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British Air Power in Peripheral Conflict, 1919-1976

Bruce Hoffman

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The research reported here was sponsored by the United States Air Force under Contract F49620-86-C-0008. Further information may be obtained from the Long Range Planning and Doctrine Division, Directorate of Plans, Hq USAF.

ISBN: 0-8330-0974-5

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Published by The RAND Corporation
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER R-3749-AF	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) British Air Power in Peripheral Conflict, 1919-1976		5. TYPE OF REPORT & PERIOD COVERED interim
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Bruce Hoffman		8. CONTRACT OR GRANT NUMBER(s) F49620-86-C-0008
9. PERFORMING ORGANIZATION NAME AND ADDRESS The RAND Corporation 1700 Main Street Santa Monica, CA 90406		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Long Range Planning & Doctrine for Acquisition Div (AF/XOXFP), Directorate of Plans, Ofc. DC/Plans & Operations Hq USAF Washington, DC		12. REPORT DATE October 1989
		13. NUMBER OF PAGES 121
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release; Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) No Restrictions		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) History, Great Britain, Catalytic Conflict (Warfare), Air Power, Air Defense, Air Strikes		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) see reverse side		

DD FORM 1 JAN 73 1473

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Although they rarely involve the vital interests of major powers, peripheral conflicts can be lengthy, can have a potential for escalation, can be marked by intense fighting, and can generate relatively heavy casualties. These traits typify many of the campaigns in which Britain has been involved since World War I and in which air power has been used. This report examines the use of air power by the British in such peripheral conflicts. Five key themes emerge from the operations reviewed in the report: (1) "high-tech," sophisticated aircraft were not always an improvement over the older, slower aircraft that could take off from and land on short, rough airstrips; (2) in almost all of the peripheral conflicts in which Britain was involved, the air-defense threat posed by the enemy was at best negligible; (3) successful operations often hinged on close coordination and communication between air and ground forces; (4) air strikes were often inappropriate or ineffective in rural campaigns and were useless in conflicts with a prominent urban component; and (5) the British appreciated--particularly in pre-1939 conflicts--the comparative cost savings of air operations over traditional ground-force operations with similar goals and outcomes.

R-3749-AF

British Air Power in Peripheral Conflict, 1919-1976

Bruce Hoffman

October 1989

**A Project AIR FORCE report
prepared for the
United States Air Force**

RAND

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PREFACE

RAND has undertaken a study of the recent experiences of the West's major air forces in peripheral, or "out-of-area," conflicts as part of a project entitled, "The Uses of Air Power in Peripheral Conflicts" conducted within the National Security Strategies Program of Project AIR FORCE, and sponsored by the Strategy Division, Directorate of Plans, DCS/Plans and Operations, Headquarters U.S. Air Force. This report presents an examination of the British use of air power in a succession of small-scale conflicts between 1919 and 1976. It is based entirely on unclassified published sources. Other reports in this series describe French Air Force activities in Indochina, Algiers, and Africa. A project overview will be published in a forthcoming report.

This report should be of interest to members of the defense community concerned with air operations in small-scale conflicts and the development of air doctrine for such conflicts.

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SUMMARY

This report examines the use of British air power in peripheral conflict. Virtually since the formal creation of the Royal Air Force (RAF) in 1918, British aircraft and air personnel have been employed throughout the world in peripheral conflicts—suppressing colonial-era native insurrections, countering indigenous or transnational postwar insurgencies, and, more recently, providing support to local governments embroiled in such conflicts. The RAF's tasks in these peripheral conflicts have included the training and supply of local air units, the provision of logistical assistance and similar supporting actions, and direct participation in combat operations in support of both British and local ground forces.

This wealth of experience notwithstanding, perhaps most significant is the degree of success that Britain has achieved in waging this form of warfare; Britain's success is unmatched by any other country that has been involved in similar kinds of conflicts. From the first use of air power in the Third Afghan War and the suppression of the "Mad Mullah" uprising in British Somaliland in 1919 to subsequent actions in Iraq, Northern Ireland, Transjordan, and the Northwest Frontier of India during the 1920s, Palestine and Aden in the 1930s, Malaya, Kenya, and Cyprus in the 1950s, Borneo and Aden in the 1960s, and Dhofar in the 1970s, the RAF has played a part in the achievement of generally successful outcomes.

Moreover, for most of this fifty-year period, the British military establishment has had to operate under financial and manpower constraints. The dissolution of the Empire and Britain's post-World War II decline to second-rank status did not, however, lead to international isolation or withdrawal. Britain continued to play an active role in the affairs of both former imperial territories and soon-to-be-independent colonial possessions, which it was able to do as a result of its flexible, adaptive, and innovative doctrine of intervention and force projection. Thus, the financial and manpower constraints that might have been a weakness for another country were in fact a source of strength for Great Britain.

Throughout the first two decades of the RAF's existence as an independent armed service, its role as a colonial "policing" force enabled it both to survive the period of intense financial retrenchment following World War I and to establish its identity and demonstrate its viability as a valuable component of the British military. The

development and evolution of the doctrine of "air control" was a major element in this process. Perhaps the greatest contribution made by air power in Britain's interwar colonial conflicts was the savings it achieved in both manpower and money. But despite these economies, the use of air power in colonial conflicts was always strongly resisted by the British military establishment. The most common argument—before the massive bombing of urban areas that occurred during World War II—was that of the immorality of bombing civilian targets, irrespective of the fact that such targets were often the mainspring and perpetrators of the rebellions. Although this debate was never resolved, it was generally agreed that air power, as demonstrated during the peripheral conflicts of the interwar years, had a distinct contribution to offer in modern warfare.

During the fifteen years following World War II, Britain was involved in no less than three major and two minor (though protracted) peripheral conflicts. In view of the strain these successive and often simultaneous conflicts placed on Britain's reduced postwar military establishment, it is all the more impressive that outright victories were won in Malaya and Kenya, that a satisfactory political agreement was reached in Cyprus, and that the recurrent tribal insurrections and border disputes in the South Arabian Protectorates and in Muscat and Oman were successfully dealt with. With perhaps the exception of Cyprus, the RAF made an important contribution in each, particularly in the two most serious conflicts, in Malaya and Kenya.

The uses of air power in these conflicts ranged from offensive air strikes to troop transport, to supply dropping, casualty evacuation, and aerial reconnaissance (both photographic and visual), to "sky-shouting" and leaflet dropping psychological warfare operations. The array of aircraft used in these operations ran the gamut from medium bombers to STOL (short takeoff and landing) light aircraft, from jet-powered and propeller-driven fighter-bombers to helicopters. It involved regular RAF aircrews as well as local units, such as the Malayan Auxiliary Air Force and the Kenya Police Reserve Wing.

The success of the campaigns in the Radfan between 1964 and 1966 and Dhofar between 1966 and 1976 was largely attributable to extraordinary interarm and interservice cooperation. This cooperation is particularly impressive, given the lack of previous training or familiarity among the varied participants, who represented the British Army, Air Force, and Navy, as well as indigenous ground forces. British units not only operated very closely together, but also were often joined with their local counterparts and the helicopter squadrons of different services. Supply of ground forces operating deep in enemy territory was

always the critical element in the success of the campaigns, and logistic support was provided by an array of fixed-wing aircraft and helicopters.

Five key themes emerge from the operations reviewed in this report: First and foremost, in almost all of the peripheral conflicts in which Britain was involved, the air-defense threat posed by the enemy was at best negligible; indeed, with the exception of the latter stages of the campaign in Dhofar (when SAM-7 missiles were first used by the insurgent forces), it was largely nonexistent. Second, until the appearance of SAM-7 weapons in the Dhofari conflict, the "modernity" of the air equipment used by British forces did not seem to matter very much. Moreover, "high-tech," sophisticated aircraft and capabilities were not always better or more effective than the older, slower aircraft, whose short takeoff and landing capabilities were particularly well-suited to the short, rough airstrips in the remote areas of the conflicts. Third, successful operations often hinged on close coordination and communication between air and ground forces. Fourth, air strikes were often inappropriate or ineffective in rural campaigns (such as those in Malaya and Kenya) and of no use whatsoever in conflicts with a prominent urban component (Palestine and Aden). Finally, the British appreciated—particularly in the pre-1939 conflicts, but also in the postwar campaigns (notably in Kenya and the Arabian Peninsula)—the comparative cost savings of air operations over traditional ground-force operations with similar goals and outcomes.

The campaigns in the Radfan and Dhofar were the most recent in a progression of peripheral conflicts fought by Britain since 1919. The success achieved in both was largely a product of more than fifty years of experience in waging counterinsurgency warfare. Air power clearly played a pivotal role in each conflict, but the apparent key was the improvisational expertise demonstrated by the British military in coordinating and integrating the various ground, air, and naval elements involved in these campaigns.

ACKNOWLEDGMENTS

This study benefited greatly from the helpful suggestions, time, and encouragement given to the author by the project leader, Robert Perry. Additional sound advice and judicious criticism were provided by James Quinlivan and Christopher Bowie, who reviewed an earlier version of the report, as well as by Benjamin Schwarz. A special debt of appreciation is owed to Jonathan Pollack, Head of the Political Science Department at RAND. Finally, Janet DeLand edited a long and somewhat unwieldy manuscript, sharpening syntax and eliminating solecisms.

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I. INTRODUCTION

This report examines the use of air power by the British in peripheral conflict. For the purposes of this study, "air power" is defined broadly to include a spectrum of activities extending from training indigenous forces and providing hardware, through logistic assistance and similar supporting actions, to direct and indirect participation in combat operations. "Peripheral conflict" is used rather than the more common phrase "low-intensity conflict," which generally is taken to mean only insurrections and small-scale rural fighting. Although they rarely involve the vital interests of major powers, peripheral conflicts can be lengthy, can have a potential for escalation, can be marked by intense fighting, and can generate relatively heavy casualties.

Indeed, these traits typify many of the "colonial policing" campaigns in which Britain has been involved since World War I and in which air power has been employed. Virtually since the formal creation of the Royal Air Force (RAF) in 1918, British aircraft and air personnel have been employed throughout the world in peripheral conflicts—suppressing colonial-era native insurrections, countering indigenous or transnational postwar insurgencies, and, more recently, providing support to local governments embroiled in such conflicts. The RAF's tasks in these conflicts have included the training and supply of local air units, the provision of logistical assistance and similar supporting actions, and direct participation in combat operations in support of both British and local ground forces. Britain's long and almost continuous involvement in this type of warfare allows one to trace the development and evolution of policies and to assess the strategies and tactics used by Britain in a wide range of peripheral conflicts.

This wealth of experience notwithstanding, perhaps most significant is the degree of success that Britain has achieved in waging this form of warfare—success that is unmatched by any other country that has been involved in similar kinds of conflicts.¹ From the first use of air power in the Third Afghan War and the suppression of the "Mad Mullah" uprising in British Somaliland in 1919 to subsequent actions in Iraq, Northern Ireland, Transjordan, and the Northwest Frontier of

¹John Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," in Ian F.W. Beckett and John Pimlott (eds.), *Armed Forces and Modern Counter-Insurgency*, New York: St. Martin's, 1985, p. 16; and James H. Wyllie, *The Influence of British Arms: An Analysis of British Military Intervention Since 1956*, London: George Allen & Unwin, 1984, p. 17.

India during the 1920s, Palestine and Aden in the 1930s, Malaya, Kenya and Cyprus in the 1950s, Borneo and Aden in the 1960s, and Dhofar in the 1970s, the RAF has played a part in the achievement of generally successful outcomes.

Moreover, for most of this fifty-year period, the British military establishment has had to operate under financial and manpower constraints imposed during the interwar period by the Great Depression and after World War II by the general decline of British power brought on by financial retrenchment and the attendant contraction of the nation's military establishment. The dissolution of the Empire and Britain's decline to second-rank status did not, however, lead to international isolation or withdrawal.² Britain continued to play an active role in the affairs of both former imperial territories and soon-to-be-independent colonial possessions, which it was able to do as a result of its flexible, adaptive, and innovative doctrine of intervention and force projection. Thus, the financial and manpower constraints that might have been a serious weakness for another nation became for Britain a source of strength.³

This doctrine led to what Lieutenant-Colonel Michael Dewar (a British Army officer and an expert on counterinsurgency warfare) argues is an "infantry" approach: relying on minimal ground forces deployed as small patrols that employ tactics of "stealth, patience and cunning" in what amounts to "play[ing] the terrorists at their own game." Dewar continues, "This 'infantry' approach to terrorist threats has gone hand-in-glove with the dictum of 'minimum force'. It has always been a basic tenet of British Army policy since 1945 that a given situation be met with the minimum degree of force."⁴ British military historian John Pimlott similarly points out,

Once presented with a revolt . . . the British were more likely to take a "low profile" response, using their forces sparingly and searching for solutions which did not necessitate large expenditures of men or materiel; an approach which often made full use of local resources and involved close co-operation with existing civil authorities. At the same time, the wide range of threats . . . and the different geographical conditions encountered, produced a constant need to adapt responses to fit local circumstances and avoided the development of a stereotyped "theory" of policing.⁵

²Wyllie, *The Influence of British Arms*, p. 21.

³Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," pp. 17-18.

⁴Michael Dewar, *Brush Fire Wars: Minor Campaigns of the British Army Since 1945*, New York: St. Martin's Press, 1984, p. 181.

⁵Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," p. 19.

Although Dewar stresses the role of ground forces over that of air and artillery in this doctrine,⁶ it is clear that the RAF played an integral and essential role in these campaigns. Between 1960 and 1970, British troop strength declined by over 160,000 men, the RAF by 50,000, and the Royal Navy by 13,000, at a time when British forces remained stationed throughout the world;⁷ under these conditions, the need for an air capability that could expeditiously transport men and materiel to far-flung corners of the globe and provide critical tactical air and logistic support to these distant forces is all too obvious.

This report traces the historical progression and development of Britain's use of air power in peripheral conflicts. Section II discusses the origins of the RAF's role in colonial policing campaigns during the interwar years (1919-1939). Section III focuses on the immediate post-World War II era, the late 1940s and 1950s. Section IV examines Britain's involvement in peripheral conflict during the 1960s and 1970s. The conclusions of the study and some general observations are presented in Section V.

⁶Dewar, *Brush Fire Wars*, p. 181.

⁷Wyllie, *The Influence of British Arms*, p. 54

II. THE INTER-WAR PERIOD: 1919-1939

Just thirteen months after its establishment, the RAF became involved in its first peripheral conflict, the Third Afghan War. In May 1919, elements of the 50,000-man Afghani Army, backed by some 80,000 irregulars (tribal bandits and brigands), seized the Indian border town of Bagh. Fearing that this was a harbinger of a full-scale Afghani invasion, the British Chief Commissioner of the North-West Frontier Province, Sir George Roos-Keppel, dispatched a brigade-size strike force composed of British Territorial Force troops¹ and non-first-line Indian Army soldiers to dislodge the invaders. The initial British attack was not only repulsed by the Afghanis, but the strike force subsequently found itself threatened by a large number of hostile tribesmen massing across the border at Dacca. The RAF saved the day, when three of its BE2C bombers attacked and routed the threatening tribesmen. Following a successful counterattack by a combined British and Indian Army unit two days later, the same bombers performed magnificently, harassing the Afghani force as it withdrew from Bagh and retreated across the border.²

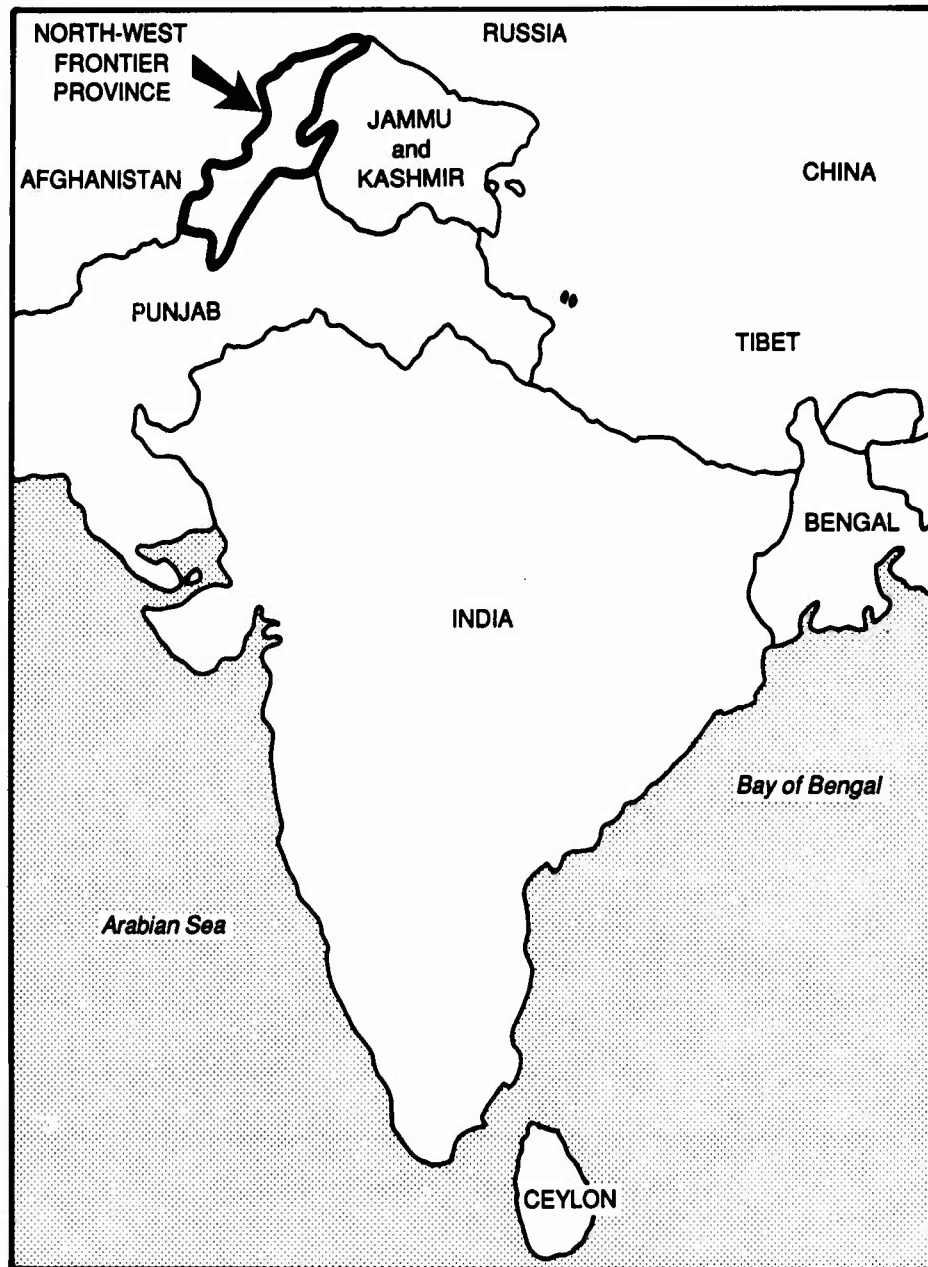
Although it was a short-lived and all-but-forgotten episode in British imperial history, the Third Afghan War was nevertheless a significant milestone for the RAF, demonstrating for the first time the value of air forces in relatively minor, small-scale engagements. Moreover, with the precedent of air involvement established, the fledgling service found it much easier to make and sustain arguments for the economy and effectiveness of air power in peripheral conflicts. The RAF contribution to resolving a long-standing internal security problem in British Somaliland the following year solidified its role in such conflicts.

