

**AIR POWER STUDIES CENTRE**

**PAPER 60**

**November 1997**

**EVOLUTION OF HELICOPTER FORCES IN THE  
UNITED KINGDOM**

**By**

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## **About the Author**

Wing Commander Sharp was commissioned at the Royal Air Force (RAF) College Cranwell in 1980 and, following navigator training, was posted to No. 23 Squadron at RAF Wattisham, flying F4 Phantom aircraft. He subsequently transferred to helicopters and was posted to No. 18 Squadron flying Chinooks at RAF Gutersloh in Germany, where he served on a number of detachments, including two tours in the Falkland Islands. His next posting was to the Tactics and Trials flight at RAF Odiham where he flew both Chinook and Puma helicopters. On promotion to Squadron Leader he was posted back to No. 18 Squadron in Germany. during the 1991 Gulf War, he served with the Special forces, flying a number of operational missions into Iraq, for which he received a Mention In Dispatches. Follwoing his tour as a Flight Commander on No. 18 Squadron, he was posted to the Ministry of Defence where he served as a desk officer responsible for the reintroduction of the Chinook HC Mk 2 helicopter into operational service, following its mid-life upgrade program. During his tour, he was responsible for managing the Chinook fleet during its initial deployment to the Former Republic of Yugoslavia. In 1996, he was a student at the RAAF Command and Staff College in Canberra, and was subsequently awarded a scholarship to serve as a fellow at the Air Power Studies Centre, where he is studying command and control arrangements for battlefield helicopters.

## INTRODUCTION

Flying can never be of any use to the Army.

Attributed to Earl Haig<sup>1</sup>

The utility of battlefield helicopters has made these aircraft a vital component of modern military operations throughout the world. In recent years, they have played crucial roles in operations across the spectrum of conflict, from high intensity conflict in the Gulf War, through counter terrorist operations in Northern Ireland, to peace support operations in Bosnia. However, the command and control of helicopters has often been a contentious issue, and different countries around the world have adopted quite different arrangements.

One country with extensive operational experience with battlefield helicopters is the United Kingdom. The British were involved with some of the earliest developments of helicopters in the United States during World War II, and used them widely during counter-insurgency campaigns in the period after the War. The period was also marked by disputes between the Royal Air Force (RAF) and the British Army over ownership of aircraft in support of land operations, especially helicopters. The emergence of the Army Air Corps (AAC) as a separate air arm in the late 1950s did not settle the issue, and today, battlefield helicopters are operated by both Services. With an increasing emphasis on joint operations and efficient support structures in recent times, this arrangement might appear anachronistic.

This paper traces the employment of battlefield helicopters in the United Kingdom to explain how the present command and control arrangements evolved. A chronological approach is taken in exploring this theme since the outcomes are best understood in their historical context. Many of the issues concerning the command and control of helicopters have their roots in the earliest days of aviation when new organisations were established to exploit the emerging technology: namely, air forces. Consequently, these early arrangements are first examined to set the scene for the appearance of helicopters in World War II. Different opinions over the place of helicopters on the future battlefield led to inter-Service tensions during the post-War period, and these issues are briefly explored before looking at the early employment of helicopters in the counter-insurgency operations. Factors leading to the formation of the Army's own air arm are then highlighted, followed by an examination of the different approaches adopted by Army and RAF for the command and control of helicopters through the 1960s. This was also a period in which helicopters gained wider acceptance as useful military machines, bringing the dispute between the Services into sharper focus. Further developments through the 1970s and 1980s are then traced, including an overview of operations in Northern Ireland and the Falkland Islands. Following a brief study of the employment of British helicopters during the 1991 Gulf War, more recent developments are reviewed.

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<sup>1</sup> Farrar-Hockley, General Sir Anthony, *The Army in the Air: The History of the Army Air Corps*, Alan Sutton Publishing, Stroud, Gloucestershire, 1994, p 44.

## EARLY DEVELOPMENTS

### Inter-Service Relations

The first organisation with responsibility for the operation of aircraft in the British armed forces was the Royal Flying Corps (RFC) which was established in 1912 and comprised naval and military wings, funded jointly by the Admiralty and War Office. A single Royal Aircraft Factory and a joint Central Flying School were also established, providing unity in the organisation of military aviation. However, the activities of the naval and military wings of the RFC began to grow apart, and by the outbreak of World War I, the naval wing had changed its title to the Royal Naval Air Service (RNAS). The RFC and RNAS then developed independently, with each establishing its own organisation and supply arrangements. With a scarcity of resources during the war, this arrangement led to unhealthy competition between the Services for aircraft, engines and equipment, engendering a culture of antagonism.<sup>2</sup>

There were a number of attempts to coordinate the activities of the two Services through the establishment of coordinating bodies, but these bodies lacked authority and the Admiralty and War Office largely ignored their recommendations. The competing requirements for supply were eventually resolved by the establishment of the Aeronautical Department of the Ministry of Munitions in November 1916, but policy differences were not tackled until the formation of an air ministry in 1917. Full integration was not achieved until the RAF was formed in 1918, bringing together the air arms of both Services, and providing a new force capable of independent air operations. In addition to its independent operations of long-range bombing and air defence, the RAF was responsible for providing aerial services to the Royal Navy (RN) and Army, establishing the Fleet Air Arm (FAA) and Army Cooperation (AC) squadrons. However, there was considerable opposition to the formation of the RAF, not least from the Admiralty.

After the war, the Admiralty sought to regain ownership of the FAA, and in 1937 won its case in parliament, but the RAF remained responsible for providing air support to the Army. By that time, the RAF had become wedded to the doctrine of strategic bombing, which, it was argued, was capable of winning wars without significant intervention by sea and land forces.<sup>3</sup> Consequently, the RAF devoted most of its available funds to long-range bombers and fighters for air defence, with only limited provision for Army support functions. The Army meanwhile had little regard for air power, concentrating instead on the development of traditional war fighting techniques. However, the devastating effects of German Ju 87 'Stukas' in the Spanish Civil War finally convinced many in the Army of the vital importance of air power to its own operations. The Army saw the integration of the Luftwaffe in direct support of ground forces as an important factor, but the RAF came to a different conclusion, with the Chief of the Air Staff describing the use of aircraft in this role as 'a gross misuse of air forces'.<sup>4</sup>

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<sup>2</sup> See comments by Austin Chamberlain (former Chancellor of the Exchequer and Member of the War Cabinet) quoted in Hilary St. George Saunders, *Per Ardua: The Rise of British Air Power 1911-1939*, Oxford University Press, London, 1934, p 307.

<sup>3</sup> For a critical appraisal of the RAF's doctrine of the period, see Taylor, A.J.P., *English History 1914-1945*, Oxford University Press, London, 1965, especially p 391.

<sup>4</sup> Quoted in Farrar-Hockley, *The Army in the Air*, p 44.

Despite its strategic orientation, however, the RAF did maintain a number of army cooperation squadrons, providing reconnaissance, photography and artillery observation. However, some in the Army were less than satisfied with the service provided by the RAF and saw a requirement for their own officers to fly the aircraft.<sup>5</sup> The Air Council, a committee of senior air force officers, civil servants and government ministers that administered the RAF, agreed to review 'any unsatisfactory features of the system of cooperation at present in use'.<sup>6</sup> Accordingly, in 1938 trials of the Flying Observation Post (Flying OP) were set up using various light aircraft. The aircraft were flown by Royal Artillery pilots, who were seconded to the RAF for training and then attached to artillery units in the field for the trials. Although the results were encouraging for the Army, the RAF doubted the viability of light aircraft to operate in the face of enemy anti-aircraft fire. Nevertheless, after the outbreak of World War II, the Army continued to press for specialised aircraft to improve artillery spotting and despite reservations, the RAF eventually agreed to establish Air Observation Post (Air OP) squadrons. The Air OPs were operated wholly in support of the Army, but remained part of the RAF, using RAF procedures and supported by RAF technicians; however, the aircraft were flown by Army pilots. During the war, Air OPs made a significant contribution to Army operations, providing direction of fire for artillery, local reconnaissance and, as far as possible, a much sought after aerial 'taxi-service' for senior officers.

Meanwhile, with Britain fighting a rearguard action against Germany during 1940, Churchill was keen to develop a means of taking the fight to the enemy. This led to the creation of an airborne force capable of air landing troops on the continent of Europe, despite misgivings about the concept from both the Army and the RAF.<sup>7</sup> With insufficient aircraft available to equip and train a parachute force, it was decided to use gliders to air land the troops. There was then a discussion about which Service should provide the glider pilots. The War Office argued that glider pilots also needed to operate as soldiers once they had landed, but the Air Ministry pointed to the 'higher efficiency' of RAF glider pilots, maintaining that 'the primary role of the glider pilot was to fly and his participation in the land battle was unnecessary'.<sup>8</sup> The War Office view prevailed and the Army formed a Glider Pilot Regiment, which later merged with the Parachute Regiment to form the Army Air Corps. Due to shortages of Army pilots, however, a number of RAF pilots were seconded to glider units where they were given training in weapon handling, fieldcraft and other soldiering skills. This proved to be fortuitous during later operations when glider pilots did actually become involved in fighting on the ground.<sup>9</sup>

### **Helicopters Enter the Fray**

Early British experiments with helicopters proved unsuccessful and in the 1930s, British interest in rotary winged aircraft was focused on autogyros, which appeared to show more promise. Autogyros were later used for Air OP duties with the Expeditionary Force in France, and subsequently by the RAF for radar calibration

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<sup>5</sup> *ibid.*, p 46.

<sup>6</sup> Quoted in *ibid.*, p 46.

<sup>7</sup> *ibid.*, p 58.

<sup>8</sup> Minutes of an Air Council meeting 31 August 1944, quoted in *ibid.*, p 127.

<sup>9</sup> *ibid.*, pp 130-134.

work around the British coast.<sup>10</sup> Meanwhile, the British Aircraft Delegation in Washington, which was part of the British Defence Liaison Staff, carefully followed helicopter developments in the United States, keeping both the Admiralty and the Air Ministry informed. Following the successful development of Sikorsky's machines, interest in autogyros waned. Initially, the Royal Navy showed greatest interest in helicopters, which offered a new way to deal with the submarine threat and in 1942 ordered 14 Sikorsky R-4 and 250 R-5 helicopters to be used for convoy escort, anti-submarine warfare and sea rescue.<sup>11</sup> However, by late 1943 the submarine threat in the Atlantic had receded and the Royal Navy decided to cancel its order for R-5s. In the absence of any specified tasks for the helicopter, and with other more urgent priorities to meet, the RAF could not be persuaded to take up the cancelled Royal Navy order.<sup>12</sup> Nonetheless, both the RAF and Royal Navy proceeded with orders for a few R4 and R-6s (named Hoverfly in RAF service and Gadfly in Royal Navy service), and a number of RAF and Royal Navy pilots were sent to the United States for helicopter training. In 1944 the RAF formed a helicopter training school at RAF Andover to teach Air OP pilots to fly helicopters.<sup>13</sup> The school was equipped with nine R-4s and nearly 100 Army pilots were trained to fly helicopters during the war, even though the Army did not have any in operational service at that time.<sup>14</sup> Meanwhile, the Royal Navy established a separate helicopter school at Royal Naval Air Station Portland. British helicopters arrived too late in the war to be used on the battlefield, but the use of United States Army Air Force Air Commando R-4s in support of British forces operating in Burma gave an insight into their potential. The Air Commandos operated in support of the long-range patrol groups established by General Ord Wingate to operate behind Japanese lines, and although they used mainly fixed-wing aircraft, helicopters were occasionally also employed on operations.<sup>15</sup> Commenting on the work of the Air Commandos, the Commander-in-Chief South-East Asian Command, Admiral Mountbatten, wrote to the Chief of the Air Staff, Sir Charles Portal, stating:

The fly-in of Wingate's Forces was a great success and will revolutionise jungle warfare for the future ... I do hope and pray that you will form at least one British Air Commando ... [after Overlord] ... if only for reasons of national prestige.<sup>16</sup>

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<sup>10</sup> Dowling, Wing Commander Jack, RAF, *RAF Helicopters: The First Twenty Years*, Her Majesty's Stationery Office, London, 1992, p 4.

