that this is probably not a book to read cover-to-cover and that, unless they are seeking information on a specific individual, many readers will be content to simply surf the pages. It will certainly find a permanent place in my library and I fancy that it will often be taken down and browsed. I recommend Book Three without reservation since it represents, to my mind, a significant contribution to aviation history.

Wg Cdr Colin Cummings

Seek and Strike by Nigel Walpole. Air World; 2020. £25.00.

Sub-titled, *RAF Brüggen in War and Peace*, this book first appeared, as a privately published short print run hardback, in 2001. Better late than never, it has recently become available again in a softback edition by a sub-division of Pen & Sword.

Seek and Strike opens with a brief summary of the history of the locality between the arrival of the Romans in 58 BC and the clearing of

trees in 1952 in preparation for the building of an airfield. The next chapter deals with the work of the Airfield Construction Branch which permitted the first units, the RAF Regiment's Nos 85 and 89 (LAA) Sqns, to take up residence in June 1953 to be followed by the first aeroplanes, Vampires, a month later. Thereafter the reader is kept abreast of the resident flying units as the station worked its way through Sabres, Hunters, Meteor night fighters, Javelins, Canberras, both PR and bomber, Phantoms, Jaguars and finally the Tornado. Meanwhile, with Bloodhounds providing top cover 1971-83, the ever-present Regiment had replaced its Bofors guns with Rapier in 1976. These comings and goings are conveniently summarised in one of two appendices; the other one lists the Station Commanders with dates.

Along the way we are provided with accounts of a variety of notable events, some amusing, others, inevitably, tragic. Potentially among the latter was the shooting down of a Jaguar by a Phantom from Wildenrath – but, since the victim ejected successfully, we can reasonably file that one under 'amusing', albeit very expensive. Remarkably, only three months later the same pilot abandoned a second Jaguar – again, not his fault, but another loud kerching all the same. And then there was the Brüggen v Wildenrath bombing challenge, the target being a piano on Nordhorn Range; no fewer than twenty-five of the former's Jaguars participated – and they won.

While accounts of incidents such as these (and of some heroic drinking sessions) keep the story rolling along, the reader is equally well-informed of the seriousness of the station's function. The routine tension of QRA, and its implications, and the recurrent alert exercises and no-notice evaluations are all covered, as are detachments, not least RED FLAGs. There was something of a change of pace during the long Tornado era, of course, when the high state of readiness and sharply focused roles appropriate to Cold War confrontation were replaced by a more flexible stance and the employment of a variety of weapons and tactics. In place of nuclear QRA (which ended in October 1986) there was the Gulf War of 1991 and maintaining a subsequent presence in the Gulf thereafter, and operations over the Balkans in 1999. But it all came to an end with the departure of the last RAF units in 2002. Following a stint as a barracks for the British Army, today Brüggen provides accommodation for refugees, as it has done since 2015.

The operational squadrons are, of course, the point of the

metaphorical spear represented by an RAF station but, because it is sharp, it is also relatively small and it needs a very substantial shaft. It is customary for the writers of station histories to make some reference to the supporting staffs to acknowledge their contribution. That is noticeably not the case here. The author, who did a stint at Brüggen himself, as OC Ops in the late 1970s, is at pains to recognise the crucial role played by the wives, the welfare organisations, the sporting facilities, the various clubs and bars, the local staff who ran many of these facilities and so on. Rather than relying solely on the F540s for information, there are many references to the station magazine, *The Brüggen Circuit*, which reflected the social side of life.

One other feature stood out to this reviewer. Many of the tales told in the narrative feature the names of junior officers who crop up again years later as Squadron, or even Station, Commanders, and some became more generally familiar when they achieved air ranks. But, unusually, the author does not remark on this; he just tells it like it was at the time and leaves the reader to spot the rising stars. I liked that.

I found one or two residual typos and some of the many – more than 250 – photographs are a little 'muddy', but this may have been due to the state of the originals rather than their reproduction. That, however, is as far as the downside goes. This 356-page book is all that a station history should be. It covers all aspects of life within the community. The narrative is an easy read; the story is always interesting, and I would have thought it worthy of a hardback presentation. The content of this edition differs only marginally from the original but if, like me, you missed it first time around, this one is well worth the price.

CGJ

The General Staff and the Helicopter by Chris Gibson. Blue Envoy; 2020. £16.95.

This 64-page A4 paperback complements, *The Air Staff and the Helicopter* by the same author. As with its predecessor, there is some reference to the Army v RAF debate over who gets to 'do helicopters' but the bulk of the content follows Gibson's usual, broadly chronological, format.

While acknowledging the machines that did eventually see service, the main focus is on the pros and cons of the available options, foreign and domestic, under consideration from time to time and the laborious,

and sometimes lengthy, selection processes. Thus, while the Sioux, Scout, Gazelle, Lynx and Apache are given their due, so too are the Franco/German Tigre/Tiger, the Italian Mangusta, the South African Rooivalk, the US Cobra *et al* along with lots and lots of variations on those themes and the inevitable crop of also rans, many of them unbuilt.