THE REVOLT IN BRITISH SOMALILAND AND THE DOCTRINE OF AIR CONTROL

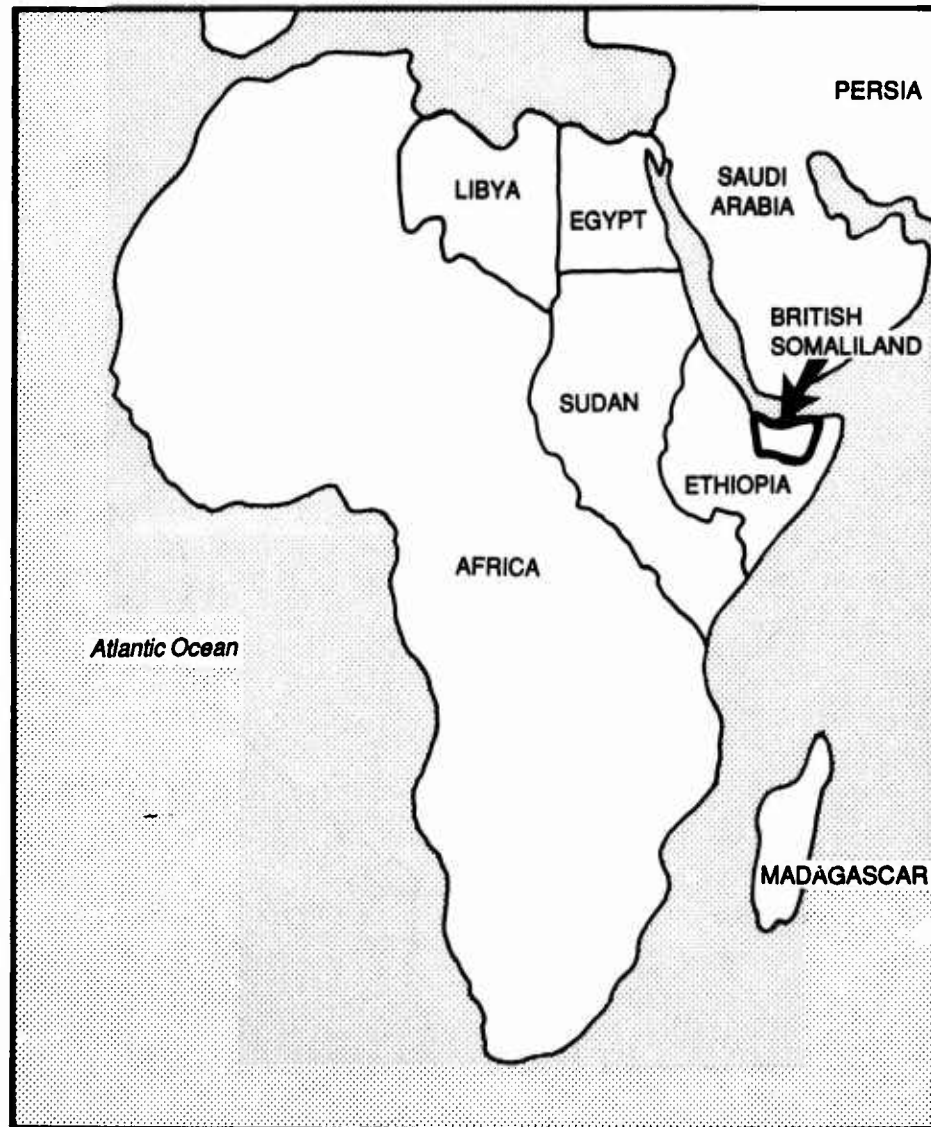
For nearly two decades, an unresolved rebellion in British-held territory on the Horn of Africa resisted efforts by the local garrison in British Somaliland to defeat it. Although the Army's Camel Corps had

¹These were part-time soldiers who had volunteered for home defense at the start of World War I but instead were sent overseas on imperial security duties and were at the time awaiting demobilization.

²Michael Barthorp, *The North-West Frontier: British India and Afghanistan*, Poole, Dorset: Blandford Press, 1982, pp. 149-152, 157.



The Indian Empire and North-West Frontier Province



Colonial Africa and British Somaliland

been able to contain the revolt waged by Dervish followers of Sayyid Muhammed, the so-called "Mad Mullah," attacks against isolated military posts had continued unabated. During one of these raids, the rebels had seized a coastal fort, and despite the imposition of a naval blockade, the Mullah and his fighters remained entrenched in their nearly impregnable battlement.³

At the time, the new air force, created from a consolidation of the Army's Royal Flying Corps and the Royal Navy's Air Service wing, was simultaneously staving off postwar governmental budgetary cutbacks and maneuvering to counter the inevitable interservice rivalry of a reduced military establishment; thus the conflict in British Somaliland presented the RAF with another opportunity to prove its mettle and demonstrate its viability.⁴ When the local administration sent a request to London for funds and additional forces to decisively end the rebellion, the Chief of the Air Staff, Sir Hugh Trenchard, suggested that the expense and trouble of sending yet another military expedition to the region could be avoided by simply deploying a squadron of bombers in support of the ground forces already on hand. Trenchard's novel idea, perhaps not surprisingly, encountered strong opposition from the Chief of the Imperial General Staff, Field Marshal Sir Henry Wilson, who dismissed out of hand the utility of aircraft in the type of colonial policing campaign that the Army had dealt with for more than a century. Nevertheless, Wilson's objections were overridden by both the War and Colonial Offices, which approved the dispatching of 12 D.H. 9 bombers, another D.H. 9 to serve as a "flying ambulance" for casualty evacuation, and a unit of armored cars and other motorized ground transport from Egypt to Somaliland. The soundness of Trenchard's scheme was vindicated less than three weeks after this force arrived in January 1920, when an air assault on the rebel stronghold destroyed the fort and enabled the ground forces to rout the rebels, forcing them to flee across the border into the Ogaden. Before the end of the year, Sayyid Muhammed had died and the rebellion was over.⁵

The pivotal role played by the RAF in defeating the revolt at a cost of only £77,000 proved to be a watershed not only for the future growth of the new air force, but also for the day-to-day administration

³Chaz Bowyer, *History of the RAF*, Greenwich, CT: Bison Books, 1977, p. 51; Bernard Fitzsimons, *RAF: A History of the Royal Air Force Through Its Aircraft*, Seacaucus, NJ: Chartwell, 1983, p. 43; and Malcolm Smith, *British Air Strategy Between the Wars*, Oxford: The Clarendon Press, 1984, p. 28.

⁴H. R. Allen, *The Legacy of Lord Trenchard*, London: Cassell, 1972, p. 39; and Smith, *British Air Strategy Between the Wars*, p. 28.

⁵Fitzsimons, *RAF: A History of the Royal Air Force Through Its Aircraft*, p. 43.

of Britain's colonial possessions. The RAF had carved out for itself a peacetime mission of "policing" the Empire.⁶ Trenchard's hand in the struggle for recognition and funding of the RAF was immensely strengthened by the dramatic success in Somaliland. Indeed, the new service's survival was in large measure assured by the argument that air power could be more economical, if not more effective, than ground strength—especially in the more remote and inaccessible parts of the Empire.⁷ The most far-reaching consequence of the Somaliland campaign, however, was its effect on British internal security policy in a more recent imperial acquisition: the territory of present-day Iraq, then known as Mesopotamia.

THE RAF ASSUMES COMMAND IN IRAQ

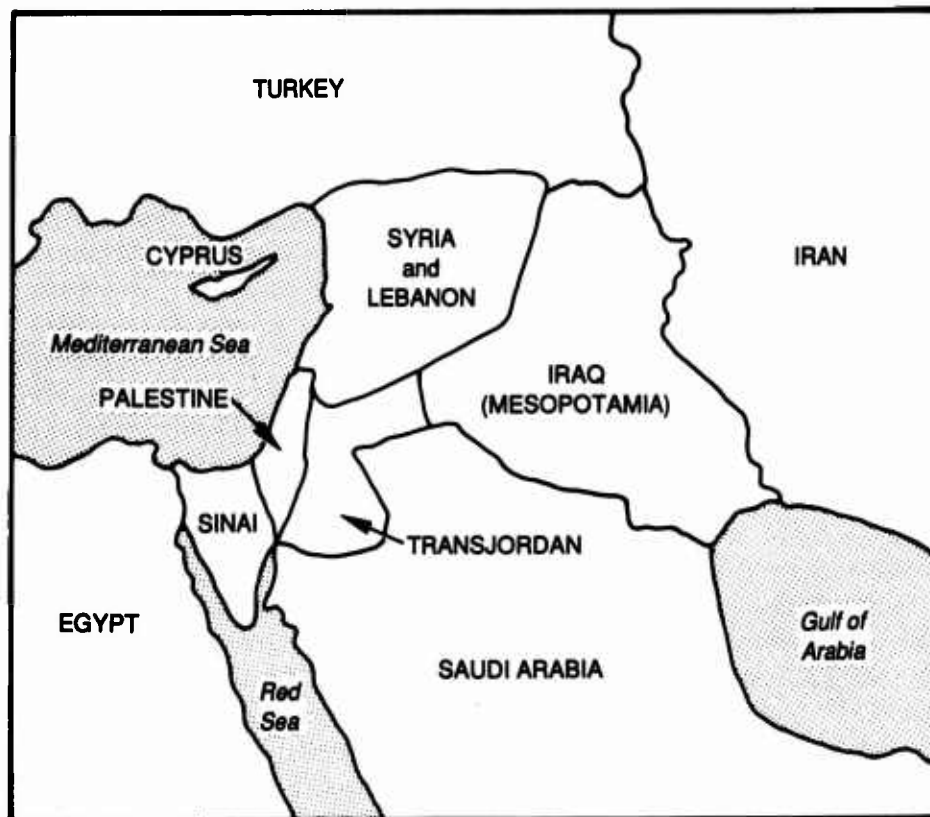
As a result of the Allies' victory in World War I, the British Empire covered a greater part of the globe than ever before. The Empire, which hitherto had embraced Egypt and southern Africa, Aden, India, Hong Kong, and the Malayasian peninsula, was expanded to include the majority of the territories in the Middle East that had previously belonged to the Turkish Ottoman Empire. Among the new jurisdictions under British rule were Palestine, adjoining the Suez Canal, neighboring Transjordan, and the vast and uninviting hinterlands of Mesopotamia. The extension of British suzerainty over these territories was less than popular with a war-weary public, which saw little advantage in these new overseas military commitments and little to gain from the expense of maintaining the forces required to defend them.⁸ In particular, the size and geographical diversity of Iraq, encompassing a terrain and climate that combines elements of the Scottish highlands in the Mosul, permanent settlements coupled with some urban development in the region dominated by the Tigris and Euphrates rivers, and uninhabited desert in the west, was viewed with especial concern, given the demands of defense and control that would have to be borne by the British garrison there.⁹ Indeed, as early as September 1918, the newly appointed British High Commissioner for Iraq, Lieutenant-Colonel Sir Arnold Wilson, had proposed that responsibility for internal security be given to the RAF. Not surprisingly, the

⁶Bowyer, *History of the RAF*, p. 51.

⁷Smith, *British Air Strategy Between the Wars*, p. 28.

⁸Dudley Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, New York: Doubleday, 1985.

⁹Charles Townshend, *Britain's Civil Wars: Counterinsurgency in the Twentieth Century*, London & Boston, Faber & Faber, 1986, pp. 93-94.



The British Empire in the Middle East

Army rejected the proposition that Iraq could be controlled from the air and hence that it could dispense with large ground forces. Thus, when Wilson resubmitted his proposal the following April, resistance from the army again caused it to be rejected.¹⁰ It was not until a powerful figure, Winston Churchill, threw his weight behind the scheme that this strong opposition was overcome.

To Churchill, with his imaginative and restless mind, in addition to his first-hand combat experience in peripheral conflict as a cavalry officer, the savings in lives and money offered by air control of Iraq, coupled with the efficiency of air power, was irresistible.¹¹ In his

¹⁰Lt.-Col. Sir Arnold Wilson, *Mesopotamia 1917-1920*, London: Oxford University Press, 1931, pp. 238-239.

¹¹Churchill's participation in the old method of controlling belligerent natives and maintaining order through the use of punitive columns of troops is recounted in his *The*

simultaneous capacity as Secretary of State for War and for Air in the British Cabinet, Churchill became the RAF's most enthusiastic proponent, declaring before a shocked House of Commons in late 1919 that "the first duty of the RAF was to garrison the Empire."¹² This was followed by a speech in February 1920, in which Churchill boldly stated that not only should the RAF play the dominant role in overseeing the internal security of Iraq, but that the General Officer Commanding (GOC) British forces should, accordingly, be a senior RAF officer.¹³ Finally, in an April 1920 memorandum entitled "Mesopotamian Expenditure," Churchill amplified his thoughts on the matter, proposing that administrative responsibility for Iraq should be reallocated from the auspices of the Foreign Office and Army to the Colonial Office and the RAF. Under the prevailing arrangement, he wrote, the Foreign Office controlled the deployment of static military garrisons, whereby "a score of mud villages, sandwiched between a swampy river and a blistering desert, inhabited by a few hundred half naked native families [were occupied by regular troops] on a scale which in India would maintain order in wealthy provinces of millions of people." If, however, Iraq were placed under Colonial Office administration, a fixed annual budget could be applied and the costs of internal security could be reduced appreciably by turning responsibility for that task over to the RAF. "An ample system of landing grounds judiciously selected," Churchill explained, "would enable these air forces to operate in every part of the protectorate and to enforce control, now here, now there, without the need of maintaining long lines of communication."¹⁴

The advantages of air control would be manifold; not the least of them was the fact that effective retaliation against the attackers was rendered almost nugatory.¹⁵ Aircraft flying at high altitudes, it was argued—and perhaps exaggerated a bit—could attack but remain impervious to the rifles and primitive weapons of local tribesmen.¹⁶ The speed and surprise of air attack would also obviate the advantage enjoyed by tribesmen, whose intimate knowledge of the desert and mountain areas enabled them to lay ambushes for the traditional

Story of the Malaband Field Force: An Episode of Frontier War, London: Longman's; New York: Longman's, Green, 1898.

¹²Allen, *The Legacy of Lord Trenchard*, p. 37.

¹³Wilson, *Mesopotamia 1917-1920*, p. 238. See also Townshend, *Britain's Civil Wars*, p. 94.

¹⁴Quoted in Townshend, *Britain's Civil Wars*, p. 94.

¹⁵Smith, *British Air Strategy Between the Wars*, p. 29.

¹⁶Townshend, *Britain's Civil Wars*, p. 95.

punitive columns of British ground forces and otherwise to conceal themselves from view or discovery. No longer would the punitive columns, with their long and vulnerable lines of communications, have to sally forth into the hinterland, where they were prey to tribal raiding parties intent on seizing weapons, ammunition, and other booty all along their route of march.¹⁷ Moreover, as British military historian Charles Townshend points out,

Even this priceless quality of invulnerability did not exhaust the catalogue of assets. A crowning advantage of the scheme was the suitability of air forces for operations in extreme heat. The damage to the human material of marching columns in such conditions was always severe. The efficiency of even the best units was rapidly impaired. But the endurance and reliability of machines should be much greater, and the physical fitness of aircrew could be maintained in ways previously inconceivable.