<sup>11</sup> The Sikorsky R-4 was a production of an the VS-316 helicopter developed by Dr Igor Sikorsky under contract to the US Army Air Force, which was further developed into the R-5 and R-6. Quantities ordered detailed in Admiralty File ADM1/17033, loose minute, First Sea Lord to Prime Minister, 16 March 1943, quoted in Sadler, Guy, *The Helicopter and the Struggle for its Control Between the War Office and the Air Ministry 1944-1959*, unpublished PhD thesis, University of Wales, p 31.

<sup>12</sup> Dowling, *RAF Helicopters*, p 5.

<sup>13</sup> Gardner, Richard E. and Longstaff, Reginald, *British Service Helicopters*, Robert Hale, London, 1985, p 9.

<sup>14</sup> *ibid.*, p 10.

<sup>15</sup> Joint Intelligence Collection Agency Report, 4 September 1944, quoted in Sadler, *The Helicopter and the Struggle for its Control*, p 31.

<sup>16</sup> Air Ministry File Air 8/1158, loose minute, Commander-in-Chief South-East Asian Command to Chief of Air Staff, 28 March 1944, quoted in *ibid.*, p 31.

## POST WAR YEARS

### Shaping the Services

At the end of the Second World War, Britain faced severe economic difficulties, and there was immediate pressure to reduce expenditure on the armed forces. However, the war also left Britain with a legacy of commitments throughout the world that required it to maintain large numbers of troops overseas. With reducing budgets and continuing commitments, both the Army and the RAF faced severe financial pressure. During the War, the Army and the RAF had developed a close working relationship, perhaps reaching its apogee in the Western Desert campaigns of 1942 and early 1943. However, as the nuclear bomb heralded a new era at the end of World War II, the RAF's focus shifted back to its strategic mission, with an emphasis on meeting bomber and fighter requirements.<sup>17</sup> Once again, this left many in the Army concerned that the RAF would not provide adequate resources to meet its requirements for air support, rekindling demands for the Army to develop its own air arm.

There were also concerns over the command and control arrangements for the Air OPs, which remained scattered across several overseas theatres. Artillery staff continued to coordinate their operational employment, whilst the RAF continued to provide technical support, but there was no central headquarters organisation to develop tactics, coordinate requirements, or provide staff advice to senior commanders. The solution, many Army officers believed, was for Air OP squadrons to operate entirely within the Army command structure.<sup>18</sup> The Chief of the Imperial General Staff, Field Marshal Lord Alanbrooke, wrote to the Chief of the Air Staff, Sir Charles Portal, in October 1945 stating:

Now that we are in the process of formulating the shape of the post-war Army, this seems to be the appropriate time to consider whether in future, the Army should assume the responsibility for manning and operating its own aircraft for certain specific Army functions.<sup>19</sup>

In reply, the Chief of the Air Staff stated:

There are arguments in favour of aircraft that can only be of use to the Army coming under Army control, subject to operational advice from the Air Force Commander, but to divide the control of aircraft and pilots that have uses common to both Services would militate against flexibility and economy. If division of control were followed by division of responsibility for maintenance and training, there would be further loss of economy.<sup>20</sup>

The RAF seemed to accept that, in principle at least, there was a case for the Army to operate aircraft that had no applications beyond Army support; however, in practice, it

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<sup>17</sup> For an insight into air/land operations in the North African campaigns of World War II, see Orange, Vincent, *Coningham: A Biography of Air Marshal Sir Arthur Coningham, KCB, KBE, SO, MC, DFC, AFC*, Methuen, London, 1990, especially pp 77-156.

<sup>18</sup> Farrar-Hockley, *The Army in the Air*, p 166.

<sup>19</sup> Air Ministry file Air 8/985, letter, Chief of the Imperial General Staff to Chief of Air Staff, 15 October 1945, quoted in Sadler, *The Helicopter and the Struggle for its Control*, p 65.

<sup>20</sup> *ibid.*

resisted attempts to divide control of air power. In a typical inter-Service compromise, it was agreed to allow the Air OP squadrons to continue under existing arrangements, but the disagreement did not go away and was to resurface many times in the ensuing decades.

### **Helicopter Requirements**

Immediately after the War, the Army sought to identify suitable tasks for helicopters, conducting trials using a small number of Hoverflies. However, the RAF, which had primacy in aircraft developments, did not have an identifiable single-Service role for the helicopter and saw little value in these machines.<sup>21</sup> Consequently, in the face of other pressing air power needs, the development of helicopters for use in land warfare was not pursued with vigour. Meanwhile, the Royal Navy continued to develop its requirements for anti-submarine and sea-rescue helicopters, and consequently led the way for the development of helicopters in Britain.<sup>22</sup>

By the late 1940s, the venerable Auster light aircraft, in service with Air OP squadrons, were in need of replacement and a joint War Office and Air Ministry committee was established to identify the roles which light Army aircraft could fulfil. The committee concluded that these roles would be air observation, local reconnaissance, evacuation of casualties from forward areas, intercommunications by commanders and staffs, and an air dispatch letter service. The Army considered that Hoverfly helicopters might be suitable for some of these roles, and passed its requirements to the Air Ministry, which had the task of preparing a formal operation requirement. The Army was also considering using large cargo helicopters in place of part of its ground transport fleet to provide greater mobility on the nuclear battlefield; but, under arrangements extant at the time, these aircraft would also have to have been provided by the RAF.<sup>23</sup> However, the Air Ministry considered that the cost of helicopters could not be justified, especially given their vulnerability and meagre performance capabilities at the time.<sup>24</sup> Underlying this difference of opinion was probably a more fundamental disagreement over the value of land forces in modern warfare, with the RAF convinced that strategic air power reduced the relevance of land forces, especially large-scale conflict between the super-powers. However, the failure of the RAF to meet the Army's demands for aircraft added to pressure from within the Army to form its own air services. In 1953, the Director of Land/Air Warfare, Major-General Thompson, proposed that the Army take full responsibility for its own aircraft, asserting that:

Owing to the present system, we are failing, increasingly, to make proper military use of helicopters, already assessed at their proper value by Navy, civil operators and American Services. The helicopter would probably be of greater value to the Army than any other Service or organisation.<sup>25</sup>

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<sup>21</sup> Dowling, *RAF Helicopters*, p 102.

<sup>22</sup> *ibid.*, p 19.

<sup>23</sup> War Office file 32/13064, paper on 'The Load-Carrying Helicopter', Directorate of Land/Air Warfare, 21 April 1948, quoted in Sadler, *The Helicopter and the Struggle for its Control*, p. 100.

<sup>24</sup> *ibid.*, p 343.

<sup>25</sup> Major-General G.S. Thompson to Chief of the Imperial General Staff, 6 August 1953, quoted in Farrar-Hockley, *The Army in the Air*, p 174.

The RAF, however, saw such a development as a threat to its existence. Shortly after the end of the War, the RAF had been concerned that if the Army gained control of even a few aircraft, it might prove to be the 'thin end of the wedge', and lead to the RAF's functions being whittled away.<sup>26</sup> However, by the 1950s, the RAF had begun to concede that there might be a case for the Army to operate some of its own aircraft in a few limited roles. In 1954, the Chief of the Air Staff, Marshal of the Royal Air Force Sir John Slessor, stated:

... it was wrong to forbid the Army to buy domestic transport aircraft and make them rely on the good will of the Air Council. At present, the Army has too few aircraft because air funds have to be spent on projects of greater importance to air defence. That was hardly logical, since the need for Army aircraft should be considered against the background of the Army's transport problem and the need for mobility in the field, not as part of war in the air.<sup>27</sup>

Despite this concession, however, it was to be several years before the Army acquired its own air arm. Meanwhile, events in the real world were beginning to overtake policy.

### **The Malayan Emergency**

Whilst the wrangling over the control of air services for the Army was taking place in Whitehall, events in the British colony of Malaya demanded urgent action. Plans to return the colony to local control were being hindered by a communist insurgency and British and Commonwealth forces were deployed to stabilise the situation. Army operations against insurgents in the remote jungle regions were being jeopardised because of the need to carry wounded soldiers over long distances through the jungle, and it was considered that helicopters might improve casualty evacuation.<sup>28</sup> The task fell to the RAF, which formed a Far East Air Force Casualty Evacuation Flight, but lacking any suitable helicopters, it had to turn to the Admiralty for help. The Royal Navy had just taken delivery of its first Dragonfly helicopters (modified Sikorsky S-51 built by the Westland Aircraft Company in England), and three of these aircraft were diverted for use by the RAF. Once the helicopters arrived in Malaya, they were an instant success, rescuing many wounded soldiers.<sup>29</sup>

Helicopters were very much in their infancy at the time, and because of the need to provide extensive technical support for the Dragonflies, it was considered necessary to operate them from a well-found base. Consequently, the Casualty Evacuation Flight was established at RAF Changi in Singapore, even though this was some way from the main area of operations. The helicopters were under the command of headquarters Far East Air Force, also at Changi, but they were placed under the Operational Control of Air Headquarters (AHQ) Malaya, which established an advanced headquarters in Kuala Lumpur, alongside the Army headquarters responsible for directing all military operations in Malaya. However, whilst in Singapore, the

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<sup>26</sup> Air Ministry file 8/985, memo from Air Member for Supply Organisation on 'Proposed transfer of certain air responsibilities to the Army', 26 October 1945, quoted in Sadler, *The Helicopter and the Struggle for its Control*, p 78.

<sup>27</sup> Minutes of an Air Council meeting to discuss 'Responsibility for Flying Units Designated to Meet the Needs of the Army' held on 6 May 1954, quoted in *ibid.*, p 175.

<sup>28</sup> RAF Air Publication (AP) 3410, *The Malayan Emergency 1948-1960*, Ministry of Defence, 1970.

<sup>29</sup> Dowling, *RAF Helicopters*, p 44.

helicopters were under the control of the main AHQ in Changi until they crossed the Johore Straits into Malaya, when control was passed to the advanced AHQ. This resulted in a lengthy tasking chain. Individual Army units requiring helicopter support submitted bids to the Army headquarters in Kuala Lumpur, where they were relayed to the advanced AHQ, to be relayed back to main AHQ in Singapore, which in turn tasked the Casualty Evacuation Flight. The process inevitably caused delays, and some essential task details were not always provided to the helicopter pilots; nonetheless, with so few helicopters in theatre, some form of centralised control was essential to ensure their efficient use. In contrast, Air OPs, which still operated Austers, were deployed forward with Army units throughout Malaya and were therefore much more responsive. To mitigate some of the tasking delays, the Casualty Evacuation Flight exploited an informal communications link with the Air OP units, which were able to provide much of the information they needed faster than the formal system.<sup>30</sup>

The ability of the helicopter to take-off and land vertically made it indispensable in the jungle environment. However, the Dragonfly's performance was severely limited in the hot temperatures and high altitudes experienced in Malaya, and on occasions it was capable of lifting only one passenger at a time.<sup>31</sup> Nonetheless, they proved to be highly successful in the casualty evacuation role where speed could save soldier's lives, and the potential to use helicopters in other roles, such as tactical troop insertions and communication tasks, was soon recognised. This led to demands for additional helicopters to be deployed but, due to delays in development and production of helicopters in the United Kingdom, expansion of the helicopter force was slow. To some extent this slow development could be attributed to a lack of foresight on the part of the Air Ministry, which had been reluctant to pursue the Army's requirements for helicopters in the post-war years; however, a shortage of funds and limited manufacturing capacity were also responsible.