Because the Army's remit is relatively restricted to countering armour plus tactical reconnaissance and the deployment/support of mortar/Milan teams – the solutions offered tend to be quite similar. The reader is not, therefore, confronted by some of the more extreme (dafter?) concepts that appeared in the equivalent *Air Staff* book as possible ways of solving the heavy-lift problem. Nevertheless, this volume is lavishly illustrated with well over sixty 3-view drawings of helicopters, real and imagined, and a similar number of photographs, many of them in colour. Along the way appropriate space is devoted to the steadily evolving capabilities of the available anti-tank missiles (Chapter 4) and associated kit, notably mast-mounted sights, and technical advances, like rigid rotors and BERP III blades.

Problems? Any publication that deals with military technology tends to be heavily punctuated with acronyms and initialisms. There is a short glossary, but it lacks ATGW, MMS, TADS/PVNS, ORC, BERP, etc. Once I was well 'read-in', these soon began to fall into place but, until then, I found that I had to flip back a couple of pages to remind myself of the occasional decode. Oh, and I'm not 100% sure of this but my sub-'O'level German suggests that the second 'er' in *UnterstützungHuberschrauber* is probably surplus to requirements – and should there be an upper case 'H' in the middle of a word? But, even if my doubts are valid, that hardly amounts to a downside.

This nicely-presented monograph is the final part of a trilogy that covers the whole of the UK's involvement with military helicopters. Be aware that, at the time of writing, the *Air Staff* volume (*see Journal 67*) is no longer available – anywhere (not even on abe books) – and the third element, *The Admiralty and the Helicopter* by James Jackson (oddly enough, never reviewed by the RAFHS), is now hard to find. All three will become increasingly expensive collector's items, so, if helicopters are your thing, I would invest in a copy of this one while it is still in print.

CGJ

ROYAL AIR FORCE HISTORICAL SOCIETY

The Royal Air Force has now been in existence for more than one hundred years; the study of its history is deepening and continues to be the subject of published works of consequence. Fresh attention is being given to the strategic assumptions under which military air power was first created and which largely determined policy and thus the conduct of operations in both World Wars, the interwar period and in the era of Cold War tension. Material dealing with post-war history is gradually becoming available under the 20-year rule, *although in significantly, and increasingly, reduced quantities since the 1970s*. These studies are important to academic historians and to the present and future members of the RAF.

The RAF Historical Society was formed in 1986 to provide a focus for interest in the history of the RAF. It does so by providing a setting for lectures and seminars in which those interested in the history of the Service have the opportunity to meet those who participated in the evolution and implementation of policy. The Society believes that these events make an important contribution to the permanent record.

The Society normally holds two lectures or seminars a year in London, with occasional events in other parts of the country. Transcripts of lectures and seminars are published in the Journal of the RAF Historical Society, which is distributed to members. Individual membership is open to all with an interest in RAF history, whether or not they are/were in the Service. Although the Society has the approval of the Air Force Board, it is entirely self-financing.

Membership of the Society costs £18 per annum and further details may be obtained from the Membership Secretary, Wg Cdr Colin Cummings, October House, Yelvertoft, NN6 6LF. Tel: 01788 822124.

THE TWO AIR FORCES AWARD

In 1996 the Royal Air Force Historical Society established, in collaboration with its American sister organisation, the Air Force Historical Foundation, the *Two Air Forces Award*, which was to be presented annually on each side of the Atlantic in recognition of outstanding academic work by a serving RAF officer or airman, a member of one of the other Services or an MOD civil servant. The British winners have been:

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1996	Sqn Ldr P C Emmett PhD MSc BSc CEng MIEE
1997	Wg Cdr M P Brzezicki MPhil MIL
1998	Wg Cdr P J Daybell MBE MA BA
1999	Sqn Ldr S P Harpum MSc BSc MILT
2000	Sqn Ldr A W Riches MA
2001	Sqn Ldr C H Goss MA
2002	Sqn Ldr S I Richards BSc
2003	Wg Cdr T M Webster MB BS MRCGP MRAeS
2004	Sqn Ldr S Gardner MA MPhil
2005	Wg Cdr S D Ellard MSc BSc CEng MRAeS MBCS
2007	Wg Cdr H Smyth DFC
2008	Wg Cdr B J Hunt MSc MBIFM MinstAM
2009	Gp Capt A J Byford MA MA
2010	Lt Col A M Roe YORKS
2011	Wg Cdr S J Chappell BSc
2012	Wg Cdr N A Tucker-Lowe DSO MA MCMI
2013	Sqn Ldr J S Doyle MA BA
2014	Gp Capt M R Johnson BSc MA MBA
2015	Wg Cdr P M Rait
2016	Rev Dr (Sqn Ldr) D Richardson
2017	Wg Cdr D Smathers
2018	Dr Sebastian Ritchie
2019	Wg Cdr B J Hunt BSc MSc MPhil

THE AIR LEAGUE GOLD MEDAL

On 11 February 1998 the Air League presented the Royal Air Force Historical Society with a Gold Medal in recognition of the Society's achievements in recording aspects of the evolution of British air power and thus realising one of the aims of the League. The Executive Committee decided that the medal should be awarded periodically to a nominal holder (it actually resides at the Royal Air Force Club, where it is on display) who was to be an individual who had made a particularly significant contribution to the conduct of the Society's affairs. Holders to date have been:

Air Marshal Sir Frederick Sowrey KCB CBE AFC
Air Commodore H A Probert MBE MA
Wing Commander C G Jefford MBE BA

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