Spared the harsh rigors of life on the move in alien and unfriendly country, the RAF personnel would operate from central airbases, complete with the amenities of modern life.¹⁸

Much as the Third Afghan War and the uprising in Somaliland had surfaced at a fortuitous moment in the RAF's early history to endow it with a postwar purpose, just weeks after the Churchill memorandum, a rebellion erupted in Iraq that served to clinch the arguments in favor of air control. In a very short space of time, a series of relatively minor and localized incidents escalated to inflame over 100,000 tribesmen. The costly and cumbersome punitive columns were dispatched, and the rebellion was suppressed, but only after two divisions had been moved to Iraq to reinforce the local garrison.¹⁹ Indeed, even though some 60,000 troops were on hand in the country, it took nearly a year and cost approximately £100,000 and 2,000 British casualties to defeat the uprising.²⁰ The financial expenditure was especially annoying for Churchill, who only a month before had complained of the excessive costs of maintaining land forces in Iraq.²¹ However, he was able to take some satisfaction in the fact that he had won over a key supporter

¹⁷For detailed and contemporary discussions of the merits of air control versus the use of punitive army columns, see Air-Commodore C. F. A. Portal, "Air Force Co-Operation in Policing the Empire," *Royal United Services Institute Journal*, May 1937, pp. 343-358; and Sir John Slessor, *The Central Blue: Recollections and Reflections*, London: Cassell, 1956, pp. 58-68. See also Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, pp. 43-45; Smith, *British Air Strategy Between the Wars*, p. 29; and Townshend, *Britain's Civil Wars*, p. 95.

¹⁸Townshend, *Britain's Civil Wars*, p. 95.

¹⁹*Ibid.*, pp. 95-96.

²⁰Slessor, *The Central Blue: Recollections and Reflections*, p. 52.

²¹Townshend, *Britain's Civil Wars*, p. 96.

to his scheme: the General Officer Commanding British troops in Iraq, General Sir Aylmer Haldane.

As heretical as this new way of thinking may have been to his fellow soldiers, Haldane had been forced to admit that his earlier views on the impracticality of air power had been short-sighted and ill-considered. The RAF had won Haldane's admiration by its relief of the besieged garrison at Rumaithah in July 1920 (when ammunition was dropped); its coverage of the withdrawal of British forces who were pursued by hostile tribesmen, often across hundreds of miles of desert, dispersing concentrations of attacking warriors through bombing and strafing runs; and its use as a punitive weapon against tribes who, having been found guilty of some antigovernment offense, became the targets of retaliatory air attack.²² On one occasion, four RAF aircraft broke up a force of 2,500 to 3,000 men with bombs and machine-gun fire.²³ Reflecting on the situation in a memoir published two years later, Haldane concluded that "disturbances can be checked or prevented from arising by aircraft, and that unless, which is improbable, rebellion were to arise in every corner at once, the sudden arrival of aeroplanes on several days should act as a preventative." He went on to conjecture "that had I had sufficient aircraft last year I might have prevented the insurrection spreading beyond the first incident at Rumaithah."²⁴ From the colonial civil servant's point of view, Wilson was even more enthusiastic, arguing that reliance upon air control would eliminate costly ground forces to the extent that only a small local constabulary would have to be maintained.²⁵

To an already skeptical British public, however, the main lesson of the Iraqi disturbances was the continued drain on manpower and treasure that could be expected from Britain's possession of these Middle Eastern territories. In this respect, the rebellion in Iraq could not have come at a less propitious time: In July 1920, Britain had been formally awarded the mandates to administer Iraq and Palestine/Transjordan by the League of Nations. Some circles were now pressing for the surrender of this responsibility and the return of the mandates to the League. Trenchard, however, was quick to grasp that this concern provided the crucial opening needed by the RAF to establish its uncontested autonomy within the British military. The previous year, Air Vice-Marshal Sir Geoffrey Salmond, the Air Officer Commanding, Middle East, had at Trenchard's behest undertaken a detailed study of

²²Aylmer L. Haldane, *The Insurrection in Mesopotamia, 1920*, Edinburgh & London: Wm. Blackwood & Sons, 1922, pp. 70, 80, 138, 227, 275, 300.

²³*Ibid.*, p. 227.

²⁴*Ibid.*, p. 92.

²⁵Wilson, *Mesopotamia 1917-1920*, p. 238.

the possible savings in time, garrison size, attendant equipment, and overall cost that air control of Iraq could provide. Salmond's findings had been passed to Army headquarters in Baghdad, but as was the case with Wilson's earlier proposal, opposition was so great that the issue dropped from sight. Citing the difficulties encountered in the Iraqi rebellion, growing public restiveness, and the optimistic conclusions put forth by Salmond, Trenchard, with Churchill's backing, submitted a proposal to the British Cabinet calling for military control of Iraq to pass from the Army to the RAF.²⁶

In an effort to resolve this tug-of-war, Churchill convened a conference in Cairo in March 1921 "to investigate the situation [in Mesopotamia], examine costs, consider economies that could be made without reducing the ability to control effectively, and make recommendations."²⁷ At the meeting, Churchill and Trenchard found yet another ally in Colonel T. E. Lawrence, whose legendary exploits during World War I in leading the Arab Revolt against the Turks had earned him the sobriquet "Lawrence of Arabia." Because Lawrence was thoroughly versed in the art of desert warfare and had made use of air support in the long campaign to conquer a region stretching from the Arabian peninsula in the south to Damascus in the north (embracing present-day Saudi Arabia, Jordan, Israel, the West Bank, and Syria),²⁸ his support lent greater weight to Churchill and Trenchard's arguments. With Lawrence's help and advice, Trenchard devised a plan for a "bombing without occupation" security policy whereby the Army's punitive column could be completely dispensed with while achieving the same effect on the target civilian populace. According to H. R. Allen, Trenchard's biographer, "In the RAF Staff College even today this is perpetuated as a classic method of utilizing air power on a small—or even large—scale."²⁹ Thus one of the main outcomes of the conference was the recommendation that the RAF should assume the dominant role in policing Iraq, that overall command of British forces there should be given to a senior RAF officer, and that the present air establishment in Iraq should be increased from five air squadrons of D.H. 9As to eight.³⁰

²⁶Saward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, pp. 23-24.

²⁷Quoted in *Ibid.*, p. 23.

²⁸See T. E. Lawrence, *Seven Pillars of Wisdom*, Harmondsworth, England: Penguin, 1977.

²⁹Allen, *The Legacy of Lord Trenchard*, p. 39.

³⁰*Ibid.*; Bowyer, *History of the RAF*, pp. 51-52; Slessor, *The Central Blue: Recollections and Reflections*, p. 52; Smith, *British Air Strategy Between the Wars*, p. 28; and

The matter, however, was not so easily resolved. Senior Army commanders and their civilian superiors in the War Office continued to resist any encroachment on what had long been regarded as the Army's traditional domain.³¹ The efficacy of air control had been proven in Somaliland, and the excessive costs of ground operations had again been demonstrated by the troubles in Iraq, so a new line of attack on the RAF was embraced. In August 1921, Churchill, in his new capacity as Colonial Secretary, presented the Cabinet with a memorandum regarding "Policy and Finance in Mesopotamia," and new objections were raised on moral grounds. Churchill's arguments that air control was the only financially viable way to maintain security in that territory were countered by his successor at the War Office, Sir Laming Worthington-Evans, who argued that since "the only weapons which can be used by the Air Force are bombs and machine guns . . . the only means at the disposal of the Air Force, and the means now in fact used, are the bombing of women and children in villages."³² This was neither the first nor the last time that pious protestations of the immorality of bombing civilians would be raised. But for the time being at least, such issues were secondary to the more compelling arguments of monetary savings, and the recommendation was approved by the Cabinet.³³

On October 1, 1922, Air Vice Marshal John Salmond duly assumed the post of GOC of *all* British forces in Iraq, thus establishing "the first peacetime independent command of the RAF."³⁴ Salmond's appointment was a particularly propitious one, both in terms of cementing the RAF's role in maintaining the security of the Empire and in developing a credible doctrine of air control operations that allayed the "moral" qualms cited above.³⁵ He was well aware of the hostility emanating from the military and, in fact, had been pointedly advised by the Chief of the Imperial General Staff (CIGS), Sir Henry

Townshend, *Britain's Civil Wars*, p. 95. These eight squadrons comprised three squadrons of D.H. 9A light bombers, two squadrons of Vickers Vernon troop carriers, and one squadron of Sopwith Snipe fighters at Hinaidi; another D.H. 9A squadron at Shaibah; and a squadron of Bristol Fighters at Mosul. See Fitzsimons, *RAF: A History of the Royal Air Force Through Its Aircraft*, p. 49.

³¹Slessor, *The Central Blue: Recollections and Reflections*, p. 52; Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, p. 24; and Townshend, *Britain's Civil Wars*, pp. 96-97.

³²Quoted in Townshend, *Britain's Civil Wars*, p. 97.

³³*Ibid.*

³⁴Smith, *British Air Strategy Between the Wars*, p. 28. See also Bowyer, *History of the RAF*, p. 52.

³⁵Townshend, *Britain's Civil Wars*, p. 98.

Wilson, not to take up his controversial command.³⁶ This advice having gone unheeded, Wilson maneuvered to make things as difficult as possible for the air commander. He refused to provide troops for the reinforced armored-car detachments assigned to Iraq. Salmond, however, adroitly side-stepped the problem by simply staffing the units with RAF personnel and locally recruited Assyrian levies.³⁷ By 1925, the forces had had grown to comprise four companies in Iraq and one in Transjordan.³⁸

The Assyrian armored-car detachments, together with other British-officered units such as the Camel Corps, Iraqi Levies, and local constabulary, became an indispensable partner in the RAF's mission. These ground forces functioned as the outermost feelers of the RAF's intelligence system, providing a network of information, target selection, and, when necessary, a means to extract downed fliers from menacing situations. Lieutenant-General John Bagot Glubb,³⁹ who was then a young subaltern on secondment to the RAF in Iraq, explains:

When ground forces moved against an enemy, they acquired information as they advanced. Friendly tribes and villages sent deputations to meet the column and demonstrate their loyalty. Hostile communities fired on the troops. There was rarely much difficulty in knowing who was a friend and who an enemy. In the case of aircraft, however, the reverse was likely to be the case. Air forces, arriving over a target area from a remote cantonment hundreds of miles away, would see below them a country dotted with villages, flocks or tents. How were they to be certain which of them was hostile and which friendly? Moreover, the very fact that the air forces lived together in a central cantonment would result in their being ignorant of the country and the people, and consequently unable to interpret intelligently what they observed on the ground.

The knowledge gleaned and provided by ground forces, therefore, was a key element in the success of air control in Iraq. Under the system organized there, outlying posts were established throughout the country under the command of junior officers, who fulfilled the role of military attaché to the district political officers or governors responsible for

³⁶Wilson had averred that if he were Salmond, he wouldn't "touch the matter with a barge-pole." Quoted in Ibid.

³⁷Slessor, *The Central Blue: Recollections and Reflections*, p. 52; Fitzsimons, *RAF: A History of the Royal Air Force Through Its Aircraft*, p. 44; and, Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of The Royal Air Force*, p. 24.

³⁸Fitzsimons, *RAF: A History of the Royal Air Force Through Its Aircraft*, p. 44.

³⁹Glubb, better known perhaps by the Arabic honorific for a general or other supreme military commander as Pasha Glubb, went on to command Jordan's elite Arab Legion during the 1940s and 1950s.

larger districts. "It was their duty," Glubb continues, "to familiarize themselves with the district to which they were accredited in such a manner that, should air operations suddenly be required, they would be enabled to make such arrangements as were necessary to ensure that aircraft found their correct targets."⁴⁰

The success of this system is perhaps best attested to by the political officers, the *civil* servants of the Colonial Office, who administered Iraq.⁴¹ Sir Arnold Wilson, for example, stated,

It is undeniable that the decision to control Iraq by means of the Royal Air Force made it possible to retain the Mandate: under any other system the cost of the garrison, however reduced in numbers, would have been prohibitive, and its efforts ineffectual owing to the great length of communications involved.⁴²

A similar testament to the RAF was made by Sir Percy Cox, the High Commissioner, in his year-end report of events in Iraq in 1923. He wrote,

Without air transport, the niceties of administrative and military touch are impossible with other existing means of travel in Iraq, and perhaps the greatest achievement of Air Control in Iraq during the six months under review has been the introduction of this inestimable asset. By its means it has been possible to achieve a highly centralized yet widely understanding intelligence, which is the essence of wise and economical control.⁴³

This does not imply, however, that the use of air control in Iraq was without controversy or criticism. The principal argument was again the issue of the morality of air bombardment. At the forefront, not surprisingly, were precisely those army officers whose role in policing the country had been taken over by the RAF.⁴⁴ Sir Henry Wilson, the CIGS, for example, remained stubbornly hostile to the RAF's usurpation of what he saw as the Army's prerogative and spitefully critical of its methods of control from the air. As former Marshal of the RAF Sir John Slessor⁴⁵ recounts in his memoirs,

⁴⁰John Bagot Glubb, *War in the Desert: An R.A.F. Frontier Campaign*, London: Hodder & Stoughton, 1960, pp. 69-70.

⁴¹Slessor, *The Central Blue: Recollections and Reflections*, p. 52.

⁴²Wilson, *Mesopotamia 1917-1920*, p. 239.

⁴³Quoted in Slessor, *The Central Blue: Recollections and Reflections*, p. 57.

⁴⁴Townshend, *Britain's Civil Wars*, p. 98.

⁴⁵Slessor served with the RAF in India during the 1930s and as Commander-in-Chief, RAF, in the Mediterranean and Middle East, 1944-1945.

That meaningless phrase "indiscriminate bombing" was constantly deployed. . . . The impression was put about that women and children suffered specially from air action; it was considered perfectly legitimate to *shell* a tribal village without warning, but even in an area when troops were in actual contact with the enemy, villages were not allowed by the regulations to be *bombed* without special permission and the usual period of warning. In point of fact, bombing was never indiscriminate; even with the relatively primitive equipment of the nineteen twenties and early thirties it was surprisingly accurate.⁴⁶

During the first months of the RAF's tenure in Iraq, air attacks were admittedly employed massively to completely demoralize any Iraqi tribesmen who might have had rebellious urges. Salmond's purpose, however, was not the wanton death or destruction that some of the RAF's critics alleged, but rather to demonstrate to actual and potential troublemakers the awesome destructive power of aircraft and thereby establish the RAF's reputation as an airborne police force. Once this was accomplished, it was hoped that a simple overflight would be sufficient to defuse potentially violent situations and that regular air patrols would suffice to monitor the situation on the ground. In this respect, the RAF came to rely on an operational doctrine that sought to avoid *any* killing or injury but instead focused on demonstrative bombing attacks that destroyed native property and, not infrequently, livestock as well. Known as the "inverted blockade," this technique was essentially the air equivalent of the long-established tactic of naval proscription.⁴⁷ A tribe accused of some transgression would be summoned to a meeting with the local political officer, who would adjudicate the matter. If the tribe refused to submit to this form of trial or refused to pay a fine levied upon it, a warning would first be issued that continued recalcitrance risked the ultimate penalty of being bombed. As Air Commodore Charles Portal⁴⁸ explained in a 1937 speech on air power and the Empire, within minutes of the ultimatum's expiration a small bombing run would be staged against the target—with a more concentrated attack directed against the chief's or tribal headman's dwelling—to demonstrate the government's seriousness. If these first sorties did not succeed, the bombings would be repeated "without remission" until the tribe finally acceded to the government's demands. It should be noted that one reason for the success of this method was the fact that the government's demands were always

⁴⁶Slessor, *The Central Blue: Recollections and Reflections*, p. 66.

⁴⁷Townshend, *Britain's Civil Wars*, pp. 98-99; and Allen, *The Legacy of Lord Trenchard*, p. 39.

⁴⁸Portal later became Chief of Bomber Command in 1940 and subsequently the Chief of Air Staff between 1940 and 1946.

reasonable and within the power or ability of the offending tribe to meet.⁴⁹ In conclusion, Portal noted how one of the most advantageous aspects of this method was that the punished tribes felt no "ill-will" toward the government and afterwards relations returned to normal.⁵⁰

Indeed, so successful was this method that by 1924 Salmond could claim that the RAF attacks were able to achieve their objectives "by their effect on morale, and by the material damage they do . . . and through the infliction [sic] of casualties." Houses punitively destroyed by bombing, he explained, would cause "considerable inconvenience in wintertime"; repeated sorties against agricultural targets would "seriously interfere with ploughing or harvesting—a vital matter; or burn up the stores of fuel laboriously piled up and garnered for winter; by attack on livestock, which is the main form of capital and source of wealth to the less settled tribes, it can impose in effect a considerable fine, or seriously interfere with the actual food source of the tribe." Thus, in the final analysis, Salmond concluded, "the tribesman finds it is much the best to obey the Government."⁵¹ This reliance on a non-lethal policy served the RAF well in refuting allegations of the immorality of air control and the inverted blockade. In point of fact, the inverted blockade was certainly more effective and less brutal than the Army's punitive columns, which engaged in the wholesale (as opposed to selective) destruction of villages, livestock, standing crops, and orchards, with the express intent of producing hunger and hardship for the entire population of an unruly tribe (including women and children).