The RAF's replacement for the war-vintage Hoverfly, the Bristol Sycamore, was not ready for operational use, and the RAF was also unable to meet demands for troop transport helicopters in Malaya. Consequently, the RAF sought the release of additional Royal Navy Dragonflies for the increased casualty evacuation task and a solution to the troop-lift requirement. After much wrangling between the Air Ministry and Admiralty, which further delayed the deployment of additional helicopters, the Royal Navy agreed to loan the Dragonflies to the RAF. It also deployed a squadron of American built Sikorsky S-55s for the troop transport task, but these aircraft were operated by Royal Navy crews.<sup>32</sup> With more helicopters in theatre it became feasible to deploy a detachment of Dragonflies and S-55s to Kuala Lumpur to improve support to operations in the north and central Malaya.<sup>33</sup> The Royal Navy S-55 helicopters utilised the same tasking arrangements as the RAF helicopters, and soon became

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<sup>30</sup> *ibid.*, p 33.

<sup>31</sup> Increasing temperature and the reduction of pressure associated with higher altitude both contribute to increasing the density altitude of the atmosphere, which has an adverse effect on helicopter performance.

<sup>32</sup> The S-55 had been acquired from the US for the NATO anti-submarine warfare role and because of legal complexities associated with the deal, it was considered necessary for Royal Navy crews to continue to operate these aircraft. *ibid.*, p 53.

<sup>33</sup> AP 3410, p 103.

involved in tactical troop moves as well as casualty evacuation and communication tasks, establishing an excellent reputation with the troops they supported.

The Dragonfly was eventually replaced by the Sycamore, which had superior performance and handling characteristics. However, the RAF's replacement for the Royal Navy S-55s, the Westland Whirlwind, fared less well. The Whirlwind, a British version of the S-55, was a heavier copy of the original (having been built to British military specifications) and its performance was severely limited in the Malayan conditions.<sup>34</sup> The Whirlwinds were deployed to Kuala Lumpur but, because of their poor performance, it was necessary to retain the Royal Navy S-55s for longer than originally planned. The performance of the Whirlwind was noted by the Air Officer Commanding Malaya, Air Vice-Marshal Scherger (an Australian officer), who wrote to the Director of Operational Requirements (Air) stating 'your wretched Whirlwind is a complete washout'.<sup>35</sup> The RAF Whirlwinds could not lift as much as the Royal Navy S-55s but, because the two helicopters looked similar, it would not be surprising if troops on the ground attributed the difference in performance to the parent Service. With little evidence to contradict such perceptions (since helicopter support was so thinly spread), the view that the Royal Navy provided superior helicopter support to the RAF became accepted into Army mythology. Such perceptions, perhaps borne of incomplete understanding, later had an important influence on senior decision-makers in the Army. While this may be little more than conjecture, it may help explain the depth of antipathy felt towards RAF helicopter operations by some members of the Army.

Nevertheless, despite their limited performance, helicopters proved to be 'essential to success in the Malayan Emergency' and, by the end of the campaign, there was a far wider acceptance of their military value.<sup>36</sup> In 1959, the Vice-Chief of the Air Staff told an Air Council meeting that:

Experience over the last few years has shown conclusively that the conduct of policing, cold war, and limited war operations involves the inevitable and genuine requirement for helicopters.<sup>37</sup>

### **Joint Experimental Helicopter Unit and Suez**

The Army continued to feel frustration at the Air Ministry's lack of progress in acquiring battlefield helicopters, and in 1954 sought to gain control of helicopters from the RAF. Eventually, the Air Ministry agreed to transfer control of Air OP units and light liaison aircraft to the Army, but resisted moves to a greater division of air power. In response to the Army's demands for larger helicopters, the Joint Chiefs of Staff agreed to establish a Joint Helicopter Evaluation Unit (later renamed Joint Experimental Helicopter Unit (JEHU)), to investigate the extent to which helicopters could meet the Army's requirements for mobility. The unit, which was equipped with

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<sup>34</sup> Dowling, *RAF Helicopters*, p 101.

<sup>35</sup> *ibid.*, p 77.

<sup>36</sup> The Director of Operations, General Sir Gerald Templer, quoted in Dowling, *RAF Helicopters*, p 77.

<sup>37</sup> Air Ministry files, Air2/12709, Note by Vice Chief of Air Staff for Air Council (59)21, 12 February 1959, quoted in Sadler, *The Helicopter and the Struggle for its Control*, p 65.

Bristol Sycamores and Whirlwinds, came under Army control, but the RAF provided technical support and many of the pilots.<sup>38</sup>

The 'Experimental' tag was dropped from the unit's title when it was embarked on the light fleet carrier ship HMS Ocean, and deployed to the Middle East as part of Britain's response to the emerging crisis over ownership of the Suez canal in 1956. Together with Royal Navy S-55s, helicopters from JEHU transported Royal Marine Commandos in an assault on Port Said in Egypt. Although the wider Suez campaign turned out to be a political fiasco, the Port Said assault was a tactical success and proved to be an important milestone in the establishment of a permanent helicopter-borne amphibious assault force of Royal Navy helicopters and Royal Marines.<sup>39</sup> After Suez, the JEHU returned to its task of developing air mobility requirements for the Army; its helicopters were also used briefly to support counter-terrorist operations in Cyprus in the late 1950s.<sup>40</sup>

### **The Army's Own Air Force**

Following the Suez Crisis there was increasing pressure on the Defence budget and all three Services were forced to make economies. Facing continuing demands from the Army for more helicopters, the RAF eventually decided it was better to transfer full responsibility for light aircraft and utility helicopters to the Army, enabling the RAF to concentrate on its 'core' responsibilities. However, to prevent the Army encroaching on its core air power business, the RAF proposed that the Army be allowed to operate unarmed aircraft and subject to an all-up-weight limit of 4,000 lbs.<sup>41</sup> In accepting these criteria, the Army Council believed that it might be able to alter the limitations through negotiation at a later date, and that, in any case, it did not wish to expand Army aviation too quickly and outstrip its resources. Agreement was reached, and the Army Air Corps (AAC) was formed on 1 September 1957, taking responsibility for purchasing, manning, maintaining and operating its own light aircraft and utility helicopters.<sup>42</sup> Within the War Office, responsibility for Army Aviation fell to the Directorate of Land/Air Warfare.

### **Short Range Transport Force**

The work of the JEHU continued until 1959, by which time its Sycamores had been replaced by Whirlwinds. In Army service, the Whirlwind was regarded as a 'utility' helicopter, so when the JEHU was disbanded, the AAC expected to gain control of these helicopters. However, they exceeded the 4,000 lb weight limit for Army aircraft and so were transferred to the RAF, thus establishing a split in ownership of battlefield helicopters between the Army and RAF. In RAF service, the Whirlwind

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<sup>38</sup> Dowling, *RAF Helicopters*, p 113.

<sup>39</sup> Everett-Heath, *Helicopters in Combat*, p 27.

<sup>40</sup> Dowling, *RAF Helicopters*, pp 165-167.

<sup>41</sup> All up weight is the total of the weight of the aircraft, its fuel load, crew and payload. The same weight limit was imposed on US Army Aviation aircraft in the National Security Act of 1947 that created the United States Air Force, and it may have been for this reason that this seemingly arbitrary weight was selected.

<sup>42</sup> Technically, it was re-formed, since Army Air Corps was the title given to the unit formed by the amalgamation of the Glider Pilot Regiment with the Parachute Regiment in World War II.

was considered to be part of the wider air transport force, and became the helicopter element of the Short Range Transport (SRT) force within No. 38 Group.<sup>43</sup>

With the RAF's main focus on fighter and bomber missions, the SRT force was somewhat of a backwater, with many of the pilots and groundcrew assigned to helicopters only on short tours between 'mainstream' flying postings. Moreover, a large proportion of the helicopter pilots in the SRT force had a background in flying fixed-wing transport aircraft, which may explain why some members of the Army gained the impression that 'the RAF operated its helicopters like airliners'.<sup>44</sup> Certainly, it seems likely that the RAF culture of risk avoidance, so important in fixed-wing transport operations, would have permeated to the SRT force. It was sometimes necessary to operate RAF helicopters from field locations when operating in support of the Army. This would have been an alien environment to some in the RAF, accustomed to operating from well-found bases and unfamiliar with the requirements of field conditions. This created an impression in the Army that the RAF lacked the necessary knowledge to work with the Army in the field, and that by the time they 'began to think like soldiers', their time with helicopters had expired.<sup>45</sup>

### **Centralisation and Integration**

In accordance with RAF doctrine, command and control of the SRT helicopters was normally vested in an RAF headquarters, which was often located some distance away from the scene of operations. The doctrine held that only an authority experienced in the application of air power, which was sited and staffed to get a reasonably broad picture of actual and potential requirements, could employ tactical aircraft efficiently. However, there were shortcomings in the rigid application of this doctrine to helicopter operations, where the speed of response could not always be achieved through a long tasking chain. Some RAF commanders acknowledged these shortcomings and recognised that control of helicopters should not be vested at too high a level.<sup>46</sup> To balance the need for responsiveness with the benefits of centralised control, RAF policy for the employment of its helicopters was that they could be placed under operational control of supported brigades for a specified time and for a specified operation, but the Air Headquarters would retain the ability to withdraw the helicopters as it saw fit.<sup>47</sup> Application of this policy demanded a high level of liaison between the supported Army unit and the RAF command, but subsequent events suggest that this requirement may not always have been met.

In contrast to the RAF, the AAC sought to disperse its aircraft by 'integrating' army aviation with field units of the Army. However, this was not solely to improve their operational effectiveness. After its formation, the AAC was faced with considerable manning difficulties, having assumed responsibility for a wide range of support

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<sup>43</sup> Dowling, *RAF Helicopters*, p 114.

<sup>44</sup> Army officer quoted in Towle, Phillip Anthony, *Pilots and Rebels: The Use of Aircraft in Unconventional Warfare 1918-1988*, Brassey's, London, 1989, p 142.

<sup>45</sup> Mead, Peter, *Soldier In the Air*, Ian Allen, London, 1967, p 209.

<sup>46</sup> Foxely Norris, Air Vice-Marshal C.N., 'Air Aspects of Operations Against Confrontation', *Brassey's Annual, 1967*, (Hickey, p 124).

<sup>47</sup> Hickey, Colonel S.M.W., *The British Army and the Battlefield Aerial Vehicle: The Evolution of Current Doctrine and Examination of Future Trends*, Unpublished thesis, King's College, University of London, 1973/4, p 122.

activities virtually overnight and integration was seen as a means of overcoming the manning shortages. It was assumed that field regiments would be more willing to make manpower available to aviation if the aircraft were allocated under their control and the personnel remained under their command. It also meant that the supported unit would be responsible for administering the personnel in all matters such as rations, pay and accommodation. Local control facilitated rapid response, with obvious operational advantages, but integration demanded a large number of helicopters and widely dispersed logistic support. Taken to its logical conclusion, full integration would have made the AAC unnecessary, as all aspects of parenting the aircraft and personnel would fall to the individual field regiments. However, without a central air organisation, aviation experience in the Army would be diluted and there would be no centre of excellence to take forward innovative ideas and techniques in the application of aviation. Consequently, while the aircraft were dispersed to various Army field units and manned mainly from the other corps, it was decided to retain a cadre of AAC pilots; nonetheless, the AAC became just one part of the broader Army Aviation.

Meanwhile, as the RAF and AAC followed separate paths for command and control, there was a need to upgrade the fleets of increasingly obsolescent helicopters; the two Services also faced continuing demands for helicopters to meet operational commitments around the world.

### **New Helicopters**

In the same year that the AAC was formed, a government report into the role of air transport in support of the Army (known as the Bingly Report) established that the RAF was responsible for meeting the Army's tactical transport and cargo lift requirements in forward areas. To meet these responsibilities, the RAF set about acquiring replacement helicopters for the SRT force, as well as new helicopters to meet the cargo requirements. The latter were to form part of the Light Cargo Force (later known as Medium Range Transport), which also included fixed-wing cargo aircraft. Later however, the distinction between the SRT helicopters and light cargo helicopters faded and collectively they became known as Support Helicopters (SH). The Whirlwind Mk 10 and Westland Wessex (licence-built Sikorsky S-58) were selected to replace the Sycamore and earlier marks of Whirlwind in the tactical transport role, while the large, tandem-rotor Bristol Belvedere was selected to meet the requirement for cargo helicopters. These aircraft were the products of British manufacturers and were selected more for political and industrial reasons than for operational requirement. Moreover, they all suffered technical problems in their development, thus delaying their introduction to service.<sup>48</sup>

Meanwhile, it was planned to increase the size of the AAC fleet to meet the requirements of the AAC 'integration scheme'. The ultra-light Saunders-Roe Skeeter already in service was unsuitable for all the tasks envisaged.<sup>49</sup> The planned replacement for the Skeeter was the Saunders-Roe Scout (similar to the Navy Wasp), but this helicopter breached the previously agreed 4,000 lb all-up-weight limit.

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<sup>48</sup> Dowling, *RAF Helicopters*, p 231.

<sup>49</sup> The Skeeter lacked the power for operations in tropical climates, Farrar-Hockley, *The Army in the Air*, p 193.

However, because it was only intended to use it as a liaison helicopter, and the only alternative meant buying offshore, the Air Ministry did not object to its introduction to the AAC.<sup>50</sup> In effect, this move tacitly abolished the weight criteria. Nevertheless, the Scout was considered too expensive and too complicated to meet all the Army's requirements so a second type was required.<sup>51</sup> The selected type was the Augusta Sioux, a license-built Bell-47, which was in turn licence-built by Westland; however, because the Sioux would not be available for several years, the Army acquired a number of French built Sud-Aviation Alouettes as a stop-gap.

In line with 'integration', Scouts were deployed under full command to brigades and battalions, usually in 'air troops' or 'air platoons' of four or five aircraft, while the lighter Sioux were detached in similar numbers to infantry battalions and artillery regiments.<sup>52</sup> The helicopters were maintained by detachments of the Army's Royal Electrical and Mechanical Engineers (REME), which also provided second-line aircraft workshops. Although AAC squadrons were established at divisional level, the squadron commander did not have full command responsibility for the subordinate air troops or air platoons, since they belonged to their own regiments and battalions. In practice, this arrangement left the squadron commander with little authority and consequently it was not a popular command post.<sup>53</sup> In Germany, wing headquarters were established at corps and army group level to provide staff advice to the commander and provide some supervision over the dispersed air units, but there were no equivalent organisations in other theatres.

Despite the appeal of the integration scheme to the Army at large, there were misgivings about it within the AAC; indeed, some AAC officers suspected that the scheme had been conceived merely to defeat possible takeovers by the RAF.<sup>54</sup> Concern centred on the lack of supervision of the dispersed units and the additional logistic support costs. Certainly, integration would have made it much more difficult for the RAF to simply take over the AAC, but it not clear whether this was a significant factor behind the Directorate of Land/Air Warfare adopting the scheme.

## **THE 1960S: COUNTER-INSURGENCY AND DEFENCE REFORMS**

No sooner had the RAF and Army introduced their new types than they were pressed into operational service around the world. In the early 1960s, a number of territorial disputes flared up in former British colonies and protectorates, and the British Government was asked to intervene. Several disputes, including those in Kuwait in 1960, Brunei in 1962 and East Africa in 1964, were quelled relatively expeditiously using Royal Marines, who were rapidly deployed by helicopter from Royal Navy ships. The availability of helicopters embarked with the Royal Marines was critical to their rapid deployment, although in the case of Brunei and Kenya, RAF helicopters also took part in the operation.<sup>55</sup> RAF helicopters were also used in anti-terrorist

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<sup>50</sup> *ibid.*, p 192.

<sup>51</sup> Gardner and Longstaff, *British Service Helicopters*, p 115.

<sup>52</sup> Everett-Heath, *Helicopters in Combat*, p 27.

<sup>53</sup> Hickey, *The British Army and the Battlefield Aerial Vehicle*, p 83.

<sup>54</sup> *ibid.*, p 83.

<sup>55</sup> Wragg, David W., *Helicopters at War*, Robert Hale, London, 1983, pp 93-94, 113.

operations in Cyprus prompting the governor, Field Marshal Sir John Harding, to comment that they had 'contributed more to fighting terrorism on the Island than any other single unit'.<sup>56</sup> On the other hand, General Sir Anthony Farrar-Hockley considered that the RAF helicopters were 'flown by skilled pilots who were absolutely ignorant of ground requirements'.<sup>57</sup> These comments illustrate the widely differing perceptions that so often emerged among those involved in operations. In addition to these episodes, helicopters played a major part in counter-insurgency operations in two other campaigns: Borneo and Aden. These operations provide useful case studies in the differing approaches to command and control adopted by the Army and RAF during the period.

## **Borneo**

The incorporation of the British Borneo territories of Sabah and Sarawak into the Federation of Malaysia led Indonesian President Sukarno to declare a policy of 'confrontation'. Shortly afterwards, acts of terrorism and sabotage broke out in the region; later, Indonesian troops began making raids into the territories at various points along the 1,000 mile-long frontier. Australian and New Zealand troops assisted British and Malaysian forces in countering the insurgency. The dense jungle, mountainous terrain and vast distances made land movement extremely difficult and the effectiveness of the force was directly proportional to the amount of helicopter support it received. The Director of Operations, Major-General Walter Walker proclaimed: 'Give me a hundred men and some helicopters and they will do the job of a thousand'.<sup>58</sup> Helicopter tasks included logistic resupply to bases in the border areas, insertion and extraction of infantry patrols, troop movement, artillery spotting, and casualty evacuation. RAF Belvederes and Sycamores that had been deployed to Brunei were joined by Whirlwinds, some of which were deployed from bases in Singapore, while others were detached from the United Kingdom. Additionally, Royal Navy Whirlwinds and Wessex added to the lift capacity, while AAC Scouts later joined the Sioux. A number of helicopters, including Royal Navy Wessex and RAF Whirlwinds were fitted with side firing machine guns and SS-11 missiles.<sup>59</sup> Although ostensibly for self-protection, these weapons also provided a limited offensive capability.

With helicopters detached from a wide number of units, command and control arrangements were complex, and in the initial stages of the campaign, the Army complained that control of RAF helicopters was held at too high a level for the situation.<sup>60</sup> Royal Navy helicopters also supported Army operations in Borneo, initially operating from HMS Albion; however, they later disembarked to deploy forward in direct support of the Army brigades. The vast distances to be covered in the theatre soon showed the advantages of forward deployment, and the RAF helicopters soon followed suit. Not only did forward deployment reduce transit times but, by working and living together on a daily basis, the RAF pilots gained a better

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<sup>56</sup> *ibid.*, p 112.

<sup>57</sup> Farrar-Hockley, *The Army in the Air*, p 186.

<sup>58</sup> Everett-Heath, *Helicopters in Combat*, p 27.

<sup>59</sup> Dowling, *RAF Helicopters*, p 408. SS-11 was a French designed surface-to-surface wire guided anti-tank missile, first adapted for use on helicopters by the French Army air corps (ALAT) in Algeria in the 1950s. Everett-Heath, *Helicopters in Combat*, p 53.

<sup>60</sup> See Towle, *Pilots and Rebels*, p 142.

understanding of the ground commander's requirements; in turn, the ground commanders came to better understand the requirements of the RAF pilots.<sup>61</sup> Army aircraft were often deployed further forward, sometimes at unit level. However, the dispersed AAC flights, which usually depended on the brigade signal squadron for their administration, found it difficult to maintain their outlying detachments. For example, requests for aircraft spares for AAC helicopters received no higher priority through the Army supply system than other routine Army supplies; clearly, decentralisation had its limits.<sup>62</sup>

## Aden

Whilst the British were facing 'confrontation' in Borneo, the security situation was also deteriorating in the British protectorate of Aden. Local tribesmen, supported by the neighbouring Yemen Arab Republic, mounted guerrilla actions from the Radfan Mountains behind the port of Aden, threatening the stability of the Protectorate. Consequently, the British Government deployed troops to assist the local Federal Regular Army establish control. In contrast to the dense jungles of Borneo, the terrain in Aden was barren, but equally mountainous and hot.

There were soon calls for helicopters to support the ground operations, but with commitments elsewhere, only limited numbers were available. Royal Navy Wessex were deployed at times during the operation, but most helicopter support came from AAC Sioux and Scouts, which were used for reconnaissance, liaison, patrol insertions and, to the extent of their load carrying capacity, logistic resupply. RAF Belvederes were also deployed to Aden and used to deploy heavy loads such as field howitzers to otherwise inaccessible mountain peaks. However, the large and technically complex Belvederes required extensive maintenance and suffered severe logistic problems; technical failures also led to several fatal accidents involving Belvederes. RAF Sycamores and Whirlwinds were also based in Aden, but they were established for local search and rescue duties, nonetheless, they were occasionally 'misemployed' in support of tactical operations.

Operational control of helicopters involved in the Radfan operations was exercised through the brigade headquarters located at Thumeir in the Radfan mountains, some 60 miles from Aden. Army helicopters and light fixed-wing aircraft established a forward detachment at Thumeir alongside the force headquarters, but RAF helicopters remained based at Khormaksar airport near the port of Aden. Belvederes were allotted to the task on a daily basis by Air Headquarters Middle East, but returned to Khormaksar each night. This was partly because of the difficulty of servicing Belvederes at Thumeir, but also because the RAF had concerns for the safety of the helicopters deployed forward overnight due to frequent attacks on Thumeir by insurgents.<sup>63</sup> However, at times, the lack of RAF representation at brigade headquarters and poor communications between Thumeir and Khormaksar led to serious misunderstandings between the Services.<sup>64</sup> According to Hickey, Belvederes were withdrawn from tasks without warning, sometimes at critical moments in an operation. Naturally, this was a considerable frustration for Army commanders, with

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<sup>61</sup> Dowling, *RAF Helicopters*, p 324 and Everett-Heath, *Helicopters in Combat*, p 28.

<sup>62</sup> Hickey, *The British Army and the Battlefield Aerial Vehicle*, p 126.

<sup>63</sup> Dowling, *RAF Helicopters*, p 280.

<sup>64</sup> Hickey, *The British Army and the Battlefield Aerial Vehicle*, p 126.

potentially serious operational consequences. It seems that shortcomings in liaison meant that Army commanders were not always made aware of the Belvederes pressing maintenance requirements, while the air commander was not always made aware of the tactical situation on the ground.<sup>65</sup> To improve liaison, a senior RAF officer was deployed to Thumeir to operate alongside the Force commander; nonetheless, RAF support helicopters remained based at Khormaksar. The Belvederes were later replaced by RAF Wessex, which proved to be more flexible, although they too suffered maintenance problems, especially due to the ingestion of sand into the engines.<sup>66</sup> Wessex were sometimes deployed forward overnight, but for the most part remained based at Khormaksar.