Although the RAF throughout the 1920s was largely preoccupied with suppressing the tribal rebellions that were endemic to Iraq,⁵²

⁴⁹Portal, "Air Force Co-Operation in Policing the Empire," pp. 351-354. See also the nearly identical description of the use of the air blockade in Glubb, *War in the Desert: An R.A.F. Frontier Campaign*, pp. 76-79.

⁵⁰Portal, "Air Force Co-Operation in Policing the Empire," p. 354. The same points are made by Slessor in his memoir, where he writes, "There is no truth whatever in the charges of brutality or of special suffering imposed on women and children, and there is no evidence that air action created special resentment or rancour—indeed the reverse was the truth. We went out of our way to minimize the loss of life and human suffering that is inevitable in any form of warfare." (*The Central Blue: Recollections and Reflections*, p. 67); and by Air Marshal Sir Robert Saundby (the Deputy Commander-in-Chief of Bomber Command during World War II who served in Iraq with the RAF during the 1920s) in his book, *Air Bombardment: The Story of Its Development*, who notes how "The opponents of air control predicted that the use of the bomb would leave a legacy of hatred and ill-will. In fact nothing of the sort happened." (Quoted in Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, p. 26.)

⁵¹Quoted in Townshend, *Britain's Civil Wars*, p. 99.

⁵²One particularly persistent source of trouble was the intermittent 12-year-long revolt staged by a local sheikh, Mahmoud, which was not completely defeated until his surrender in 1931. (Bowyer, *History of the RAF*, p. 56.)

between 1922 and 1924 it was called upon to repel an external threat to Iraq's territorial integrity. British rule in the oil-rich Mosul region in the northwestern corner of the country was simultaneously challenged by the restive indigenous Kurdish population and by Turkish efforts to incorporate the area into the new Kemalist Republic. When skirmishing between Turkish and local ground forces escalated in September 1922 and the local garrison was threatened, the RAF's newly acquired Vickers Vernon troop carriers⁵³ were deployed to evacuate the native levies before their post was overrun. During the succeeding two years, the Vernons were frequently employed to perform the opposite service: transporting reinforcements from other parts of the country to the Mosul.⁵⁴ The command's bomber squadrons also saw action in the border conflict. In 1924, the RAF's D.H. 9s almost singlehandedly routed a large Turkish cavalry formation that had crossed into Iraq. The quick and decisive RAF intervention⁵⁵ again demonstrated the viability of the air arm in defending remote corners of the Empire.⁵⁶ Indeed, as Sir Arnold Wilson commented at the time, "It is undeniable that the decision to control Iraq by means of the Royal Air Force made it possible to retain the Mandate: under any other system the cost of the garrison, however reduced in numbers, would have been prohibitive, and its efforts ineffectual owing to the great length of communications involved."⁵⁷

As well-suited as air control was to Iraq, its application in other parts of the Empire was somewhat more problematical, partly because of geography and population; in densely populated urban-concentrated areas like Palestine, the RAF could by no means function as an effective substitute for traditional ground forces.⁵⁸ The RAF also suffered from continued resistance from the Army to what its commanders regarded as the Air Force's encroachment onto their traditional

⁵³Developed from the Vimy, the Vernon could accommodate ten passengers or four stretcher cases loaded through the nose. "Performance in desert conditions," Fitzsimons notes, "with the original Eagle engines was somewhat marginal, but with Napier Lion engines the Vernon II showed considerable improvement. Among the Vernon II's duties was the carriage of the Baghdad-Cairo air mail, a regular fortnightly service which helped establish a desert air route between the Egyptian and Iraqi capitals." (Fitzsimons, *RAF: A History of the Royal Air Force Through Its Aircraft*, p. 45.)

⁵⁴In one such operation, 480 men were airlifted to Kirkuk by the Vernons. (Ibid., p. 49.)

⁵⁵Bowyer, *History of the RAF*, p. 56; and Townshend, *Britain's Civil Wars*, p. 49.

⁵⁶Smith, *British Air Strategy Between the Wars*, pp. 28-29; and, Townshend, *Britain's Civil Wars*, p. 99.

⁵⁷Wilson, *Mesopotamia 1917-1920*, p. 239.

⁵⁸Smith, *British Air Strategy Between The Wars*, p. 30.

domains in places like India.⁵⁹ In regions whose geographical features were similar to those of Iraq, such as Transjordan and Aden, the Air Force had a clear role.⁶⁰ But in built-up areas like Palestine, the busy countryside of Ireland, and the variegated and enormous territory of the Indian sub-continent, its role was considerably more limited.

IRELAND

The RAF's brief employment in Northern Ireland, during the guerilla warfare that erupted in 1921 after Ireland's partition into the independent, Catholic, Irish Free State in the south and the British-ruled, majority Protestant six counties in the north, is a case in point. During May 1921, a joint air-ground "search-and-destroy" operation was mounted to engage nationalist rebel units active in the countryside north of the Republican border. This initial application of air reconnaissance in support of ground attack was severely undermined by a combination of inexperience, poor communications, visibility problems, and the political and moral issues attendant to the use air strikes on civilian targets.⁶¹

Primitive and inadequate technology, however, largely accounted for the failure. Operating without radio communication, information was exchanged by signboards from the ground and message-dropping from the sky. Hence, control and coordination were greatly impaired—and the problems were exacerbated further by the natural confusion of forces totally inexperienced in this type of joint operation. In addition, RAF spotters flying over the countryside had trouble discerning the presence of any rebel or friendly formations below that were not moving. Finally, political constraints prohibited bombing and virtually negated the Air Force's utility in this exercise. In defense of the RAF, however, it should be noted that the operation occurred at a formative point in that service's history and, moreover, at a time when the RAF was struggling to establish its identity and position as an independent service.⁶² Accordingly, its experience in Ireland was something of an aberration, and, citing the more complimentary Iraqi example, Trenchard maneuvered to expand the RAF's role into other parts of the Empire.

⁵⁹Bowyer, *History of the RAF*, p. 51.

⁶⁰Slessor, *The Central Blue: Recollections and Reflections*, p. 67.

⁶¹Townshend, *Britain's Civil Wars*, p. 64.

⁶²*Ibid.*

INDIA AND THE NORTH-WEST FRONTIER

In attempting to carve out a role for the RAF in India, Trenchard came up against two related and intractable obstacles: Army opposition to the Air Force in general and Army control of the region's military expenditures. Trenchard was also at a disadvantage in that he was unable to enlist the crucial influence and support of important patrons such as Churchill (whose writ as Colonial Secretary did not embrace the India Office) and Lawrence (whose unorthodox exploits in the Arabian desert counted for little in the harsh, mountainous terrain of the North-West Frontier). As early as 1921, Trenchard had recognized these difficulties and therefore sought to use the heavy losses sustained by British and Imperial ground forces during the recently concluded Third Afghan War as a means to pry open the door to the North-West Frontier for the RAF.⁶³ Writing to Lord Rawlinson, the Commander-in-Chief for India, he boasted that the RAF would bring any future conflict with Afghanistan "to a conclusion by aeroplanes alone without your moving a soldier, and at half the cost and without casualties. But I am afraid," Trenchard concluded his letter, that "you and the Army will never admit this."⁶⁴ Not only was the offer rejected (with Rawlinson calumniating the RAF by for "baby bombing"), but the same dismissive arguments about the Air Force's unsuitability and the immorality of its tactics were expressed by other senior Army officers.⁶⁵

Initially, at least, the RAF was able to gain a toehold. In 1922, prior to taking up his appointment in Iraq, Salmond visited India and obtained permission for a trial test of air control. The RAF was subsequently deployed to suppress an uprising staged by the Mahsuds three years later, but the Air Force's success served only to generate additional conspiracies within the Army to limit its operational role on the Indian subcontinent.⁶⁶ This opposition was most clearly manifested in the small sum of money allocated to the RAF in India's annual defense budget.⁶⁷ Apart from relegating the RAF to an incontestably subordinate role in all defense issues at all levels,⁶⁸ the budgetary constraints greatly harmed aircraft "serviceability," thus permitting the Army to

⁶³In six months alone, 1,800 soldiers were killed; 3,675 were wounded; and 40,000 were incapacitated by illness. (Slessor, *The Central Blue: Recollections and Reflections*, p. 54.)

⁶⁴Quoted in Townshend, *Britain's Civil Wars*, p. 152.

⁶⁵*Ibid.*, p. 153.

⁶⁶*Ibid.*, p. 152.

⁶⁷Barthorp, *The North-West Frontier: British India and Afghanistan*, p. 168; and Bowyer, *History of the RAF*, p. 52.

⁶⁸Bowyer, *History of the RAF*, p. 52.

claim that climatic and geographical conditions along the North-West Frontier rendered air control impracticable.⁶⁹ For example, six RAF squadrons (comprising mostly D.H. 9 light bombers and Bristol F2b fighters) were responsible for defense of an area of more than 27,000 square miles.⁷⁰

Near the end of the decade, however, the financial constraints limiting RAF operations in India were slowly relaxed, and for the first time the long-deprived aerodromes were able to obtain adequate supplies of spare parts and other essential items. Moreover, by 1928, older aircraft such as the D.H. 9A and Bristol F2bs were being gradually replaced by Westland Wapaiti IIAs and Vickers Valentia troop-carriers (which also saw service as bombers).⁷¹ Nevertheless, the D.H. 9As had one last contribution to make to the RAF's claims of viability and capability.

In 1928, the British found themselves in the middle of an internal Afghani power struggle. Widespread fighting had broken out in Kabul, threatening the safety of the several hundred British and other foreign nationals resident in the Afghani capital. As the situation became more desperate and the prospects of escape by land grew increasingly dim, the British Ambassador, Sir Francis Humphreys, requested that an emergency evacuation airlift be organized from India. The only aircraft available in India that were capable of performing this function were a handful of D.H. 9As. Accordingly, on orders from Salmond, the aircraft were stripped of all their military equipment and transformed into transports. Within a week, they evacuated all the women and children from Kabul on Humphreys' list. The arrival of the proper Vickers Victoria transports of No. 70 Squadron greatly facilitated the completion of the airlift, the first major one in the RAF's history, and by the end of February 1929, a total of 84 flights had transferred the last of 586 persons. This feat, as one historian has noted, "could hardly have been undertaken by the Army without precipitating a fourth Afghan war."⁷²

Possibly as a result of this success, the Indian government in 1929 allowed the RAF to tackle a new tribal uprising in the North-West Frontier on its own. The fast and satisfactory resolution of this situation made a favorable impression on the previously skeptical, if not

⁶⁹Barthorp, *The North-West Frontier: British India and Afghanistan*, p. 168.

⁷⁰Bowyer, *History of the RAF*, p. 52.

⁷¹*Ibid.*, p. 54. This is not to say that the newer aircraft were noticeably better than their predecessors; the 1918-vintage Bristol was arguably the best fighter aircraft in the world. The introduction of Wapaitis may have replaced worn-out aircraft with new ones, but it did not bring into service an aircraft with any notable improvements in performance over the Bristol.

⁷²Barthorp, *The North-West Frontier: British India and Afghanistan*, pp. 168-169. See also Slessor, *The Central Blue: Recollections and Reflections*, p. 53.

downright hostile, Army command in India.⁷³ Indeed, two years later, the Government of India's Tribal Control and Defence Committee violated one of the most hallowed shibboleths of any defense body in India by recommending that greater reliance be placed on air control, which the Committee's report described as "an offensive weapon of the greatest importance . . . even against the most inaccessible tribe."⁷⁴ This decision accorded perfectly with the views of district and local political officers who, like their counterparts in Iraq, welcomed and praised the RAF for making their own tasks easier. As the political officer responsible for Waziristan, Sir Steuart Pears commented,

So far from the use of the aeroplane having tended to replace the intimate knowledge of the local Political Officer regarding his tribes, it has done an enormous amount towards increasing that knowledge and towards removing the risk of inflicting indiscriminate punishment on the innocent and guilty alike.⁷⁵

Nevertheless, old traditions do die hard, and the RAF continued to encounter resistance from the Army. When, in 1935, the Air Force was reluctantly accorded a role in the suppression of the Mohmand tribal uprising, the Army reneged on its promise to give the RAF a free hand and dispatched a punitive column to the scene of the troubles. The column presented the rebellious tribesmen with a more accessible target for attack than an airplane, and rather than "being steadily demoralized by the pressure of air blockade," they were able to rally their forces and repel the ground force. The Army's objections, however, remained rooted in moral objections to bombing. As Field Marshal Chetwode, the Commander-in-Chief for India, noted in 1935:

I loathe bombing, and never agree to it without a guilty conscience. That in order that 2000 or 3000 young ruffians should be discouraged from their activities, dozens of villages inhabited by many thousand women, children and old men, to say nothing of those who have refused to join the [rebels], should be bombed . . . is to me a revolting method of making war, especially by a Great Power against tribesmen.⁷⁶

Quite the opposite position was taken by the British political officers who served on the North-West Frontier and dealt with the inhabitants on a daily, firsthand basis and saw in air control an efficient and

⁷³Bowyer, *History of the RAF*, p. 54.

⁷⁴Quoted in Townshend, *Britain's Civil Wars*, pp. 152-153.

⁷⁵Quoted in Slessor, *The Central Blue: Recollections and Reflections*, p. 57. See also the similar testament to the RAF offered by Sir Norman Bolton, the Chief Commissioner of the North-West Frontier Province, on the same page.

⁷⁶Quoted in *Ibid.*, p. 154.

effective me- tially rebellious local tribes.⁷⁷ In any
 event, the Army and the RAF in India was not
 stilled ur old War II, by which time the issue had
 become en-

TRANSJORDAN AND ADEN

In contrast to its situation in India, the RAF exercised primary responsibility for both Transjordan and Aden and was therefore able to function there as it had in Iraq. The similarities in terrain and tribal policing duties in these places facilitated the easy adaptation of the air control policy developed in Iraq and produced an identical record of success.⁷⁹ When, for example, a 3,000-man force of Wahabi tribesmen crossed into Transjordan from Arabia in 1924 with the aim of incorporating the British-backed Hashemite kingdom into an Islamic fundamentalist nation of its own, the invasion was quickly repulsed by a combination of RAF aircraft (D.H. 9 light bombers) and armored-car units. Less-serious internal tribal uprisings were put down with equally expeditious and decisive applications of air control. Indeed, by 1924, the RAF had completely pacified Transjordan, and there was no further trouble there whatsoever.⁸⁰

The RAF was equally successful in Aden and, moreover, saved the British taxpayer an estimated £35,000, compared with the cost of ground operations.⁸¹ In 1928, the Aden Protectorate (encompassing the strategic Red Sea port as well as the inland territory bordering the Yemen) was placed under RAF command.⁸² Some fifty landing strips were established throughout the Protectorate,⁸³ and during the next six years the RAF's complement of D.H. 9s successfully suppressed a number of tribal uprisings and generally defended the territory from external invasion.⁸⁴ Given the climate, topography, and unique conditions in Aden, this was no easy feat. As Field Marshal Lord Carver,

⁷⁷See Slessor, *The Central Blue: Recollections and Reflections*, pp. 53-54.

⁷⁸Townshend, *Britain's Civil Wars*, p. 153.

⁷⁹Slessor, *The Central Blue: Recollections and Reflections*, p. 52; Portal, "Air Force Co-Operation in Policing the Empire," p. 349; and Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, p. 24.

⁸⁰Townshend, *Britain's Civil Wars*, p. 93.

⁸¹Seward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, p. 24.

⁸²Bowyer, *History of the RAF*, p. 56, and Julian Paget, *Last Post: Aden 1964-1967*, London: Faber & Faber, 1969, p. 12.

⁸³Slessor, *The Central Blue: Recollections and Reflections*, p. 58.

⁸⁴Bowyer, *History of the RAF*, p. 56.

former Chief of the British General Staff, explained,

The hinterland was rugged in the extreme and populated by wild and primitive Arab tribes, whose main activity was fighting one another and extracting money from or plundering caravans which passed through their area on their way to the Yemen. . . . Following a policy similar to that applied to the north-west Frontier of India, treaties were made with the tribal leaders, sweetened by periodic gifts of arms, and they were left to their own devices. Only if they transgressed the rules by fighting each other too much, plundering travelers or attacking His Britannic Majesty's representatives was punitive action taken against them.⁸⁵

Meting out this punishment was the responsibility of the RAF, and, as in Iraq and the North-West Frontier, air control was the method employed. Despite the fact that the same procedures were followed (e.g., an ultimatum was issued, and only if the tribe had not met the government's demand(s) by the appointed deadline were warning leaflets dropped and the bombing commenced),⁸⁶ the debate over the morality of such practices surfaced in Aden as well.⁸⁷

Given the succession of conflicts in which Britain was involved in Aden during subsequent decades, there is some merit in the morality argument there. Further, air control was often relied on at the expense of development of the interior: Because few ground forces were used, there was little need to build roads into the hinterland, and in consequence, few of the government services that might have tempered the hostility of rebellious tribes were offered to them. Thus, in contrast to the "hearts and minds" campaign of the Malayan Emergency nearly 20 years later, air control in this period was often a "stick" applied without any accompanying "carrots." When the tribesmen transgressed, they were bombed. Thus a cycle of tit-for-tat transgressions and retaliations went on year after year, without any government attempts to win the tribesmen's allegiance except by threat of retaliation. As regrettable as this spiral was, it was probably inevitable, given the Protectorate's limited administrative budgets and the attendant lack of available funds for public works projects. However, as Lieutenant Colonel Sir Julian Paget, a former British Army officer and an expert on counterinsurgency warfare (who served in Aden during the 1960s), observed, "On balance, and bearing in mind the conditions

⁸⁵Michael Carver, *War Since 1945*, London: Weidenfeld & Nicolson, 1980, p. 63. Failure to pay taxes was subject to punitive action as well. See Paget, *Last Post: Aden 1964-1967*, p. 42.