There were, though, other misunderstandings between the Services. On occasions, RAF Belvederes did not deliver loads to the point on the ground indicated by supported troops, selecting instead their own dispatch points within the unit area. On the other hand, the Scouts would position their loads wherever the troops wanted them. The difference between the RAF and Army helicopters has been attributed to the failure of the RAF pilots to appreciate the difficulties they were causing troops on the ground.<sup>67</sup> However, it may have had more to do with the difficulties that they faced operating the Belvedere, the size and shape of which made it difficult for pilots to position the aircraft in the rocky terrain of most hilltop landing sites.<sup>68</sup> Again, a breakdown in communication was probably the main problem. Nonetheless, these problems may have reinforced Army mythology about poor helicopter support from the RAF.<sup>69</sup>

A form of airmobile operation evolved with troop carrying helicopters positioning troops for cordon and search operations to capture insurgents. These operations were often led by an AAC Scout, which would carry the ground commander, the RAF air commander, and a couple of troops armed with machine guns hanging out the sides of the helicopter. The main body of troops was carried in Royal Navy and RAF Wessex. These operations had some successes and obviously required a high level of cooperation between the helicopter units involved. During the campaign, a number of helicopters were hit by small arms fire, and in response to the threat, pintle mounted machine guns were fitted to some helicopters as they had been in Borneo. To provide more substantial fire support, RAF Hunter fixed-wing fighters were sometimes used to provide close air support for helicopter operations.<sup>70</sup>

The guerrilla action moved to urban areas later in the campaign, and helicopters were used to monitor crowds and watch for suspicious activity in the streets. However, by 1967 the security situation had deteriorated further and, despite a number of operational successes, the British withdrawal from Aden was somewhat ignominious.<sup>71</sup>

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<sup>65</sup> *ibid.*, p 128.

<sup>66</sup> Dowling, *RAF Helicopters*, p 298.

<sup>67</sup> Farrar-Hockley, *The Army in the Air*, p 196.

<sup>68</sup> Dowling, *RAF Helicopters*, p 299.

<sup>69</sup> Farrar-Hockley, *The Army in the Air*, p 196.

<sup>70</sup> *ibid.*, p 305.

<sup>71</sup> For a report on the departure from Aden, see Lee, Air Chief Marshal Sir David, *Flight From the Middle East*, Her Majesties Stationary Office, London, 1980, pp 242 - 256.

## Developments in Whitehall

The Air Ministry's attitude towards helicopters prior to the 1960s could be characterised as being highly sceptical of their military worth, principally because of their high cost and perceived vulnerability.<sup>72</sup> In contrast, the War Office saw helicopters as 'essential to the Army in the future'.<sup>73</sup> With the Air Ministry wholly responsible for the provision of air support to the Army at the time, inter-Service tensions were perhaps inevitable. Research indicates that task related asymmetries between horizontal organisations, such as the Army and RAF, may promote contention.<sup>74</sup> The relationship between the Army and the RAF at the time could be characterised as one of asymmetric responsibilities, with the Army of questionable value to the RAF, but the RAF indispensable to the Army.

Nevertheless, operations in Malaya, Borneo and Aden had shown a continuing and growing demand for helicopters, and by 1960, there was a much wider acceptance in the RAF of their operational value. Meanwhile, there were significant changes in the way the defence organisation in the United Kingdom was managed. In the early 1960s, the three separate Service ministries (the Admiralty, the War Office and the Air Ministry) amalgamated into a single Ministry of Defence under a reform programme initiated during the tenure of Lord Louis Mountbatten in the newly created post of Chief of the Defence Staff. The process was intended to promote inter-Service cooperation and gave much greater power to the Central Staffs (known colloquially as the Centre) over the three Services, which were now represented by separate departments (Navy, Army and Air Force) within the Ministry of Defence. The Ministry of Aviation Supply (formerly the Ministry of Supply) was later absorbed into the Ministry of Defence to become the Procurement Executive in 1971. Thus, major procurement decisions, such as those effecting helicopter requirements, were now subject to closer scrutiny from a defence-wide perspective, although the influence of the Services remained strong.

In 1965 the RAF proposed that it should assume responsibility for the aviation activities of all three Services, and in response, the Government established a committee under Field Marshal Sir Gerald Templer to examine the matter. The RAF's argument was based on the economic benefits of centralising the management of all flying activities within one Service, thereby reducing duplication. However, a strong coalition between the Army and the Royal Navy, which both vehemently opposed the RAF's proposal, helped defeat the RAF's case.<sup>75</sup> It is likely that the Army's argument was reinforced by the AAC integration scheme, which stressed the value of decentralisation, and by stressing the need for its pilots to be soldiers first and pilots second. For the most part, the Templer committee recommended maintenance of the status quo, but its report did lead to a review of some support functions. Templer's recommendation to form a Joint Aircraft Maintenance Command was rejected, but the Services did agree to rationalise aircraft technical support. Third and fourth line

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<sup>72</sup> Sadler, *The Helicopter and the Struggle for its Control*, pp 341-343.

<sup>73</sup> Secretary of State for War John Hare, quoted in *ibid.*, p 311.

<sup>74</sup> Walton, Richard E., and Dutton, John M., 'The Management of Inter-Departmental Conflicts: A Model & Review', *International Science Quarterly*, 14 March 1969, pp 73-84, quoted in Bergerson, Frederic A., *The Army Gets an Air Force: Tactics of Insurgent Bureaucratic Politics*, Johns Hopkins University Press, Baltimore, 1980, p 53.

<sup>75</sup> Farrar-Hockley, *The Army in the Air*, p 206.

(deeper) maintenance of all Service helicopters became a Royal Navy responsibility, while the RAF took over deeper maintenance of all fixed-wing aircraft; the RAF also became responsible for supply of aircraft spares to all three Services.

Attention turned to future helicopter requirements. In 1967, the British Government announced its intention to withdraw forces from East of Suez and concentrate on its NATO commitments. This policy had significant ramifications for Britain's battlefield helicopters, which had largely been acquired to meet the needs of counter-insurgency wars fought outside the NATO area. As a result of the policy change, plans to procure medium lift helicopters (eg. Chinook) were shelved and other helicopter requirements had to be justified solely in the context of NATO operations. Unlike the situation in the United States, where air mobility was seen as an essential capability for a modern army, the concept had not found favour in Britain, where it was considered that the cost of the large number of helicopters required could not be justified. Such an approach has resonance with the 1930s, when the British Army considered that mechanisation could not be justified on cost grounds. It was nonetheless recognised that helicopters would improve Army mobility generally, and a requirement for helicopters to be able to lift six companies was established. Two of these companies were from the Royal Marines who would operate on the NATO flanks and be lifted by Royal Navy helicopters, leaving a requirement for RAF support helicopters to lift four companies. In addition to the transport helicopter requirements, the Army also sought new helicopters to supplement and eventually replace the ageing Sioux and Scout.

Taken together, these requirements led to a politically inspired Anglo-French helicopter package, comprising French-built Pumas and Gazelles, and British-built Lynx. The RAF's requirement for transport helicopters was to be met by Pumas, while Lynx and Gazelle would be procured for the Army to replace the Scout and Sioux respectively; Gazelles were also required for the Royal Navy and RAF to be used in the training and communication roles.<sup>76</sup> Initially a requirement for 68 Pumas was specified, but the number was eventually reduced to 40, providing the capability to lift just two companies.<sup>77</sup> The Lynx was intended to be a utility helicopter, which was meant to imply that it was supposed to be simple and robust machine; however, it turned out to be far more complex than initially envisaged. It was also much larger than earlier Army helicopters and had the potential to encroach on the RAF's troop carrying role; however, the Army had other plans for the Lynx, and sought to arm some of its helicopters.

The arming of helicopters proved to be another issue that divided the Services. The Army was concerned that RAF ground attack aircraft could not respond quickly enough to deal with fleeting targets and sought organic airborne fire support. French experience in Angola and American experience in Vietnam had shown the efficacy of arming helicopters for offensive action, but the RAF contended that helicopters would be far too vulnerable in the more dense battlefields of Europe. Moreover, the RAF maintained that offensive air action was its responsibility and that fixed-wing aircraft (such as the Harrier) were more suitable platforms for the task than helicopters. The degree to which these views were inspired by the need to ensure that funds remained

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<sup>76</sup> Dowling, *RAF Helicopters*, pp 401-403.

<sup>77</sup> *ibid.*, pp 396-404.

available to develop the RAF's Harrier force, which may have had to compete with funds for an Army anti-tank helicopter force, is not clear.<sup>78</sup> Nonetheless, in the light of experiences in Borneo and Aden, where helicopters had frequently come under attack from small arms fire, the RAF recognised the need for helicopters to be able to defend themselves with prophylactic fire and agreed fitting 'button-on' armament to helicopters. However, the RAF continued to oppose the development of dedicated attack helicopters, pointing to the shortage of helicopters for existing tasks. Effectively, the RAF opted out of providing armed helicopters for offensive action.<sup>79</sup>

The arming of helicopters was also opposed within the Army, especially by supporters of armoured warfare who also stressed the vulnerability of helicopters.<sup>80</sup> Institutional politics were an important factor, since armed helicopters would have to compete with established corps for resources, and with the Armoured Corps and Infantry keen to secure funds to modernise their armour and for mechanisation. Even so, there was a growing concern within the Army about the overwhelming superiority in numbers of Soviet tanks in Europe and the ability of the RAF to provide timely close air support.<sup>81</sup> The AAC, no doubt keen to ensure support from the other corps and not to be seen as trying to usurp their role, emphasised that the armed helicopter would be employed in a supporting role, acting as a highly mobile reserve to be used in the event of an enemy breakthrough. Eventually, the role of armed helicopters gained wider acceptance in the Army and, pending delivery of the Lynx, it was decided to equip Scouts with wire-guided SS-11 anti-tank missiles.<sup>82</sup>

The planned withdrawal of British forces from the Far East, and introduction of new and more capable helicopters, offered the prospect of developing significantly improved airmobile and anti-tank capabilities over the next decade; however, plans were interrupted by continuing demands for helicopters in operations outside the NATO area.

## THE 1970s: CONSOLIDATION

### Restructuring the AAC

In 1970 the Directorate of Land/Air Warfare passed its responsibilities for airborne (ie. parachute) forces to other branches, and became the Directorate of Army Aviation, relocating from London to Middle Wallop. At the same time, the introduction of new and more complex helicopters to the Army presented challenges to the integration scheme, and a new organisation to recentralise Army Aviation was initiated. There were concerns about a drop in safety standards among the widely dispersed air troops and air platoons, but more critically, it was assessed that the new

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<sup>78</sup> For an extensive and well reasoned debate on the issue, see Charles Dick 'Tactical Airpower on the Battlefield of Tomorrow', *RUSI Journal*, Volume 123, Number 2, June 1978, pp 43-45; Foxley-Norris, Air Chief Marshal Sir Christopher, Dick, Charles and Mason, Group Captain R.A., 'Talking Points', *RUSI Journal*, Volume 123, Number 4, December 1978, pp 67-71.

<sup>79</sup> Dowling, *RAF Helicopters*, pp 404-415.

<sup>80</sup> See comments by Carver, Field Marshal Sir Michael, 'An Address to the IISS,' *Survival*, Volume 19, Number 1, 1977, p 36.

<sup>81</sup> Dowling, *RAF Helicopters*, p 404.

<sup>82</sup> Farrar-Hockley, *The Army in the Air*, p 213.

helicopters would overburden REME resources if they were dispersed too widely.<sup>83</sup> The new organisation brought the majority of Army aircraft under centralised command at brigade level by merging the previous brigade AAC flights with regimental air troops and air platoons to form brigade air squadrons. Nevertheless, a number of independent flights were maintained, and armoured reconnaissance regiments retained their own helicopters. Aircraft in the squadrons were based centrally, thereby reducing the logistic support burden and enabling the squadron commander to exercise more effective supervision, while in Germany, squadrons reported to aviation regiments at divisional level. This structure remained in place when Lynx and Gazelle were introduced to replace Scout and Sioux.

Although the new structure relieved some logistic pressures, some regiments resented the loss of integral aviation; moreover, manning difficulties remained severe.<sup>84</sup> Experience levels were also very low, with a turnover of 85 per cent of personnel in Army Aviation every two years.<sup>85</sup> It was therefore agreed to increase the cadre of AAC pilots, and introduce ground crews within the Corps to provide a greater degree of professional continuity. Pilots were also recruited directly into the AAC on short service commissions rather than relying on recruiting from within the Army. This presented the AAC with a dilemma. One of the Army's principal arguments against the employment of RAF pilots was that they did not have an Army background and therefore lacked the intimate knowledge of land operations; however, this argument applied equally to these new Army pilots.

### **RAF Support Helicopters Force**

Attempts to procure medium lift helicopters for the RAF were thwarted by a series of financial cutbacks in the 1970s, and the backbone of the RAF support helicopters remained the veritable Wessex, joined by the Puma from 1971. The principal task for these helicopters was to support the Army, although they frequently faced a range of other commitments, often at short notice. In addition to their continuing overseas commitments, support helicopters were deployed virtually continuously in support of Army exercises in both the UK and Germany, operating in anything from single aircraft tasks to multi-squadron deployments.<sup>86</sup> One such large-scale deployment was Exercise Sky Warrior in 1972, which was designed to test the applicability of concepts in Europe.<sup>87</sup> Due to the paucity of RAF support helicopters, two squadrons of Royal Navy Wessex were also deployed, as well as two AAC squadrons. Compared to American uses of air mobility, the objectives were modest. For example, there were no attempts to mount heliborne assaults, reflecting continuing concern over the vulnerability of helicopters in forward areas. RAF staff at brigade headquarters, supported by Forward Air Controllers (FACs) to control fixed-wing air support, and Mobile Air Operations Teams (MAOTs) to control the helicopters, directed forward air operations.<sup>88</sup> Notwithstanding some continued enthusiasm for air mobility, the concept failed to attract powerful advocates at senior levels. With the Army focused

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<sup>83</sup> *ibid.*, p 207.

<sup>84</sup> *ibid.*, p 210.

<sup>85</sup> Shrimpton, Lt Col J.R., *Journal of Army Aviation*, Number 8, 1973, quoted in Hickey, *The British Army and the Battlefield Aerial Vehicle*, p 189.

<sup>86</sup> Dowling, *RAF Helicopters*, pp 360-365.

<sup>87</sup> Hickey, p 174.

<sup>88</sup> *ibid.*

on armoured warfare, and the RAF primarily concerned with fixed-wing operations, interest in air mobility languished.<sup>89</sup> It seems likely that the split in ownership of helicopters between the RAF and AAC weakened the ability of helicopter advocates to influence senior decision makers, but other factors, not least the shortage of helicopters to meet existing commitments, also constrained the development of air mobility in the UK.

### **Northern Ireland**

One of the most significant commitments to emerge in the 1970s was support to the security forces in Northern Ireland. The ‘troubles’ began in the wake of the civil rights protests in 1969, which the Provisional Irish Republican Army (IRA) used as the basis for terrorism throughout the province. RAF and AAC helicopters were used extensively by security forces, supplemented at times by Royal Navy helicopters. Tasks included reconnaissance, the tactical positioning of troops and police, casualty evacuation, and the movement of personnel and supplies to installations throughout the province. An AAC flight (later a squadron) and RAF squadron (later two squadrons) were established at RAF Aldergrove, supported by detachments from the UK and Germany. RAF and most Army helicopters were based at RAF Aldergrove, just outside Belfast. Although they were collocated, RAF and AAC helicopters fell under separate command arrangements. The RAF squadron was under the command of the Station Commander at RAF Aldergrove (also known as the Senior RAF Officer, Northern Ireland (SRAFONI)), while the AAC operated within the Army chain of command. However, operational control of all helicopters was vested in the General Officer Commanding Northern Ireland (GOCNI), with tasking of both AAC and RAF helicopters directed by Headquarters Northern Ireland (HQNI), which had RAF and AAC liaison officers on its staff.

In addition to those helicopters tasked centrally, RAF and AAC helicopters were also deployed forward to Army bases throughout the Province, providing ‘on-call’ support to local brigades. There were inefficiencies in this arrangement in that forward deployed helicopters were not always fully employed, while at the same time there were insufficient helicopters to meet all the centralised tasks. Given the small area of operations (most of the Province is within one hour’s flying time of RAF Aldergrove) it might have been possible to increase efficiency by centralising all helicopter tasking, but Army units felt more sure of support if the helicopters were collocated with them. To some in the RAF, helicopter requirements in Northern Ireland seemed like a bottomless pit: the more aircraft that were assigned to the task, the less efficiently they were used.

The commitment to Northern Ireland, which at first was expected to be short term,<sup>90</sup> continued to draw on the RAF support helicopter force and AAC in the following decades. Although the conflict helped the British to develop tactics and procedures for use of helicopters against terrorists, it was a significant constraint on the development of air mobility in Britain. Indeed, there was to be little progress in that field until the arrival of the Chinook into RAF service in the 1980s.

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<sup>89</sup> Gillbert, Major General G.C.A., ‘Correspondence’, *British Army Review*, Number 67, 1981, p 76.

<sup>90</sup>RAF helicopter crews were told that the deployment would only be for a weekend when they first deployed in 1969! Interview author with Group Captain A.N. Macgregor, 17 October 1997.

## THE 1980s: INCREASING CAPABILITIES

### Falkland Islands

In April 1982, Argentinian armed forces invaded the British dependent territories of the Falkland Islands in the South Atlantic, and in response, Britain assembled a joint task force to evict the invaders. The task force included nearly 200 helicopters, of which over 100 were Royal Navy Sea Kings and Lynx assigned to anti-submarine and anti-surface warfare operations. Battlefield helicopters included RAF Chinooks, Royal Navy Sea Kings and Wessex, as well as Gazelles and Scouts from the Royal Marine (RM) Commando Air Squadron and the AAC.<sup>91</sup> The battlefield helicopters were tasked in support of a force of about 8,000 troops, comprising 3 Commando Brigade, 5 Infantry Brigade, the Commando Logistic Regiment, the Harrier force on land, Rapier Batteries and special forces.<sup>92</sup> The majority of the AAC and RM helicopters were organic to the brigades and tasked accordingly. RAF and Royal Navy support helicopters were tasked initially by the Commander Amphibious Warfare (COMAW), and later, once the ground forces were established ashore, by the Commander Land Forces Falkland Islands (CLFFI). A number of support helicopters were allotted to brigades on a daily basis, but about half were tasked by HQCLFFI; the one Chinook that survived the sinking of SS Atlantic Conveyor was tasked as a force asset. The contribution of support helicopters to the success of the operation was considerable, but there were a number of difficulties in their command and control.

The main shortcomings were in liaison, communications, tasking and organisation. Planning for the operation did not appear to give sufficient emphasis to the use of support helicopters, perhaps because there was insufficient understanding of their capabilities among the planning staff. In particular, there was little understanding of the capabilities of the Chinook, but given that it had only been in UK service for a few months, this was hardly surprising; nonetheless, these shortcomings could have been mitigated had expert staff been made available at the right level. A support helicopter force commander was appointed later in the operation, but he had no dedicated headquarters facilities or communications. To control support operations, a Supporting Arms Coordination Centre (SACC) was established aboard HMS Fearless, but conditions were cramped and the staff overtasked. Establishing self-contained supporting cells ashore at the earliest opportunity would have relieved the situation, but there was insufficient equipment for such an arrangement. Ashore, brigades were required to submit their requests for the following day's support helicopter tasks to the SACC by 1500 hours. However, it was not always possible for brigades to establish their requirements by that time, a situation exacerbated by poor communications. Inadequate communications with support helicopter squadrons also prevented the SACC from having sufficient information regarding the availability of support helicopters to meet the next days tasking. On occasions, aircraft originally allocated to a brigade were allocated to other tasks, without the supporting unit being informed that the helicopter was no longer available. Consequently, brigades were never sure

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<sup>91</sup> Three of the four RAF Chinooks were lost when an Argentinian Exocet missile sank the *SS Atlantic Conveyor*.

<sup>92</sup> Whitney, Squadron Leader J.R.A., 'Command and Control of Joint Force Helicopter Operations', *Hawk*, March, 1984, pp 79-89.

what helicopter support to expect. Additionally, countless helicopter flying hours were wasted because of poor coordination of loads.<sup>93</sup>

The lack of suitable natural cover in the Falkland Islands, combined with the extensive array of Argentinian anti-aircraft weapons made it too risky to use Gazelles in the reconnaissance role. Nonetheless, along with Scouts, they were used extensively for liaison and casualty evacuation tasks in forward areas, winning the admiration of the troops they supported.<sup>94</sup> On a few occasions, Scouts and Royal Navy Wessex were employed to provide fire support, using their SS11 missiles against targets such as bunkers and gun positions.

Overall helicopter losses were not high, with just two Gazelles lost to Argentinian small arms fire, and one Scout to a Pucara ground attack aircraft.<sup>95</sup> A few helicopters were lost in accidents and a Gazelle, which had been misidentified as an Argentinian aircraft, was shot down by a missile from a British Destroyer. This incident, and other cases of misidentification, highlighted the difficulty of airspace control in the combat environment and the need for a carefully managed system.<sup>96</sup>

### **Developments in the Support Helicopter Force**

The principal role of the support helicopter force in the 1980s remained to provide support to the British Army in NATO operations, but, as in previous decades, other commitments worldwide continued to draw on resources. These commitments included maintaining permanent detachments and squadrons in the Falkland Islands, Belize, Hong Kong and Cyprus; emergency deployments to Rhodesia (Zimbabwe) in 1979 to support the transitional government, and to Cyprus in 1983 to evacuate British troops and civilians from Beirut; and an ongoing commitment to the security forces in Northern Ireland. With the entry in to service of the Chinook in the early 1980s, the RAF was better placed to meet these commitments than it had been in earlier decades. The Chinook provided a significant increase in the lift capacity of the support helicopter force, but due to other commitments, not least in the Falkland Islands, it was some time before it was able to make a significant contribution to the British Army in Europe. However, it is interesting to note that the Chinook had not been procured because support helicopters had been accorded a new status in defence priorities, but to overcome a potential underspend in the defence budget in 1977.<sup>97</sup>

By the mid-1980s, the support helicopter force was organised to support BAOR with a squadron of Chinooks and a squadron of Pumas, which in the event of war would be reinforced with additional aircraft from the UK. Additionally, a squadron of Pumas and a flight of Chinooks were assigned to support the brigade-sized UK Mobile Force (UKMF), and a flight of Pumas was assigned to support the land component of the multi-national Allied Command Europe Mobile Force (Land) (AMF (L)).<sup>98</sup> In

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<sup>93</sup> *ibid.*

<sup>94</sup> Farrar-Hockley, *The Army in the Air*, p 223.

<sup>95</sup> *ibid.*, p 223.