⁸⁶For a detailed description of one such episode that occurred in 1934, see Portal, "Air Force Co-Operation in Policing the Empire," pp. 350-354.

⁸⁷See Paget, *Last Post: Aden 1964-1967*, p. 43.

between the wars when this system was first adopted, it was an effective and justifiable method of disciplining unsophisticated troublemakers who knew they deserved punishment."⁸⁸

In any event, the main threat to the Protectorate's security came not from its indigenous peoples, but from the Yemen. The ruler of Yemen, the Imam Yahaya, had sought since 1919 to extend his domain southward to embrace the entire Protectorate. From 1920 to 1934, the tribal forces under his command regularly raided the northern border states, intermittently seizing and occupying territory until they were repulsed by the RAF's D.H. 9s. The long-standing border war was finally ended in 1934 when a major retaliatory air strike against the Imam's principal stronghold at Taiz compelled him to sue for peace.⁸⁹

PALESTINE

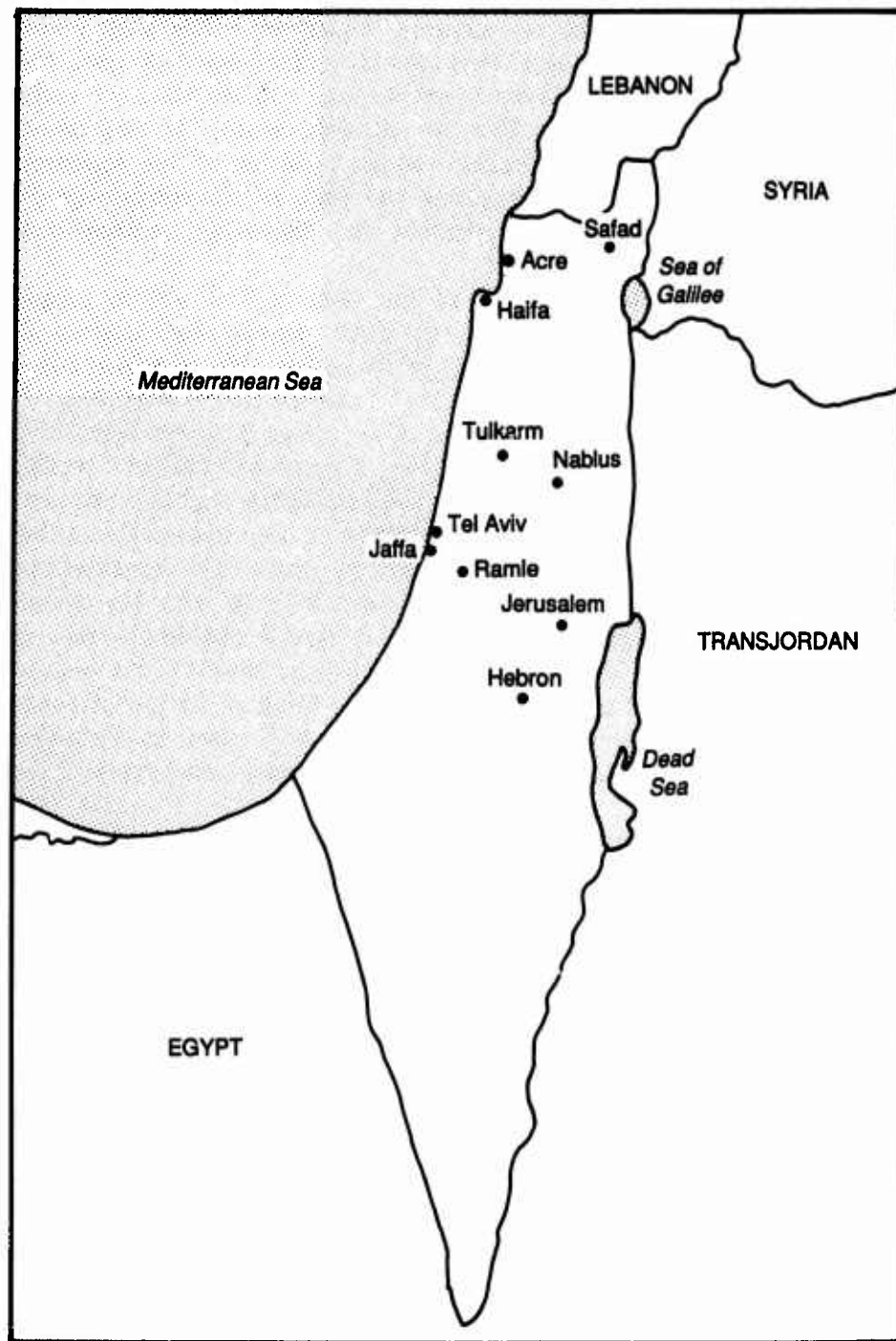
Palestine presented an altogether different and more difficult problem for the RAF. Because of the country's comparatively small geographical dimensions (especially when compared with Iraq, India, or the Aden Protectorate) and mostly urban-centered populace, internal security there was less a matter of dealing with mischievous tribesmen than of reconciling a majority population to a policy promoting the interests and political aspirations of a minority. From the outset, in fact, the RAF recognized the implications of these inherent differences and the rather unusual situation confronting it. Thus, the air control methods used with such success in Iraq, the North-West Frontier, and even neighboring Transjordan were never applied or resorted to in Palestine.⁹⁰

Three years before Britain was formally awarded the Mandate for Palestine by the League of Nations, the British government issued the Balfour Declaration, which promised to facilitate the establishment in Palestine of a Jewish national home. This pledge was affirmed at the Allied Powers Conference following World War I at San Remo, Italy, in 1920, and shortly afterward, under British aegis, the first Jewish immigrants began to arrive in Palestine. The majority Arab population there reacted angrily to this, and in May 1921, their discontent erupted

⁸⁸Ibid.

⁸⁹Ibid., pp. 26-27.

⁹⁰Slessor, *The Central Blue: Recollections and Reflections*, p. 52. Slessor goes out of his way to make the point that although the "idea arose that Palestine was an example of a failure of the air method, in point of fact, the system of air control was never tried there, because the Air Staff were always aware that the conditions were entirely unsuitable for its use." (Saward, *Bomber Harris: The Story of Sir Arthur Harris, Marshal of the Royal Air Force*, p. 63; and Townshend, *Britain's Civil Wars*, pp. 99-100.)



Palestine

into violence. Anti-Jewish rioting broke out in Jaffa on May 1 and subsequently spread to the surrounding countryside. The local police force and small army garrison were quickly overwhelmed by both the geographical extent of the violence and its fury. On May 5, Arab mobs descended simultaneously on five Jewish settlements. At this point, the meager RAF force in Palestine—which consisted of one squadron of D.H. 9s—took to the air, bombing the Arab rioters converging on Petah Tiqva, Kfar Saba, and Rehovot and dispersing another mob massing to attack Hadera.⁹¹

In what was a bitter foretaste of the violence that was to plague Palestine throughout coming years, the RAF had acquitted itself well. Consequently, at Churchill's behest in December 1921, the Air Force assumed command responsibility for Palestine from the Army.⁹² Because of the limitations on the use of air power in urban areas, this decision was perhaps ill-conceived, given that intercommunal hostility in Palestine was wont to explode into violence at the slightest provocation. Certainly, conditions there were different from the isolated tribal uprisings with which the RAF had to deal elsewhere. Nevertheless, the decision was welcomed by Trenchard, since it fit in with his overall scheme to expand and consolidate the Air Force's role in the face of general postwar financial retrenchment. In fact, however, the delegation of responsibility to the RAF was less a result of its performance during the riots than of the antipathy that had arisen in Palestine between the civil and Army authorities and between the Jews and the Army as well.⁹³

In August 1929, a new round of anti-Jewish riots erupted. Unlike the previous disturbances, the locus of this trouble was the country's principal urban centers—Jerusalem, Hebron, and Safed. Accordingly, the scope of Air Force action was greatly circumscribed. This proved fatal, because the RAF's assumption of command had led to a concomitant decline in the strength of the military garrison in Palestine. Indeed, there were virtually no other armed forces in the country except the police.⁹⁴ The best the RAF could do was to deploy its one squadron of armored cars to the most serious scene of disorder in Jerusalem. But lacking proper infantry support, the armored cars were no more effective in these densely populated areas than the bombers would have been. It should be noted, however, that during one particularly bad day of rioting and violence, the RAF saved the day by quickly

⁹¹Bernard Wasserstein, *The British in Palestine: The Mandatory Government and the Arab-Jewish Conflict 1917-1929*, London: Royal Historical Society, 1979, pp. 101-102.

⁹²*Ibid.*, p. 107.

⁹³*Ibid.*

⁹⁴*Ibid.*, p. 232.

airlifting two infantry platoons from Egypt to Jerusalem to deal with the rampaging mobs. Nevertheless, the long week of violence and bloodshed had clearly tarnished the RAF's position in Palestine. The government therefore decided that henceforth two infantry battalions should be stationed in Palestine in addition to the RAF armored-car squadron and that the police force should be significantly strengthened so that it could assume actual responsibility for internal security.⁹⁵

The RAF, clearly, was not completely at fault. Government parsimony had denied the Air Force the additional manpower it had long requested for assignment to Palestine. Whether a larger RAF establishment in Palestine would or could have made a difference is debatable; but in any event, there was certainly enough blame to be shared by the entire British administrative apparatus in Palestine. The police force's intelligence department, for example, had failed to furnish the authorities with any indication of the trouble that could be expected,⁹⁶ and that failure gravely undermined the already limited capabilities of the understrength RAF ground forces. Moreover, although the High Commissioner, Sir John Chancellor, had taken, in the RAF's opinion, an alarmist view of the disturbances by exaggerating their magnitude, he paradoxically had countermanded RAF plans to bomb the Arab villages that were the main centers of unrest. The Air Staff's after-action review, undertaken at Trenchard's request, noted how the High Commissioner had "trotted out all the time honoured shibboleths such as 'women and children' and 'legacy of hate' etc." to constrain any RAF intervention beyond the use of the armored-car squadrons. The commander of the British infantry units dispatched to Palestine during the disturbances, Brigadier Dobbie, had similarly opposed any bombing.⁹⁷

In April 1936, a new, and far more serious, uprising occurred in Palestine. The declaration of a general strike by the Arabs in protest of continued Jewish immigration had rapidly escalated from a localized urban riot into a countrywide guerrilla war. On paper, at least, the military establishment in Palestine was in far better shape than it had been before. The RAF establishment had been expanded to include two squadrons of aircraft and four sections of armored cars, in addition to the two infantry battalions permanently assigned to Palestine after the 1929 disturbances.⁹⁸ In practice, however, the familiar civil and

⁹⁵Townshend, *Britain's Civil Wars*, pp. 99-101.

⁹⁶E. P. Horne, *A Job Well Done: A History of the Palestine Police Force 1920-1948*, Leigh-on-Sea, England: Palestine Police Old Comrades' Association, 1982, pp. 161-163.

⁹⁷Quoted in Townshend, *Britain's Civil Wars*, pp. 103-104.

⁹⁸H. J. Simson, *British Rule, and Rebellion*, Edinburgh and London: Wm. Blackwood & Sons, 1937, pp. 180-181.

Army prejudices against air power resurfaced here, thus limiting the Air Force's role in suppressing the rebellion. Indeed, throughout the first month and a half of the Arab revolt, the government placed restrictions on any form of offensive action by the RAF. Not until May 24, when the High Commissioner, Sir Arthur Wauchope, conceded that the situation was at "a state of incipient revolution," were these restrictions removed. But even then, the civil administration persisted, in the words of the RAF officer in command of Palestine, in an "inherent reluctance" to permit punitive bombing operations.⁹⁹

By the end of the summer, the rebellion had in fact assumed the proportions of actual, rather than incipient, revolution. Moreover, it was abetted by Arab "volunteers" from surrounding countries who began to swell the rebels' ranks. A force of some 200 Iraqis, Syrians, and Transjordanians, led by a former officer in the Ottoman Army, Fawzi al-Qawuqji, posed the most serious threat. Better trained and equipped than their Palestinian brethren, the al-Qawuqji band roamed northern Palestine, attacking Jewish settlements, isolated police posts, and military convoys. During an ambush of an Army column by the group in September 1936, the RAF proved instrumental in a six-hour battle that routed the insurgents.¹⁰⁰ According to one contemporary account by a senior Army officer:

In the shortest possible space of time air reinforcements were out, and a complicated series of actions went on till dusk over an area of several miles, troops and aircraft gaining, then losing, and then regaining contact with the enemy. On the western part of this area of confused fighting the Arabs carried out a skillful rear-guard action, giving ground only when forced to do so, but the Air hit them hard and they suffered heavy casualties. Some miles farther west other Arab forces were found and fought by troops of another battalion moving down on them from the north, and again the Air had a chance to strike. . . . Whenever that could be done, the results were decisive. . . . Fauzi [sic], with his foreign invaders and all the Palestinian bands co-operating with him, did next to nothing but suffer casualties. Whenever he tried to come where he was not welcome the initiative was taken out of his hands, and he and his men were hunted and harried till darkness saved them.¹⁰¹

On another occasion some weeks later, an RAF patrol flying south of Bethlehem spotted a rebel formation and attacked. The next day, troops on a mopping-up operation surrounded the band and captured a

⁹⁹Quoted in *Ibid.*, pp. 104-105.

¹⁰⁰Y. Porath, *The Palestinian Arab National Movement: From Riots to Rebellion*, London: Frank Cass, 1977, Vol. II, pp. 188-191.

¹⁰¹Simson, *British Rule, and Rebellion*, pp. 267-268.

key leader of the rebellion.¹⁰² "The effect of air bombing as a means of preventing the enemy escaping from ground troops by forcing him to take cover," another contemporary observer noted in a different context, "is evidently a lesson of importance."¹⁰³ This was precisely the view of the Army General Staff at headquarters in Jerusalem. In an exhaustive analysis of the Arab Rebellion's first year, these Army officers concluded:

The value of the Air Force, when arrangements can be made for them to be at instant call, has been most marked, and in any similar trouble adequate arrangements should be made for a liberal supply of wireless sets for the same purpose. . . . Rebels hold the Air Force in such respect that on occasions it had the effect of driving them to cover or dispersing them before the troops could get in touch with them.

The staff also cited the invaluable service performed by the RAF in dropping food and supplies to isolated ground units. "Apart from occasions on which it may be the only method of getting supplies to a detachment," the report continued, "it may often mean considerable economy of force by doing away with the escorts that would otherwise be necessary."¹⁰⁴

The Arab Rebellion, in fact, was to drag on for another three years, during which there would be countless additional instances of ground-air cooperation. This was in large measure the result of the emphasis placed by the Army commander in Palestine, Major General Sir Archibald Wavell, on new warfare techniques involving enhanced mobility. The "critical link" in Wavell's strategy was air support. By this time, the communications problems and command-and-coordination difficulties that beset joint ground-air operations in the past had been greatly mitigated.¹⁰⁵ Sophisticated communication and coordination had been made possible by improvements in wireless transmission, and practical experience and time had brought considerable familiarity in conducting joint operations.¹⁰⁶ The Army and Air Force devised the method of imposing an "air cordon," whereby RAF pilots would locate, or "fix," the position of a rebel band and transmit the information to a central Army base from which mechanized infantry units would quickly be

¹⁰²Ibid., p. 279.

¹⁰³Major-General Sir Charles W. Gwynn, *Imperial Policing*, London: Macmillan, 1939, pp. 384-385.

¹⁰⁴Public Record Office, Kew, London, England, British War Office File WO 191/75, "Preliminary Notes on the Lessons of the Palestine Rebellion, 1936," General Staff, HQ British Forces in Palestine and Transjordan, Jerusalem, February 5, 1937.

¹⁰⁵Townshend, *Britain's Civil Wars*, p. 108.

¹⁰⁶Gwynn, *Imperial Policing*, p. 384.

dispatched to the location pinpointed from the air.¹⁰⁷ The opposite method was used when ground forces found themselves pinned down or threatened by rebel forces. As described by Portal in a 1937 presentation:

When this occurred, a W/T [wireless transmission] message was sent by the troops and so good was the organization that at almost any point in Palestine a formation of bombers would arrive within fifteen minutes of the origination of the message. Then, provided that the enemy were clear of buildings that might belong to innocent persons, the aircraft were free to bomb and machine-gun the position and either dislodge the Arabs or else pin them and keep down their fire while the troops advanced.¹⁰⁸

The success of this method of operations is perhaps best attested to by Major-General Sir Charles Gwynn, a senior Army officer, who observed that

the Air Service, even when the nature of the ground and of the enemy reduce its potentialities for offensive action or for reconnaissance, removes some of the danger which arises where ground communications with detached posts are interrupted. Both as a rapid means of conveying troops to a critical point and in co-ordinating movements of Army troops it has frequently been of great value. All these factors tend towards mobility and increase possibilities of rapid offensive operations, but infantry still remains the chief offensive agent; and it is the one which has gained most by increased mobility.¹⁰⁹

The RAF's contribution, however, was largely restricted to providing this "air cordon." Although aircraft were sometimes used to patrol isolated roads, their potential deterrent effect was outweighed by the cost of maintaining the overflights and the fact that it was simply too expensive to replace the armored-car/mechanized infantry patrols with aircraft. However, political considerations, particularly the familiar questioning of the morality of bombing, exerted the greatest limitation on the RAF's deployment.¹¹⁰ As had long been the case, senior Army officers in Palestine, like their counterparts in other colonial posts, regarded this use of air power as the "sledge hammer used to miss a fly" (these were the words of the senior air officer in Palestine, Air Commodore Arthur Harris, who was later to attain fame as "Bomber" Harris during World War II). The simplest solution to the problem of Arab restiveness, Harris averred, was the use of "one 250-pound or

¹⁰⁷Townshend, *Britain's Civil Wars*, p. 108.