<sup>96</sup> *ibid.*, p 224.

<sup>97</sup> Woolley, Wing Commander G.A., 'The RAF's Helicopter Forces', *Journal of the Royal United Services Institute*, Volume 123, Number 4, 1989, p 29.

<sup>98</sup> Nequest, Wing Commander D., 'The RAF Support Helicopter Force', *RAF Air Clues*, September 1989, pp 324-327.

Germany, the support helicopter force was under the command of the Commander-in-Chief RAF Germany, but during transition to war, the aircraft would deploy to field sites and come under the operational control of the Commander Northern Army Group (COMNOTHAG). This arrangement accorded with the RAF doctrine of centralising control of air power at the highest practical level, but in practice, RAF support helicopters rarely operated with units outside the 1<sup>st</sup> British Corps. Other NATO nations assigned their support helicopters (and equivalents) at the lower national corps level (and below), and it is doubtful whether it would have been practical for RAF support helicopters to operate outside the British Corps area; consequently, there was little to be gained by placing control above corps level. Nonetheless, with so few support helicopters to support the entire Corps, (usually fewer than 20 Chinooks and 30 Pumas), some form of centralised control was necessary for them to be best utilised, but it might have been more appropriate for them to be assigned at corps level.

In the early 1980s, the Chinook and Puma squadrons operated independently, but later an support helicopter force Headquarters was established to facilitate more efficient tasking and coordinate logistic and administrative support. The support helicopter force was supported in the field by an Army signals regiment, and improvements in communications during the period helped the support helicopter force increase its effectiveness. Nonetheless, practical problems, such as the distribution of the complex NATO airspace control plans to flight sites in the field, remained.

Relations between the RAF and the Army improved during this period, but some in the Army considered that there were still shortcomings with the support provided by RAF support helicopter, exemplified by comments such as: 'support helicopter pilots have not been brought up to understand the environment of the ground battle'.<sup>99</sup> While it was certainly true that the RAF support helicopter aircrew concentrated more on the technical and procedural aspects of flying, the support helicopter force made considerable efforts to develop its tactical and operational skills. By the late 1980s, support helicopters had become a major force within the RAF, with a large proportion of its aircrew and groundcrew remaining in the helicopter specialisation for the majority of their productive service life.<sup>100</sup>

### **Developments in the AAC**

In common with the RAF helicopters, AAC helicopters were committed to a range of operations throughout the world in the 1980s, with deployments to the same theatres as the RAF support helicopter, but with additional detachments in Brunei, Berlin and Canada. The AAC Flight in Northern Ireland expanded first to a squadron, and later to a regiment, comprising two helicopter squadrons, a flight of fixed-wing aircraft and a REME workshop.<sup>101</sup> The introduction to service of the Lynx equipped with anti-tank tube-launched, optically tracked, wire-guided (TOW) missiles in the late 1970s and early 1980s enabled the AAC to consolidate its anti-tank role, and the AAC became accepted within the Army as a Fighting Arm.<sup>102</sup> In contrast to earlier moves towards integration, the new helicopters were deployed at divisional level, where it was

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<sup>99</sup> Parker, Lieutenant Colonel D.C., *British Army Review*, Number 84, 1986, p 80.

<sup>100</sup> Woolley, 'The RAF's Helicopter Forces', p 30.

<sup>101</sup> 'Buzzards and Eagles,' *Air Force Monthly*, Number 76, July 1994, p 26.

<sup>102</sup> Farrar-Hockley, *The Army in The Air*, p 211.

thought that they could be employed more effectively. This organisational arrangement matched the new AAC doctrine of employing anti-tank helicopters en-masse, to be used as mobile reserves in the event of enemy breakthrough.<sup>103</sup> Although some Gazelles continued to be deployed at brigade level and below, the majority were employed in the anti-tank squadrons held at divisional level.

### **Airmobility Revitalised**

The arrival of the Chinook gave new impetus to the development of air mobility and led to an extended series of trials using 6 Brigade in BAOR. The Brigade comprised two infantry battalions equipped with anti-tank guided weapons and a squadron of AAC Lynx and Gazelle, and was supported by engineers and air defence troops; RAF support helicopters provided its air transport. The only support helicopters available were those assigned to 1<sup>st</sup> British Corps, which had to be allocated to the Brigade for specific operations, before resuming other tasks in support of the Corps. Consequently, the RAF helicopters were placed under tactical control of the Brigade only for a specified period, which meant that the Brigade commander could never be certain how many helicopters would be made available to him, and his responsiveness was hampered because the support helicopters were not organic.<sup>104</sup> Moreover, the relatively small number of support helicopters available at any one time (compared to the US Army) limited the mobility of the Brigade, which could not be moved in a single wave. Despite these limitations, considerable progress was made during the trials and the concept was strongly supported by senior Army officers.<sup>105</sup> Following the trials, it was decided to establish 24 Brigade in the air mobile role on a permanent basis. The new air mobile brigade included two organic AAC regiments comprising squadrons of anti-tank Lynx/TOW, Gazelles, and Lynx Mk 9 in the Light Battlefield Helicopter (LBH) role; Chinooks and Pumas of the RAF support helicopter force, which were assigned to the Brigade when released from other tasks, provided the main air-lift capability for the Brigade.

### **Ownership Back on the Agenda**

With the renewed interest in airmobility, in 1986 the Ministry of Defence initiated a two phased study to investigate future responsibility and management of support helicopter. However, the main thrust of the study was into the financial implications of transferring ownership of the RAF's Puma and Chinook fleets to the Army and not into examining operational effectiveness.<sup>106</sup> It was concluded that size and complexity of the Chinook and Puma did not warrant a transfer of ownership; however, the outcome did not satisfy some in the Army who continued to argue for Army ownership of all battlefield helicopters. Meanwhile, a major reorganisation of the Ministry of Defence was under way following reforms initiated by the Secretary of

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<sup>103</sup> Goodman, Major-General J.D.W., 'The British Army Air Corps,' *Army Air Corps Journal*, 1987, p 9.

<sup>104</sup> Kennedy, Lieutenant Colonel A.I.G., 'Airmobility - a Practitioner's View', *British Army Review*, Number 85, 1987, p 17.

<sup>105</sup> Bagnel, General Sir Nigel, 'Airmobile Operations in the Northern Army Group', *NATO's Sixteen Nations*, Volume 33, Number 10, 1988, p 75; Farndale, General Sir Martin, 'The use of Helicopters on the European Battlefield', *Army Quarterly and Defence Journal*, Volume 119, Number 4, 1989, p 139.

<sup>106</sup> Man S (Org) Study 611, 'Support Helicopters - Future Responsibility and Management', June 1987. See also 'Decision over UK Support Helicopters', *Janes Defence Weekly*, 30 January 1988, p 162.

State for Defence Michael Heseltine in 1983.<sup>107</sup> These reforms were intended to reduce overheads, improve accountability and encourage delegation of authority. The effect of these changes was to increase the influence of 'The Centre' over the three Services, with the amalgamation of staff functions for advice on operations, defence policy and resource allocation. Later, the same Defence Secretary became embroiled in a dispute with the Prime Minister over the fate of Britain's defence helicopter industry when it looked as though the future of Westland Helicopters, which by then was the only major manufacturer of helicopters in the United Kingdom, might be in jeopardy.

## THE 1990s AND BEYOND

### Gulf War

Within days of the Iraqi invasion of Kuwait on 2 August 1990, the British Government ordered RAF aircraft to Saudi Arabia to help defend the country against further Iraqi advances. The United States took similar action and attack helicopters of the American 82<sup>nd</sup> Airborne Division were among the first anti-tank forces deployed, forming a vital part of the defence forces in operation Desert Shield. Helicopters were excellent platforms for patrolling the vast open spaces of the Saudi Arabian desert, which could not have been covered as effectively by ground forces and in the build up that followed, over 2,000 helicopters were deployed to the region, including over 100 from the United Kingdom. The opening shots of operation Desert Storm were fired by AH-64 Apache helicopters of the 101<sup>st</sup> Airborne Division (Air Assault), which destroyed two key Iraqi early warning sites to clear a corridor for the first wave of attack to enter Iraq and attack strategic targets.<sup>108</sup>

As the senior coalition partner, the United States had a dominant influence on command and control arrangements for the operation. General Norman Schwartzkopf, the commander of US Central Command, was appointed as the Joint Force Commander for the operation and reported to National Command Authorities in the United States. General Sir Peter de la Billiere was appointed as Commander British Forces Middle East with responsibility of British forces of all three Services in theatre. He reported to Air Chief Marshal Sir Patrick Hind, who was appointed as the British Joint Commander for the operation, operating from a Joint Headquarters established alongside the RAF's Strike Command Headquarters at High Wycombe in Buckinghamshire. American forces in theatre were divided into land, air, sea and Special Forces components in accordance with United States doctrine, with individual commanders for each component. British forces were aligned with these arrangements and placed under the operational command of the appropriate United States commanders, but with a separate national chain of command. The air component was made up mainly of United States Air Force (USAF) assets assigned to the Central Command Air Force (CENTAF), but also included a reinforced air wing of mainly Tornados, Jaguars and support aircraft from the RAF. The land component comprised

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<sup>107</sup> *Central Organisation for Defence*, Command 9315, Her Majesty's Stationery Office, London, July 1984.

<sup>108</sup> Scales, Jr., Brigadier General Robert H., *Certain Victory: United States Army in the Gulf War*, Office of the Chief of Staff United States Army, Washington DC, 1993, pp 154-160.

the Army Forces Central Command (ARCENT), which was formed from the US VII<sup>th</sup> and XVIII<sup>th</sup> Corps, and the US Marine Forces Central Command (MARCENT) comprising two Marine Corps divisions, complete with an organic Marine Air Wing. Initially, the British land forces contribution was a reinforced armoured brigade assigned to MARCENT, but this was later increased to an armoured division and reassigned to the US VII Corps.<sup>109</sup> The British also provided Special Forces, which were assigned to the US Special Operations Command Central Command (SOCCENT) as part of the special forces component.

Supporting the British division was an support helicopter force of 19 Pumas, 12 Chinooks, and 12 RN Sea Kings, and an AAC regiment of 24 Gazelles and 23 Lynx. Additionally, a number of RAF Chinooks were deployed to support British Special Forces, which operated independently of the division, reporting through the joint force special operations component (SOCCENT).<sup>110</sup> The collocation of special forces troops with the helicopter aircrew was essential to enable detailed planning to take place, and helped foster a high level of rapport between troops and aircrew; moreover, separating the helicopters from the rest of the support helicopter force also contributed to operational security.

The commander of CENTAF, General Horner, was appointed the Joint Force Air Component Commander (JFACC) and had tasking authority over virtually all fixed-wing aircraft in theatre; he was also the Airspace Control Authority responsible for the management of all airspace in the theatre. This provided a high degree of unity of air effort, but his tasking authority did not generally extend to helicopters, which remained under their organic command; nonetheless, helicopter sorties were subject to the centralised airspace control procedures issued by the JFACC. With thousands of helicopter sorties each day, it would have been practically impossible to manage them centrally. Lieutenant General Moore, commander of the aviation combat element of the US Marine Corps during the Gulf War, described the air tasking process as follows:

As you get down to helos, you've got a real saturation problem on your hands. We, in essence, just let the Air Force [JFACC] know what was going on. You just have too many sorties going on. Marine air flew, for 44 days or so, 18,000 sorties. We had only 500 airplanes. We flew 9,000 of those sorties in the last five days. When you start to put those kinds of numbers in the system, you clog it up.<sup>111</sup>

Special Forces helicopters, including RAF Special Forces Chinooks, were controlled by the SOCCENT, which coordinated their operations through liaison officers located with the JFACC staff. All Special Forces sorties into Iraq were individually identified on the daily Air Tasking Order issued by the JFACC. Even so, there were some shortcomings in the coordination of Special Forces tasks and RAF Chinooks had to take evading action when USAF fighters locked-on to them using the air intercept radars.