¹⁰⁸Portal, "Air Force Co-Operation in Policing the Empire," p. 346.

¹⁰⁹Gwynn, *Imperial Policing*, p. 29.

¹¹⁰*Ibid.*, p. 384.

500-pound bomb in each village that speaks out of turn . . . [because] the only thing the Arab understands is the heavy hand, and sooner or later it will have to be applied."¹¹¹ Harris' advice, however, went unheeded, and the Arab Rebellion was never actually defeated militarily by the British. It was finally resolved through the dramatic political concessions to the Arabs promulgated in the 1939 White Paper.

CONCLUSION

Throughout the first two decades of the RAF's existence as an independent armed service, its role as a colonial "policing" force enabled it both to survive the intense financial retrenchment that followed World War I and to establish its identity and demonstrate its viability as a valuable component of the British military. The development and evolution of air control was a major element in Trenchard's efforts to divine a role for the RAF and build and consolidate the new force. The RAF's record of success in Somaliland, Iraq, Aden, and Transjordan led Trenchard to portray air control "as a great engine of progress in the Empire." Writing in 1925, he declared, "Air is the greatest civilizing influence these countries have ever known, owing to its process of rapid communications. Air methods are, in short, the reverse of the old punitive column. Our policy is one of prevention."¹¹² Portal expressed much the same view thirteen years later:

In Aden it was our constant aim to get the native to think of a landing ground not only as a place from which he might be bombed, but also as a point of contact with civilization where he could obtain some of its benefits without having to submit to what he regards as its disadvantages. We have been very successful in establishing the most friendly relations with a large majority of the tribes: having no misgivings about a possible military occupation of their country, most of them are always ready to extend hospitality to individual officers. . . . Once these relations have been formed, the native is not slow to make the fullest use of his opportunities, and the network of unguarded landing grounds throughout the country becomes a very real blessing to him.¹¹³

At the same time, it should be pointed out that Trenchard's achievements were not altogether far-reaching. Despite his and Salmond's efforts, the RAF never acquired responsibility for any region that was not arguably "peripheral" to the security of the Empire (or, for that

¹¹¹Quoted in Townshend, *Britain's Civil Wars*, p. 110.

¹¹²Quoted in Smith, *Britain's Air Strategy Between the Wars*, p. 30.

¹¹³Ibid. Not the least of these benefits was the access to medical aid. (Portal, "Air Force Co-Operation in Policing the Empire," p. 357.)

matter, any region where there was a remote chance of a major conflict with an equally powerful and militarily sophisticated opponent). This was particularly so in India and the Far East, where RAF command supremacy was never established. Trenchard's arguments for giving the Air Force a role in the defense of Singapore, for example, were persistently rebuffed by the other chiefs of staff. Similarly, his hopes of organizing a separate Air Command in the Middle East with a reinforcement role for Asia and Africa were undermined by shrinking budgets and diminished military allocations.¹¹⁴

On a tactical level, some of the combat experience gained by the RAF was of marginal value. Because there was no air opposition or effective anti-aircraft weapons, the RAF enjoyed unchallenged air superiority. But this was a luxury that would exist only in peripheral conflicts against poorly armed native or tribal irregulars. It would not be duplicated in any conflict involving a powerful, militarily sophisticated adversary. Also, the bombs used by the RAF in the 1920s and 1930s were of World War I vintage. Although this outmoded ordnance was suitable for bombing "mud huts in Mesopotamia," reliance on it resulted in the neglect of new design features and functions. Furthermore, in operations against a poorly armed enemy, there was often little need to use bomb sights—a gentle dive would do the trick. Therefore the development of new navigational aids for bombing was somewhat retarded.¹¹⁵

The greatest contribution made by air power in Britain's interwar colonial conflicts was the savings in both manpower and money. The total cost of RAF operations in Iraq, for example, was £8 million, in contrast to the £20 million estimated by the War Office for Army operations. Moreover, by 1930, the cost of maintaining the garrison in Iraq had dropped to some £650,000 per year.¹¹⁶ In terms of lives saved, the benefits were equally dramatic. A comparison of two campaigns on the North-West Frontier Province, one involving ground operations and one involving air operations, illustrates this point. In one six-month period during the Third Afghan War, 1,800 troops were killed, 3,675 were wounded, and 40,000 were incapacitated by illness,¹¹⁷ but only three airmen were killed in suppressing the 1923 uprising in Waziristan. Similarly, only one RAF officer died during air operations in the Yemen during 1928, and the total cost of the campaign was only £8,567. According to one historian, the RAF in fact lost only 26 men

¹¹⁴Smith, *Britain's Air Strategy Between the Wars*, pp. 30-31.

¹¹⁵Allen, *The Legacy of Lord Trenchard*, pp. 49-50.

¹¹⁶Smith, *Britain's Air Strategy Between the Wars*, pp. 29-30.

¹¹⁷Slessor, *The Central Blue: Recollections and Reflections*, p. 54.

in these peripheral conflict operations during the 1920s and 1930s.¹¹⁸ Indeed, as Slessor points out, "If there is one lesson which stands out farther than the others from the long story of operations in Waziristan, it is the expensive futility and waste of good material involved in a policy which locked up first-class troops under rather demoralizing conditions behind wire perimeters . . . in the midst of a waterless tangle of mountains."¹¹⁹

Despite these obvious economies, the British military establishment strongly resisted the use of air power in colonial conflicts. The most common argument, at a time before the massive bombing of urban areas that characterized strategic air operations during World War II, was that bombing civilian targets was immoral, even if those targets were the mainspring and perpetrators of the rebellion against British rule. Moreover, such arguments disingenuously (if not conveniently) ignored the fact that the Army's artillery was not infrequently used in exactly the same manner (and was often far less discriminate, since the gunners did not have a clear line of sight to their targets),¹²⁰ while punitive columns of infantry were deployed on the wholesale destruction of crops, livestock, orchards, houses, etc., in what often amounted to a "scorched earth policy." Although this particular debate was never resolved, it was agreed that air power, as demonstrated by the peripheral conflicts of the interwar years, had a distinct role to play in modern warfare.

¹¹⁸Smith, *Britain's Air Strategy Between the Wars*, pp. 29-30.

¹¹⁹Slessor, *The Central Blue: Recollections and Reflections*, p. 68.

¹²⁰Slessor recalls that "it was considered perfectly legitimate to *shell* a village without warning, but even in an area when troops were in actual contact with a tribal enemy, villages were not allowed to be *bombed* without special permission and the usual period of warning. It may be hard to believe, but on one occasion during a small battle in Waziristan when I, as Air Force Commander, was requested by the Army Commander to bomb a village from which heavy fire was holding up our advance, and had regretfully to refer him to the instructions of the Government of India on this point, I was told 'Oh come on, that will be all right, we'll say we shelled it'." (Ibid., p. 66.)

III. THE POSTWAR ERA OF COLONIAL CONFLICTS: 1945-1960

During the years following the end of World War II, Britain was embroiled in an almost continuous series of "peripheral" conflicts. No sooner had the war in Europe ended than a new, and rather different type of conflict began erupting in Palestine. The end of Britain's involvement in Palestine in 1948 was succeeded less than a month later by a new uprising in Malaya. During the 1950s, when the tide of battle in Malaya was finally turning in Britain's favor, new rebellions broke out in Kenya and Cyprus. Thus throughout the first decade and a half of the postwar era, Britain's military was almost constantly and often simultaneously fighting anticolonial insurrections in various corners of the globe.

At the same time, however, these postwar peripheral conflicts were rather different from those of the interwar years. The most important difference was that the RAF's adversaries were no longer isolated, poorly armed, primitive tribesmen; the new hostilities involved large and frequently well-armed guerrilla armies. A second difference was in the aims of the insurgents. Whereas the restive tribesmen engaged in sporadic acts of banditry, brigandry, or other types of mischief, the RAF's postwar adversaries were anticolonialists and nationalists—components of a broader political movement seeking independence for their countries and people. Finally, the postwar conflicts had a significant urban component, in contrast to the rural, undeveloped deserts or jungles in which most of the interwar disturbances had taken place.

These differences had an important effect on the tactics used by the RAF. During the interwar period, identification of a target was almost the same as identification of people from a certain ethnic or tribal group; in the postwar conflicts, target identification required much more information than simple ethnicity or tribal affiliation. This difference, in turn, meant that air strikes contributed much less in the postwar conflicts than they had during the interwar years. But, on the other hand, the availability of air transport in the later conflicts facilitated the intervention of special-purpose, elite counterinsurgency forces, which greatly multiplied the actual effect of ground forces.

Nevertheless, except in the case of Palestine, the RAF played a larger and more important role in these colonial, peripheral conflicts than it had in any earlier uprisings, largely because of the unprecedented development of air power resulting from its extensive use in

World War II. The RAF had acquired vast operational experience in all types of air warfare, from the strategic bombing campaign against Germany and the use of close air support by fighters and fighter-bombers in the armored and infantry pushes in Italy, Normandy, and Germany, to the crucial air transport and supply missions that fueled the long jungle campaigns in Burma and other parts of the Far East. These developments were accompanied by the emergent technology of the helicopter, which was used by the British in Malaya for deploying ground forces, keeping them supplied, and evacuating casualties.

PALESTINE

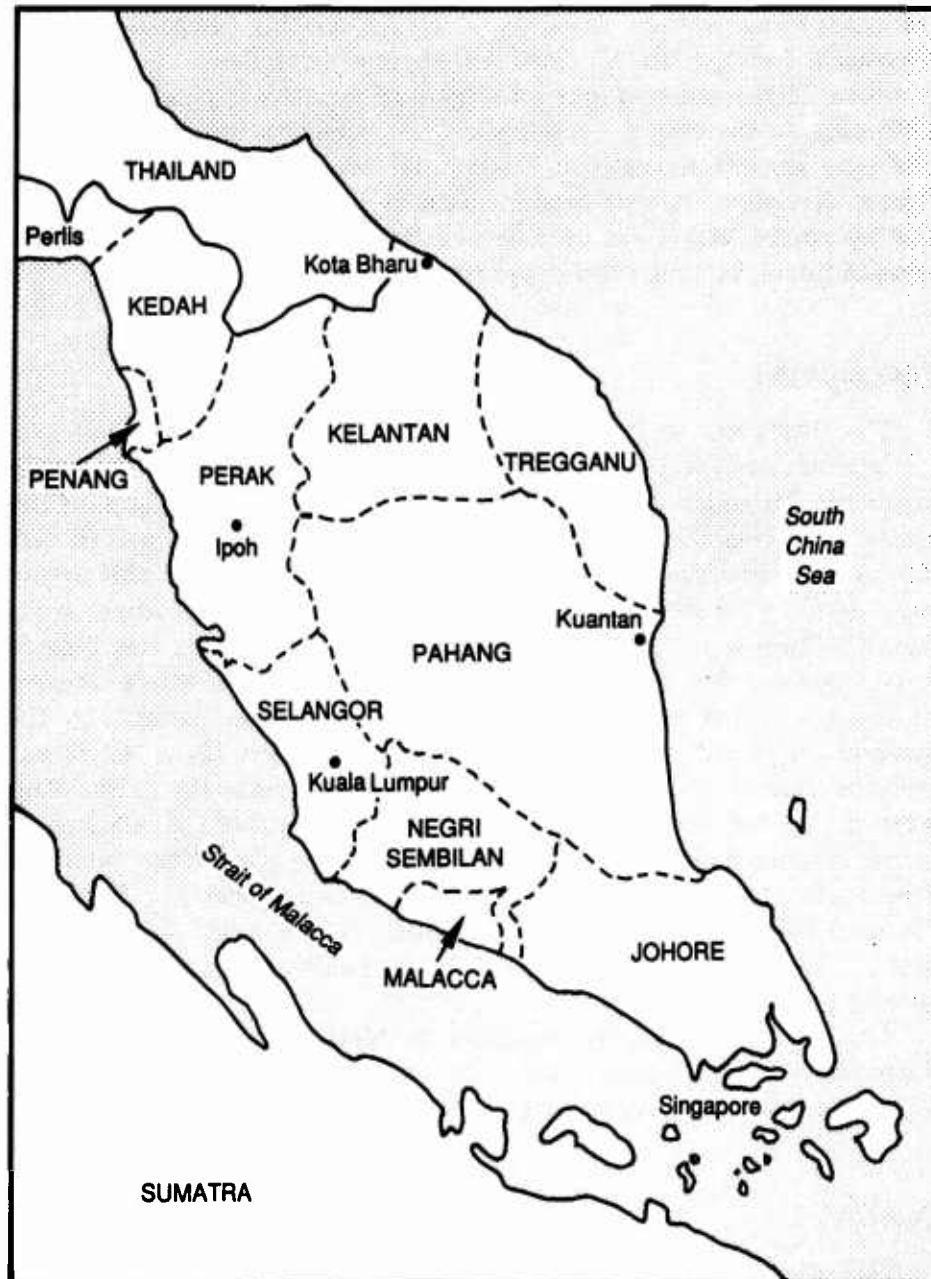
The RAF's role in Palestine during the revolt staged by Jewish terrorist organizations during and after World War II was proscribed as it had been during the Arab Rebellion a decade before by the issue of the morality of bombing civilian targets. The Jewish uprising was in fact far more restrictive, since it was fought almost entirely in the streets and alleys of Palestine's major cities. Ironically, the Army commanders became so frustrated in their attempts to counter this type of urban warfare that in 1945 they requested that the Air Force be used to bomb so-called "terrorist enclaves." Permission was granted by the government, but it was impossible to discover where these "enclaves" were because of the concentration of terrorist forces in the cities. And even if they had been found, it would have been out of the question to bomb congested urban areas full of innocent people. When bombing was again considered in 1947, the High Commissioner for Palestine, General Sir Alan Cunningham, explained, "The security problem does not . . . lend itself to use [bombing] purely punitively against the whole Jewish population."¹

The subsequent colonial conflicts in Malaya, Kenya, and Cyprus, however, were not fraught with the same constraints, and the RAF played an important role in each.

MALAYA

The communist-backed insurrection that erupted in Malaya in 1948 was the first peripheral conflict in which air power was used extensively. The "Malayan Emergency" went on for 12 long years before a complete victory was won and the State of Emergency declared by the

¹Quoted in Bruce Hoffman, *The Failure of British Military Strategy within Palestine 1939-1947*, Ramat Gan, Israel: Bar-Ilan University Press, 1983, pp. 33, 36-38.



The Malayan Peninsula

government in June 1948 was finally lifted. In a number of respects, it was a harbinger of the type of Marxist-Leninist-inspired rural guerrilla wars that would plague the West throughout the decades following World War II, not only in Asia but in Africa and Latin America as well. At its root, the Malayan conflict was essentially a struggle to win "the hearts and minds" of the people (a phrase coined by the British High Commissioner and Director of Operations there during the 1950s, General Sir Gerald Templer), contested on the one hand by the minority ethnic Chinese communist insurgents and on the other by the Malayan government and the local British administration.

Emulating the classic Maoist guerrilla strategy of a "fish swimming among the sea" of noncombatant sympathizers and supporters, the guerrillas' strategy was to gain *psychological* control over isolated villages and surrounding countryside to assure themselves of food supplies and other logistical assistance. The numerical inferiority and inherent weakness of the guerrilla forces (at the height of the conflict, their estimated strength was not more than 6,000 men-at-arms), compared with the government's military and police forces, necessitated a strategy that eschewed the traditional objectives of seizing and holding territory. Instead, the guerrillas emphasized domination of areas and their people through fear and intimidation. The task confronting the security forces, therefore, was to reestablish government authority—in Vietnam-era parlance, the term was "pacification"—in regions afflicted by guerrilla activity. It was assumed that after the guerrillas had been isolated from these sources of assistance, information, and support, they could be pursued into their hidden jungle lairs.

The nature of this type of warfare naturally limited the air involvement in the Malayan conflict. Britain's success in fighting peripheral conflicts, Dewar argues, was achieved by the emphasis given "to play[ing] the terrorist at his own game . . . not with artillery and air power but by inserting small patrols armed in much the same way as the men they were seeking."² Similarly, Richard Clutterbuck, a former Major-General in the British Army who served in Malaya and an expert on low-level conflict, argues:

Until they start operating as conventional forces, guerrillas are seldom vulnerable to air attack, and even the flexibility of air transport is often nullified by its self-advertisement contrasted with the guerrillas' invisibility. Air support, both offensive and transport, can be an actual disadvantage if wrongly used.³

²Dewar, *Brush Fire Wars*, p. 181.

³Brigadier Richard Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, New York and Washington, D.C., Praeger, 1966, p. 156.