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<sup>109</sup> de la Billiere, General Sir Peter, *Storm Command*, Harper Collins, London, 1992, p 153.

<sup>110</sup> *ibid.*, p 223.

<sup>111</sup> Moore, Jr., Lieutenant General Royal N., 'Marine Air: There When Needed', *United States Naval Institute Proceedings*, November 1991, pp 63-70.

The main body of the support helicopter force deployed under operational control of the land force commanders and operated in direct support of the British armoured division. The support helicopter force established a number of field sites in remote parts of the desert within the British divisional area, and, as the ground forces advanced into Iraq, the sites were relocated further forward. The principal roles for the support helicopter force were casualty evacuation and logistic support. Pumas and Sea Kings were allocated the casualty evacuation role and a number of these aircraft were attached to the brigades under tactical control to ensure timely response to tasks. In the event, however, there were few calls on the support helicopter force in this role. The logistic support task fell mainly to the Chinooks, which flew a number of priority loads forward, but the main task for Chinooks became the rearward movement of Iraqi prisoners of war.

Effectively, the support helicopter force was under centralised control at divisional level. The tasking process required units seeking helicopter support to bid through the chain of command to the air cell in the divisional headquarters, which would then forward the tasks to the support helicopter force headquarters for allocation to individual support helicopter sites for execution. The support helicopter forces headquarters also provide administrative support and coordinated the extensive logistic requirements of RAF and Royal Navy support helicopter, as well as some logistic supply support for AAC helicopters.<sup>112</sup> The timely distribution of ATO and associated special instructions, which comprised up to 300 pages, to the dispersed support helicopters consumed vast amounts of signal traffic and was a demanding process. This factor, combined with the absence of a significant Iraqi air threat, militated against wider dispersal of the support helicopter force.

Control of AAC helicopters was also centralised at divisional level. The Gazelles and Lynx were equipped for anti-tank operations and were grouped with the divisional artillery to form a 'Depth Fire Group'.<sup>113</sup> However, to some degree this arrangement divorced helicopter anti-tank operations from the brigades, which was not welcomed by the AAC or the brigades; it was later agreed that the AAC would provide combat reconnaissance patrols on call to the brigades.<sup>114</sup> The AAC regiment included three squadrons, which were deployed to desert sites within the divisional area. Lacking the capabilities of Apache, AAC Lynx were not used for offensive operations during the air campaign, although they were kept busy with training and liaison tasks. During the ground war, the regimental HQ and squadrons advanced with division, but opportunities to employ the helicopters were limited by exceptionally poor weather during the first days of the offensive. AAC Lynx helicopters later engaged a number of targets, but compared to the American employment of Apaches, their contribution to the destruction of Iraqi armour was modest.

Immediately after the Gulf War RAF Chinooks deployed to Turkey to assist in the humanitarian effort to provide aid to Kurdish refugees fleeing from reprisal attacks by Iraqi armed forces. A large number of diverse agencies were involved with providing the relief effort, and coordinating this activity provided several challenges. Nonetheless, in the first three weeks of the operation, three RAF Chinooks carried

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<sup>112</sup> Springett, Group Captain R., 'Supply Support for the Support Helicopter Force in the Gulf War', *Air Clues*, Volume 47, Number 7, July 1993, p 252.

<sup>113</sup> Farrar-Hockley, *The Army in the Air*, p 231.

<sup>114</sup> *ibid.*, p 231.

over 1,300 tonnes of relief supplies and carried over 500 refugees in the difficult mountainous terrain of southern Turkey and northern Iraq.<sup>115</sup> The operation continued for several months, and Royal Navy Sea Kings, which operated primarily in support of Royal Marines sent in to enforce the UN Safe Haven in northern Iraq, later joined the Chinooks.

### Options for Change

In the aftermath of the Gulf War, and in response to the tremendous strategic changes in Europe in the wake of the collapse of the Warsaw Pact, the British forces began restructuring. There were large reductions in the personnel strength of both the British Army and RAF, but the AAC and support helicopter force escaped most of the cuts, perhaps reflecting recognition of the importance of their roles in the 'new world order'. Indeed, new equipment programs to provide additional support helicopters and attack helicopters, which had been mooted since the mid-1980s, were finally endorsed.

There was also further rationalisation in the support area, with the formation of the Defence Helicopter Support Agency (DHSA) in 1994, bringing together the engineering support authorities and supply managers of all three Services into a single, collocated agency. The search for greater efficiencies and reduction of duplication also led to the creation of a Defence Helicopter Flying School (DHFS) in 1997, which brought together the basic helicopter training of aircrew from all three Services. Other initiatives included the establishment of a Permanent Joint Force Headquarters (PJHQ) to coordinate national joint operations at the military strategic level and the creation of a Joint Rapid Deployment Force (JRDF) to provide the framework for a joint force capable of responding to unpredictable crises.<sup>116</sup> The formation of these organisations illustrates recognition of the joint nature of operations and the need for harmonisation of command and control arrangements between the Services. Maintaining battlefield helicopters in the three separate Services in this joint and rationalised environment may seem anachronistic to some observers; indeed, the question of command and control of helicopters was raised in the House of Commons.<sup>117</sup>

More fundamentally however, these new structures raise the question of what is meant by ownership. Ostensibly, the role of the three Services is to raise, train and sustain operational forces for employment by joint or combined commanders. However, in the case of battlefield helicopters, a significant proportion of at least two of these functions, training and supporting, are conducted on a joint or tri-Service basis. In this environment, arguments over ownership seem to be utterly irrelevant to the real issue, which is to identify the arrangements for command and control of helicopters that

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<sup>115</sup> Forsythe, Wing Commander Richard, 'Operation Haven: The Role of the Military in Disaster Relief', presentation to *The Support Helicopter Conference*, Church House, London, 15-16 April 1993.

<sup>116</sup> Joint Warfare Publication (JPW) 0-01, *British Defence Doctrine*, Ministry of Defence, London, 1996, p 6-17.

<sup>117</sup> Simpson, MP, Mr Keith, 'To ask the Secretary of State for Defence what plans he has to rationalise the command and control of attack and support helicopters under one service.' *House of Commons Hansard Written Answers*, 16 June 1997, <http://www.the-stationery-off./text/70616w21.htm>, accessed 7 September 1997.

provide the most military effective solution in operations at the highest practicable levels of efficiency.

## SUMMARY

The division of responsibilities between the RAF and the Army for the command and control of battlefield helicopters can be traced to the earliest days of aviation. Almost as soon as the RAF was created, there were attempts by the other two Services to resume control of specialised aerial services. The Army argued the case for its officers to be employed in the aviation tasks intimately associated with the ground battle, such as artillery spotting. This led to the establishment of Air OP squadrons, which although they were operated in direct support of Army units and the aircraft were flown by Army pilots, remained part of the RAF and were supported by RAF technicians. The creation of a glider force during World War II led to a requirement for large numbers of soldier pilots and the formation of the Glider Pilot Regiment. At the end of World War II, the War Office foresaw a requirement for helicopters, but the Air Ministry remained unconvinced of their technical viability, preferring instead to concentrate its resources on fixed-wing aircraft. Frustrated by the Air Ministry's unwillingness to meet Army demands for air support, the Army again sought to assume responsibility for its own aviation needs. This led to the establishment of the AAC in 1957, but to prevent any diminution of the RAF's role, Army aircraft were limited to a maximum of 4,000 lbs take-off weight. The weight limit was later relaxed, but a division of responsibility for helicopters between the RAF and the Army had been established, with the RAF operating larger troop carrying and cargo helicopters and the Army operating utility and liaison types.

The use of helicopters in the Malayan Emergency in the 1950s demonstrated the value of these machines in counter-insurgency operations in the jungle environment. Very few helicopters were available at the time so it was necessary for them to be centrally controlled, but the need for close liaison with supported units on the ground became clear. The value of helicopters in amphibious operations was demonstrated during the Suez crisis, leading to the long-term establishment of troop carrying helicopters in the Royal Navy to support Royal Marine Commando operations.

During the 1960s, arrangements for the command and control of helicopters created tensions between the Army and the RAF. Problems were attributed to the RAF's doctrine of centralised control, but other factors, such as limited numbers of helicopters and technical difficulties, may not have been fully appreciated by those on the ground. On the other hand, while the AAC integration scheme proved popular with those units that received helicopters, it proved to be difficult to support. During the period of confrontation in Borneo, command arrangements for RAF helicopters were modified by decentralising control to improve responsiveness in the vast operating area. Technical difficulties with RAF Belvedere helicopters constrained the level of support they were able to provide to the Radfan force fighting in Aden, and inadequate liaison initially led to some serious misunderstandings between the RAF and the Army.

The lift capacity of RAF support helicopters was improved during the 1970s with the introduction of the Puma, but with continuing commitments for helicopters around the

world, attempts to develop an airmobile capability were constrained. Additionally, support for the security forces in Northern Ireland became a significant draw on the helicopter forces of the AAC, RAF and, at times the Royal Navy. The merits of centralised versus decentralised control were exemplified by operations in the province, and a mixed system employing both concepts evolved. The 1970s also saw the introduction of new helicopters to the AAC and the development of an offensive capability through the deployment of Sioux and Lynx armed with anti-tank missiles. At the same time, the difficulty of supporting the integration scheme led to a more centralised organisation for Army Aviation. A very high turnover of personnel in Army Aviation led to increases in the number of cadre personnel and the creation of aviation specialisations within the Army.

A number of lessons concerning command and control of helicopters emerged from the Falkland Islands conflict in 1982. Communication difficulties and inadequate liaison led to support helicopters not being fully utilised, and shortcomings in airspace control led to fratricide. However, once again, the value of helicopters in military operations was demonstrated. The introduction to service of the Chinook in the early 1980s brought a significant increase in the capability of the RAF support helicopter force and rekindled developments in air mobility. Trials of the concept led to the establishment of a 24 (Airmobile) Brigade, with an organic AAC regiment of anti-tank and light battlefield helicopters; however, the Brigade remained dependent on RAF support helicopters for the majority of its lift. While some in the Army complained that RAF control of support helicopters hampered the development of air mobility in the UK, the real problem was a shortage of helicopters to meet all the Army's requirements. In 1986, a MOD study into the ownership of support helicopters found that the financial implications of transferring the helicopters to the Army did not warrant a change to the status quo. Within the support helicopter force, command and control was improved by the establishment of a force headquarters to coordinate tasking and provide administrative and logistic support to support helicopters during field deployment.

British battlefield helicopters had a relatively minor role in the 1991 Gulf War. Although command and control arrangements for support helicopters appeared to have been satisfactory, they were not seriously tested because of the overwhelming success of the allied forces. AAC helicopters were controlled centrally at divisional level, but formed into armed reconnaissance patrols on call to the British brigades. One positive development was the collocation of helicopter aircrew with the Special Forces troops they supported, made possible by isolating the helicopters and aircrew for the remainder of the support helicopter force.

As British forces restructured after the end of the Cold War, battlefield helicopters gained greater prominence in the Army and RAF. Meanwhile, the search for efficiencies led to increased rationalisation of support activities, while an increased emphasis on joint operations led to the establishment of joint force structures to harmonise operations across the Services. These developments have created an environment in which the helicopter forces in the United Kingdom could achieve far closer integration, obviating the need for a potentially pernicious change of ownership.