In Malaya, Dewar continues:

It was the infantryman with his rifle on patrol that accounted for the vast majority of enemy kills. Although heavy bombers, artillery and even Royal Navy ships were used to pound the jungle with high explosive these means of mass destruction were largely ineffectual.⁴

Clutterbuck concurs with this assessment:

Except for occasional successes with pinpoint bombing, offensive air strikes were almost wholly unsuccessful in Malaya; they probably did more harm than good.⁵

Given the "hearts-and-minds" thrust of the Malayan insurgency, the familiar arguments of the immorality of bombing areas containing civilians were all too germane. It was patently obvious that large-scale bombing of suspected guerrilla strongholds where innocent (or, for that matter, even culpable) villagers might become casualties would negate government "pacification" efforts, alienate public support, and doubtlessly drive the populace into the guerrillas' arms. Indeed, even if there were no civilian casualties, the destruction of livestock, rice paddies, rubber trees, and other forms of cultivation and profit-making enterprises would have the same counterproductive effect.⁶

At the same time, however, quite apart from these derogatory assessments of the effectiveness of bombing in Malaya, technological and tactical advances in the uses of aircraft during World War II had significantly broadened the role of air power in all types of warfare. Apart from developments in precision bombing (which were in fact relevant to Malaya and are discussed below), considerable progress had been made in ground-air coordination and communication, close air support, photographic reconnaissance, and transport and supply. For the latter two missions, the introduction of the helicopter was of decisive importance.

Because of Malaya's particular geography—it is a peninsula stretching some 700 miles in length and 180 miles in width, whose mountainous interior has peaks as high as 10,000 feet, with surrounding terrain of dense primeval forest—air support was essential. There was no other means to rapidly deploy troops, supply isolated bases, and evacuate casualties. According to RAF Wing Commander A.G.T. Jones, "In country consisting largely of jungle-covered mountains with little

⁴Dewar, *Brush Fire Wars*, p. 38.

⁵Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, pp. 160-161.

⁶*Ibid.*, p. 161.

communication on the ground except by jungle track or river, air support for troop movement and supply, for reconnaissance and ground attack, were vital factors in the successful conclusion of the long drawn out campaign."⁷

Aircraft were also used in new, more esoteric roles than before. As part of the "hearts-and-minds" campaign, government services, and thus influence and control, were extended to hitherto inaccessible regions.⁸ Light aircraft traversed the jungle, dropping leaflets or "sky-shouting" (broadcasting messages to guerrillas through loudspeakers attached to aircraft).⁹ Indeed, by the end of the conflict in 1960, RAF aircrews had logged some 47 million miles of flying, prompting Wing Commander Jones to assert, "If the RAF had not been there, it is no exaggeration to say that the communist insurrection could not have been contained."¹⁰ Perhaps more accurate, however, is Clutterbuck's observation that "air power is not an end in itself in counterinsurgency. It can contribute only by supporting other agencies—police, army, and civil government services,"¹¹ which is, in fact, what the RAF in Malaya did.

Close Air Support and Bombing

At the start of the Malayan Emergency, the RAF establishment in the Far East was thinly scattered from Singapore to Hong Kong.¹² The forces available to Far East Air Command, whose headquarters was at Changi on Singapore Island, were already somewhat depleted by the deployment of three squadrons of Mosquitos and two of Thunderbolts to Indonesia in 1947 to assist in suppressing a series of insurrections that had erupted in the former Dutch colonies.¹³

In July 1948, a month after a State of Emergency was declared in Malaya, elements of Nos. 28 and 60 Squadrons of Spitfire FR 18s were moved from Changi to Kuala Lumpur, where Air Headquarters for the counterinsurgency campaign was established. On July 21, two Spitfires of No. 60 Squadron initiated air operations (codenamed "Firedog," the

⁷Wing Commander A.G.T. Jones, "If the RAF Had Not Been There," *RAF Quarterly*, Vol. 17, No. 2, 1977, pp. 116-117.

⁸Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, pp. 156.

⁹Air Vice-Marshal N. M. Maynard, "The Far East Air Force," *RAF Quarterly*, Vol. 11, No. 1, 1971, p. 7.

¹⁰Jones, "If the RAF Had Not Been There," pp. 116-117.

¹¹Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 156.

¹²Bowyer, *History of the RAF*, p. 194.

¹³Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 155.

term used to denote all air operations during the Malayan campaign) against guerrilla targets. The following month, RAF headquarters transferred a squadron of Beaufighters to Kuala Lumpur, and on August 19, they were deployed against suspected guerrilla bases in the jungle. From these modest beginnings, the Kuala Lumpur base gradually expanded to include Dakota transports, Spitfire PR19s, and Mosquito PR34s equipped for photoreconnaissance. A small Air Observation Unit (AOU), composed of somewhat fragile Auster AOP6s, was also formed by RAF headquarters in 1948. The AOU was called upon for missions ranging from reconnaissance and target identification to casualty evacuation, supply dropping, and communication, as well as psychological operations (e.g., leaflet-dropping). By the time this unit was absorbed into the newly created Army Air Corps a decade later, it had flown a total of 143,000 individual sorties—more than any other unit involved in "Firedog."¹⁴ Finally, the establishment also included a wing of locally raised Malayan Auxiliary Air Force, as well as an airfield security detachment known as the Malayan Royal Air Force Regiment.¹⁵

During the first two years of the emergency, the FAF was primarily engaged in either offensive air strikes (by the Spitfires and Beaufighters) or reconnaissance. There were simply too few aircraft available to have much of an impact on the escalating conflict. On occasion, in fact, assistance had to be procured from Fleet Air Arm carrier-borne aircraft and Sunderland flying boats adapted to land-bomber and reconnaissance roles.¹⁶ By 1950, however, dissatisfaction was mounting over the lack of progress and overall conduct of the counterinsurgency campaign. Accordingly, a number of significant steps were taken, including strengthening and expanding the air component. A squadron of Lincoln heavy bombers¹⁷ was transferred from Australia,¹⁸ followed in December 1950 by the arrival of six Vampire FB5s, the RAF's second jet fighter, to replace the World War II-vintage Spitfires.¹⁹ Although the Vampire was jet-powered, it was not especially sophisti-

¹⁴Bowyer, *History of the RAF*, p. 194.

¹⁵Group Captain G. C. Kidd, *Life in the Air Force To-Day: A Young Man's Guide to All Branches of the Royal Air Force*, London: Cassell, 1957, p. 137.

¹⁶Bowyer, *History of the RAF*, p. 196.

¹⁷The Lincoln, which was derived from the World War II Lancaster bomber, was originally intended to be a nuclear-weapons delivery aircraft.

¹⁸Julian Paget, *Counter-Insurgency Campaigning*, London: Faber & Faber, 1967, p. 56.

¹⁹Bowyer, *History of the RAF*, p. 196. The Vampire was equipped with four 20-mm cannons.

cated, having neither radar nor power-operated controls. In fact, its main use outside of Malaya was as a two-seat trainer.²⁰

Additional allocations of aircraft included De Havilland Hornets and Bristol Brigands. The Hornet, developed from the Mosquito, was both the fastest and the last of the RAF's piston-engine operational fighters. It had a top speed of 472 miles per hour and, when equipped with drop tanks, a range of 2,500 miles. Its armament included four 20-mm cannon and two 1,000-pound bombs. But the Hornet's initial production was soon overshadowed by the development of jet-powered fighters, and in 1950 it was withdrawn from home defense and sent to Malaya.²¹ This was especially fortuitous, since during the next four years the Hornets became the RAF's chief workhorse there.²² The Brigand, which replaced the Beaufighter, was originally designed as a torpedo bomber. It was equipped to carry two torpedoes and a three-man crew, but the RAF subsequently adapted it for service as a light bomber capable of carrying 2,000 pounds of bombs or rockets attached to its wings and armed with four 20-mm cannons. Within three years, the remaining Spitfires were replaced with Meteor F8s, which also carried four 20-mm cannons.²³ These additions permitted the expansion of operational bases from the headquarters at Kuala Lumpur to additional facilities at Tengah and Butterworth.²⁴

During 1950, the Lincoln bombers based at Tengah flew 744 sorties against guerrilla targets in the jungle. During the next seven years, they flew more than 3,000 missions and dropped 33 million pounds of bombs. However, it appears that the effort and ordnance were largely wasted,²⁵ as results were often at best negligible and at worst counter-productive. Inadequate intelligence, inaccurate maps, and difficulties with radar navigation and bombing systems, coupled with often difficult weather conditions, accounted for much of the poor results. Although efforts were made to correct those deficiencies that could be redressed, "as British capabilities improved, enemy targets for close air support became scarcer. Despite efficient, expeditious procedures for requesting, approving, launching, and delivering air strikes, when

²⁰Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 156. In fact, the Vampire was a day fighter, in the classification of the times. Any fighter radar would have been designed for air-to-air combat and irrelevant for ground-support missions.

²¹Ibid.

²²Bowyer, *History of the RAF*, p. 196.

²³Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 196.

²⁴Kidd, *Life in the Air Force To-Day*, p. 137.

²⁵Bowyer, *History of the RAF*, pp. 197, 201.

ground patrols called in air support, the enemy often melted away into the jungle before the support arrived."²⁶ In such circumstances, about the best the RAF could do was to bomb suspected routes of guerrilla withdrawal and prevent ambushes from being set against pursuing ground forces.²⁷ The problem, according to one British Army officer who commanded an operations research team in Malaya between 1949 and 1951, was that there "simply weren't many good targets in the deep jungle where small guerrilla groups were widely dispersed." Further, he could recall no evidence that air sorties had ever killed anyone, but he thought they had had an undeniable psychological effect.²⁸

This was not literally true, but the example of one operation conducted between July and November 1954, is cited as being typical of other, similar bombing campaigns. "Operation Termite" was designed to clear the Ipoh area of guerrilla activity. This was a joint ground/air operation, with the Lincolns pounding the jungle while the 22nd SAS Regiment and four infantry battalions sought and pursued the guerrillas. After four months of heavy bombing and ground sweeps, the net result of the operation was only 15 guerrillas killed. It was, according to one account, "an indiscriminate use of air power which was as likely to kill aborigines as communist guerrillas, and one which the SAS regarded as counter-productive."²⁹ Robert Komer, a former Under Secretary of Defense for Policy and an expert on counterinsurgency and guerrilla warfare, noted that although "monthly ordnance expenditures peaked in 1951, averaging in January-September over 600 tons of bombs and over 1,700 rockets [only] a few successful bombing raids, one killing fourteen guerrillas and another ten, were made in 1956-1957."³⁰ Indeed, given this poor return on investment, the use of aircraft bombing continued to decrease, so that by the end of the Emergency in 1960, a total of only 33,000 tons of bombs had been dropped.

²⁶A. H. Peterson, G. C. Reinhardt, and E. E. Conger, *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare: A Brief Summary of Viewpoints*, The RAND Corporation, RM-3867, March 1964, pp. 6-7.

²⁷*Ibid.*

²⁸Colonel J. R. Shirley, cited in R. W. Komer, *The Malayan Emergency in Retrospect: Organization of A Successful Counterinsurgency Effort*, The RAND Corporation, R-957-ARPA, February 1972, pp. 51-52.

²⁹Tony Geraghty, *Who Dares Wins: The Special Air Service, 1950 to the Falklands*, London: Arms & Armour Press, 1983, p. 34. See also Dewar, *Brush Fire Wars*, p. 40.

³⁰Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counter-insurgency Effort*, p. 52.

According to Clutterbuck, the first truly successful bombing raid did not occur until 1956, eight years after the conflict had begun.³¹ This time lag is explained in a 1964 RAND study, which notes that:

In the early part of the Malayan Campaign the concentrations of Chinese terrorists would have made good targets but in Malaya British intelligence was poor, their maps were unsatisfactory, and they lacked accurate radar navigation and bombing systems. Additionally, air operations were hampered by mountainous, jungle-covered terrain and frequently adverse flying weather. As British capabilities improved, enemy targets for close air support became scarcer. . . . [Accordingly,] the most effective air strikes were carefully planned, often based on an agent's intelligence, and involved pin-point bombing of targets, usually jungle camps.³²

Indeed, the successful operation to which Clutterbuck referred was the result of information furnished by an agent in a guerrilla cell.³³ In February 1956, an army patrol, acting on this information came upon an "elaborate" guerrilla base camp that was the headquarters of one of the key leaders of the communist movement. The guerrilla unit was apparently away on an operation, so the camp was temporarily deserted. The patrol made a thorough reconnaissance of the camp and then left the area undetected. From the details the patrol provided, it was obvious that a ground assault could never succeed. Apparently, the base was located in the middle of a swamp, surrounded by dry palm fronds which would snap loudly if stepped on. The perimeter was further secured by an interlocking wall of impenetrable thorn trees and hedges which had been painstakingly constructed by the guerrillas. Finally, sentries manned at least six guard posts surrounding the camp, including a tower in the center. The only viable plan, therefore, was to wait until information was received from the agent that the guerrilla leader and his men had returned to the base and then "bomb it to smithereens."³⁴

But even attacking the base from the air presented formidable problems. Because of the dense jungle foliage and the fact that the camp was little bigger than about 700 by 400 yards, it would be difficult to

³¹Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 162.

³²Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, pp. 6-7.

³³Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 162.

³⁴Noel Barber, *The War of the Running Dogs: The Malayan Emergency: 1948-1960*, New York: Weybright & Talley, 1971, p. 249.

ensure the precision necessary for a direct hit.³⁵ By this time, however, air-ground coordination had improved considerably, owing to the practice of sending RAF personnel out on patrol with Army units for short periods of time. This program proved invaluable for the airmen, who acquired detailed, first-hand knowledge of the problems faced by infantry units crawling through the country's dense jungle.³⁶ Using this experience, RAF officers devised a plan to attack the seemingly impregnable base. A small ground force would be reinserted into the jungle and would place a beacon 5,000 yards from the target area. This beacon would project a radar beam that would guide five Lincoln bombers directly to the base, onto which 90,000 pounds of bombs would be dropped. Aircraft from as far away as Singapore and Penang were readied, and helicopters to carry follow-up assault forces were assembled. For several days, the airmen waited; then word was received from the agent on February 20 that the guerrilla unit had returned to the base. At 10:00 a.m., the camp was alive with activity. When the drone of aircraft was heard overhead, no one paid much attention, because the guerrillas believed that the camp was invisible from 5,000 feet overhead. After this initial overflight, a smaller plane flew over and dropped red marker balloons for a follow-up attack by two squadrons of Canberra jet fighter-bombers. As soon as the bombing ended, the ground units landed and rushed into the camp, finding it completely destroyed.³⁷ Of the 21 guerrillas who were believed to have been in the camp, 14 were killed—including the unit's leader.³⁸

An after-action report made by one of the guerrillas who escaped, entitled "The Tragedy of the Air Raid Incident of 21st February," attested to the complete surprise and precision of the bombing. "Never in the past have we experienced this type of bombing," it stated. "Almost all the Comrades were casualties, either dead or wounded. Comrade X, although he was seriously injured, immediately rallied the survivors and led them to safety. Fifteen minutes later a second wave of aircraft arrived. They dropped more bombs and strafed the area with machine-gun fire. It can be seen how ferociously determined the enemy were."³⁹

Building on this success, the RAF in 1957 developed a more accurate technique for using radar to guide bombers to jungle targets. This

³⁵Ibid.

³⁶Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 7.

³⁷Barber, *The War of the Running Dogs*, pp. 249-251.

³⁸Ibid., p. 251; Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 162; and Dewar, *Brush Fire Wars*, p. 38.

³⁹Quoted in Barber, *The War of the Running Dogs*, pp. 250-251.

significant improvement enabled the first nighttime bombing and thus accorded the British an even greater measure of surprise.⁴⁰ In one such operation, Clutterbuck wrote, "a cool-headed patrol lay unobserved within 15 yards of an occupied camp while fixing its precise grid reference. The kill rate was even higher than in the daylight raids because the sleeping guerrillas did not move quickly enough when they heard the aircraft approaching." Key guerrilla leaders were killed in three operations of this kind. "This alone," Clutterbuck continued, "made the raids worthwhile because the best guerrilla leaders seemed always to get away in the ground ambushes."⁴¹

Moreover, so precise was this method of bombing that in one operation, nine out of ten guerrillas in a camp were killed. Typically, a flight of five Lincolns would drop a pattern of bombs in a designated area comprising a rectangle about 400 yards wide by 1,000 yards long. With this radar guidance from the ground, the margin of probable error was reduced to less than 200 yards; with a precise fix, the chance of scoring a direct hit was 100 percent. "So it proved," Clutterbuck wrote, "when conditions were right—agent, fixation, surprise, and weather. Such a combination, however, was rare."⁴²

During this period, the older, piston-engine Lincolns were gradually replaced by jet-powered Canberras, the Hornets by Vampire FB9s, and the Vampires subsequently by Venom FB1s.⁴³ But modernization does not necessarily beget improvement. What both new aircraft provided in speed, they lost in accuracy. Accordingly, there were no more big bombing successes (at the same time, however, there were fewer good targets left).⁴⁴ In any event, as one historian observes, the "British never fell into the American Vietnam trap of trying to end a guerrilla war by flattening everything in sight; their vast experience in colonial parts convinced them that the limited military gains from such a course of action would not be worth the adverse political reaction both at home and around the world."⁴⁵

⁴⁰Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, pp. 162-163; and Dewar, *Brush Fire Wars*, p. 38.

⁴¹Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 163.

⁴²Ibid. The identical point is made by Dewar in *Brush Fire Wars*, p. 38.

⁴³Bowyer, *History of the RAF*, p. 201.

⁴⁴Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 163.

⁴⁵Andrew Brooks, *V Force: The History of Britain's Airborne Deterrent*, London: Jane's, 1982, p. 137.

Transport

Despite the failings or uneven efficacy of bombing—which Clutterbuck argues was the least important of all the uses of air power in Malaya—that of air supply and transport was unquestionably a critical element in the successful prosecution of the counterinsurgency campaign. Air Vice-Marshal N. M. Maynard cites transport as the *main* contribution made by air power: The speed and efficiency with which troops could be deployed, supplies delivered, and casualties evacuated made the RAF's transport capabilities a critical and indispensable part of jungle operations and therefore was a decisive factor in the defeat of the guerrillas.⁴⁶ Komer also saw air supply as an indispensable weapon which gave infantry units operating deep in the jungle an enormous advantage over the guerrillas.⁴⁷

Given the fact that "it was the infantryman with his rifle on patrol that accounted for the vast majority of enemy kills,"⁴⁸ air supply was essential because it enabled the infantryman to remain on patrol in the jungles long enough to be effective. Therefore, after the general review of the counterinsurgency campaign that followed Templer's appointment in February 1952, the RAF began to place greater emphasis on reconnaissance, air supply, and troop transport than on bombing.⁴⁹

Before 1953, only one squadron of eight transport aircraft had existed for this purpose. By the end of the year, however, a second squadron had been added. The monthly average of supplies delivered by air increased from a low of 13 short tons in 1948-1949 to a high of 324 in 1955.⁵⁰ At the same time, the Dakotas that had borne the brunt of the supply duties at the outset of the Emergency were replaced by Vickers Valettas, twin-engine aircraft modeled after the commercial Viking aircraft. The Valettas were used primarily to drop supplies to ground forces. They could carry up to 36 persons over a range of 290 miles, or 2.5 tons of freight 1,600 miles.⁵¹ Typically, the supplies were packed in 200-pound loads:

⁴⁶Air Vice-Marshal N. M. Maynard, "The Far East Air Force," *RAF Quarterly*, Vol. 11, No. 1, 1971, p. 7.

⁴⁷Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counterinsurgency Effort*, p. 52.

⁴⁸Dewar, *Brush Fire Wars*, p. 38.

⁴⁹Carver, *War Since 1945*, p. 23.

⁵⁰Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counterinsurgency Effort*, p. 52.

⁵¹Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 156.

Each aircraft often served several drop zones that had been prepared by the ground units. Small and frequent, rather than large and occasional, drops were generally made to the patrols, whose ground transport capability was limited to back-packing. Drops were made from about 200 feet above the jungle canopy, often with the surrounding terrain higher than the delivery aircraft. Drop zones were sometimes simply solid jungle above which a marker balloon floated. To avoid disclosing the positions of ground patrols, air supply missions followed ostensibly cross-country flight paths selected to permit dropping personnel and supplies unobtrusively.⁵²

During 1955, the year the greatest number of sorties were flown by RAF aircraft in Malaya, the Valettas logged 2,100 sorties, dropped 4,000 tons of supplies by parachute to ground forces below, and airlifted 30,000 troops along with 250 tons of equipment. Although losses of supplies dropped by parachute were never more than 2 percent, this was an expensive means of delivering supplies because the parachutes were often damaged and rendered useless after one drop; for that reason, greater use was made of STOL (short takeoff and landing) aircraft. In fact, in 1955, the fixed-wing Scottish Aviation Pioneer flew 4,700 supply sorties, more than twice the number flown by the Valettas. The Pioneer could fly at airspeeds as slow as 36 miles per hour and could land in clearings as small as 150 yards in length. It could also climb steeply out of otherwise inaccessible tree-lined valleys or densely surrounded jungle clearings. Each Pioneer aircraft could carry either four or five passengers with their equipment or a stretcher case and an attendant;⁵³ alternatively, it could lift 800 pounds of cargo. The Pioneer was not only faster than helicopters, it required far less maintenance and was therefore reckoned to be ten times more cost-effective. The overall utility of the Pioneer is described by Clutterbuck as follows:

In remote areas, once the initial reconnaissance and patrols had made the aborigine pattern clear, army engineers could usually find patches of abandoned aborigine cultivation near the rivers where STOL strips could be cleared in a few weeks. Nearly all our jungle forts were thereafter maintained by Pioneer aircraft, which were also in extensive use for communication flights all over the country for army, police, and civilian officials.

⁵²Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 4.

⁵³Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 159; and Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 157.

The Pioneer also performed a vital service in the "hearts-and-minds" campaign by bringing government services to remote areas.⁵⁴

All air operations were coordinated by the Joint Operations Center headquarters at Kuala Lumpur.⁵⁵ A mobile team of air planners handled the requests for ground force patrol insertions, casualty evacuation, and supply drops. "But," according to Komer, "the Air Officer Commanding Malaya kept centralized control of air assets, and all bids for their use were channeled to a central Joint Operations Center set up next to HQ Malaya Command. The overall impression," he concludes, "is one of imaginative use of a small but flexible air component."⁵⁶

Helicopters

The most important element of air power in Malaya, however, was undoubtedly the helicopter. The first operational RAF helicopter, the Westland Dragonfly HC2, arrived in Malaya in April 1950, and by the mid-1950s, helicopters accounted for the vast majority of sorties flown by the RAF in Malaya.⁵⁷ A license-manufactured British version of the American Sikorsky S-51, the Dragonfly was particularly useful in evacuating casualties, since special panniers affixed to either side of the fuselage could accommodate one stretcher case each.⁵⁸ Initially, only three Dragonflies were deployed to Malaya. These helicopters, which were attached to the Casualty Evacuation Unit at Seletar,⁵⁹ proved invaluable in maintaining the morale of troops operating for long periods in isolated country, who otherwise could not have been assured of speedy evacuation in case of injury or sickness.⁶⁰ As Clutterbuck explains,

A patch of secondary jungle could often be found which the patrol could clear with its own chain saws; but if not, a radio call for a few pounds of explosives would soon enable a clearance to be made even

⁵⁴Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, pp. 156, 158. The De Havilland Beaver, another STOL aircraft, was also employed, but less extensively, because it required longer airstrips.

⁵⁵Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 3.

⁵⁶Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counter-insurgency Effort*, p. 52.

⁵⁷Bowyer, *History of the RAF*, p. 197.

⁵⁸Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 157.

⁵⁹Bowyer, *History of the RAF*, p. 197.

⁶⁰Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counter-insurgency Effort*, p. 52.

in a teak forest for a helicopter to get the wounded man out to a hospital. The knowledge that this could be done—instead of a ghastly journey on a stretcher—gave a tremendous boost to the morale of every soldier on patrol.⁶¹

As previously noted, prior to 1952, there was great concern over the conduct and progress of the counterinsurgency campaign, at least part of which was focused on the paucity of helicopters available for use in Malaya.⁶² This situation changed dramatically with Templer's arrival in 1952, as greater priority was given to acquiring more and larger helicopters.⁶³ Ironically, the Royal Navy, not the RAF, took the lead in helicopter use in Malaya, expanding its role to include supply and transport as well as casualty evacuation.⁶⁴ One reason for the RAF's initial failure to make greater use of the helicopter was that its early models were seriously underpowered.⁶⁵

In March 1953, a naval airfield was established at Scarbawang to which the additional Dragonflies of the No. 843 Naval Air Squadron (later renamed No. 194 Squadron) were deployed.⁶⁶ This brought the total number of helicopters in Malaya to ten.⁶⁷ The Dragonfly provided greater flexibility in the allocation of air resources and was subsequently employed in support of jungle operations being conducted by battalions of the King's African Rifles, the Gurkhas, and the Manchesters alongside those of the Marines. However, its overall impact on operations was constrained because of its limited payload and lift capacity.⁶⁸ The arrival of the Westland Whirlwind in September 1954 and the formation of Royal Navy Squadron No. 155, however, solved this problem. Based on the American Sikorsky S-55, the Whirlwind could carry a larger payload than the Dragonfly (up to ten passengers or six stretcher cases).⁶⁹

⁶¹Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 157.

⁶²Dewar, *Brush Fire Wars*, p. 181.

⁶³Paget, *Counter-Insurgency Campaigning*, p. 65.

⁶⁴Bowyer, *History of the RAF*, p. 197.

⁶⁵Carver, *War Since 1945*, p. 23. For a detailed description of the Royal Navy's use of helicopters in Malaya (from the perspective of an infantryman stationed there during the Emergency), see Richard Miers, *Shoot to Kill*, London: Faber & Faber, 1959, pp. 111-134.

⁶⁶Bowyer, *History of the RAF*, p. 197; and Dewar, *Brush Fire Wars*, p. 39.

⁶⁷Dewar, *Brush Fire Wars*, p. 39.

⁶⁸*Ibid.*; see also, Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 157.

⁶⁹That same year, the Bristol Sycamore, one of the few British-designed helicopters used by RAF, arrived in Malaya. The Sycamore could transport only half the payload of the Whirlwind and was used mostly by Coastal Command for rescue work. (Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 157.)

These additional helicopters and their expanded role of supply and troop insertion had a decisive impact. According to Clutterbuck, prior to 1953,

[Britain's] efforts in the remote areas were rather ineffective. When aborigines reported that guerrillas were based in a certain area, patrols on foot would take several days to get there. On arrival, they would find no enemy, but a friendly aborigine might say where they had gone. As the patrol moved on, another aborigine would get warning to the Communists, for which they would reward him generously. . . . Our patrols, even with guides, would fall far behind this enemy warning system.

The arrival of troop-carrying helicopters reversed this situation: the soldiers could reach the area long before the warning. Thereafter, the helicopters could move the patrols for reconnaissance of new areas, conduct their reliefs, and above all help them to win the support of the aborigines with medical attention and the beginnings of trade. I am convinced that we could never have cleared the guerrillas from the deep jungle without helicopters.⁷⁰

A journalist who covered Malaya during the Emergency recounts how the introduction of more helicopters with larger payloads and expanded capabilities "led to an entirely new surge of optimism in Malaya. The increased security forces, the new weapons, the first helicopters, were there for everyone to see, and they produced in almost everyone a new spirit of aggression."⁷¹ During 1955, in fact, Navy and RAF helicopters flew a total of 20,000 sorties—ten times the number flown by the Valettas and five times as many as the Pioneers.⁷²

Helicopters were less effective in ground assaults. The distinctive sound of their rotor blades could alert guerrillas to an impending landing, thus completely eliminating surprise and allowing them to flee.⁷³ The Special Air Service (SAS) Regiment, however, developed an effective technique to obviate this drawback. Following a practice used by firefighters in forests in the United States and Canada, the SAS men parachuted from helicopters flying far above the jungle canopy. In these so-called "tree-jumping" operations, a length of special canvas webbing was used, with which each SAS trooper could lower himself to the ground through dense foliage instead of struggling to collapse his

⁷⁰Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 157.

⁷¹Barber, *The War of the Running Dogs*, p. 188.

⁷²Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 159.

⁷³Geraghty, *Who Dares Wins: The Special Air Service, 1950 to the Falklands*, p. 32; Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 158; Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counterinsurgency Effort*, p. 52.

parachute while suspended some 200 feet in the air.⁷⁴ In one "tree-jumping" operation, 60 men were dropped into the jungle and only one casualty was sustained. The outstanding advantage of this method was the preservation of the element of surprise: Although the guerrillas could certainly hear the helicopters flying overhead, they had no idea where the jump was being made or even that it was being made at all. Admittedly, the tactic was not foolproof (the helicopter, of course, could still be heard), but it certainly provided a greater measure of surprise than was possible when a landing zone had to be cleared in the jungle. In any event, even this risk could be obviated by having helicopters and other aircraft fly frequently over the designated target area on what appeared to be normal supply or communications flights to accustom the guerrillas to their presence overhead.⁷⁵

The SAS achieved great deployment accuracy with the "tree-jumping" method. Clutterbuck concludes,

Helicopters . . . made reaction operations in the jungle itself more efficient, though even here their value was as a *transport* rather than as a *tactical* device.⁷⁶

The SAS's use of helicopters was also particularly effective in bringing government services to aborigine tribesmen in isolated regions, thereby cutting the guerrillas off from an important source of aid and assistance.⁷⁷ Helicopters (and also Pioneers and De Havilland Beaver STOLs and Auster light observation aircraft) were also used in herbicide spraying, although on a rather small scale.⁷⁸ This was the first time these aircraft were used for this purpose.⁷⁹ The "crop-denial sorties" were intended to destroy crops and vegetation that provided the guerrillas with food. This practice was, of course, to be repeated on a far greater scale by the U.S. Air Force in Vietnam a decade later.⁸⁰ However, unlike in Vietnam, herbicide spraying in Malaya was not used to destroy plant growth in which guerrillas concealed themselves. "The only areas where this could have been both practical and effective," Clutterbuck explains, "were the likely ambush sites along the

⁷⁴Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 3.

⁷⁵Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, pp. 158-159.

⁷⁶*Ibid.*

⁷⁷Dewar, *Brush Fire Wars*, p. 39.

⁷⁸Bowyer, *History of the RAF*, p. 147; Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 160; Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counterinsurgency Effort*, p. 52.

⁷⁹Bowyer, *History of the RAF*, p. 147.

⁸⁰*Ibid.*

roads; but that was more effectively done by hand, and there were always more urgent demands for aircraft." Another problem with aerial spraying was that its effect was only temporary. The guerrillas simply picked off the leaves that had been contaminated by the defoliant and, with their roots untouched, the trees and plants soon replaced the foliage.⁸¹

Reconnaissance and Psychological Operations

Air power also served in two other types of missions in Malaya: reconnaissance and psychological warfare operations. The aerial reconnaissance was both visual and photographic. Auster artillery observation aircraft, which were highly maneuverable and reliable, were used extensively for visual reconnaissance. Generally, once a pilot had familiarized himself with the terrain of a particular region, he could recognize signs of freshly cut trails or recent wood-clearing, smoke from guerrilla fires, and occasionally the roofs of poorly concealed guerrilla shelters.⁸² When spotters located garden plots cultivated by the guerrillas, aircraft equipped with herbicide spraying apparatus were sent out to destroy the plots as harvest time neared.⁸³ Austers were also used to help patrols fix their bearings and determine their location. The patrols simply sent up colored balloons or used colored smoke to fix their positions. If greater precision was required, the ground unit would transmit a radio beacon for the aircraft to home in on.⁸⁴ Because of the imprecision or inadequacy of maps of the remote jungle areas, a massive aerial "photo-mapping" survey of Malaya was needed.⁸⁵ A comprehensive photo survey was undertaken by the RAF during the early years of the Emergency and was completed in 1953.⁸⁶

The most novel use of aircraft during the Malayan Emergency was in psychological warfare activities. In 1952, the RAF, in cooperation with the Army, organized an experimental program in which aircraft equipped with powerful loudspeakers flew over the jungle broadcasting propaganda messages to the guerrillas below. Initially, Austers were

⁸¹Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 160.

⁸²Ibid.

⁸³Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 8.

⁸⁴Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 160.

⁸⁵Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 8.

⁸⁶Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counter-insurgency Effort*, p. 52.

used, but it was decided in 1953 that Dakotas were better suited for this purpose, since they could carry considerably larger loudspeakers and thus reach a wider audience. Fitted with 2,000-watt speakers which could be heard at distances of up to 2,500 yards, the Dakotas would typically fly just above stalling speed in a box pattern at a ceiling of 2,500 feet. The broadcast messages could then be heard at continuous 30-second periods.⁸⁷ The messages generally described the security and comparative comforts of captivity,⁸⁸ emphasizing the availability of women, food, and cigarettes,⁸⁹ and calling on the guerrillas to forsake their life of hardship in the jungle by surrendering. Personal messages from captured or surrendered guerrillas were also broadcast. Nevertheless, at least initially, the surrender rate remained low, because of the harsh discipline exercised by guerrilla commanders over their troops.⁹⁰ As time went on and the communist forces continued to suffer defeat, however, the broadcasts became more effective, particularly when they were directed at specific individuals or groups.⁹¹ Moreover, these "sky-shouting" operations became more frequent, and at the end of 1953, the Dakotas were replaced by Valettas.⁹²

Earlier in the year, the RAF had begun to drop pamphlets and leaflets in tandem with the "sky-shouting" operations. By the end of the year, 54 million propaganda pamphlets had been dropped (a total of 93 million pamphlets were distributed throughout Malaya that year).⁹³ On one day alone, 200 million single-page leaflets were dropped on more than 200 separate guerrilla positions by a flight of Lincoln bombers. The leaflets offered cash rewards to the guerrillas for surrendering⁹⁴ and, like the broadcasts, detailed the comforts and benefits of captivity compared with the hardships of life on the run in the jungle. These messages were reinforced by leaflets bearing photographs of "emaciated guerrillas" at the time of their capture side-by-side with more recent photographs of the same persons boldly distinguished by their added weight and broad grins.⁹⁵

Throughout 1954 and 1955, both forms of psychological warfare continued in earnest. Indeed, a psychological warfare specialist was

⁸⁷Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 156.

⁸⁸Paget, *Counter-Insurgency Campaigning*, p. 69.

⁸⁹Barber, *The War of the Running Dogs*, p. 209.

⁹⁰Paget, *Counter-Insurgency Campaigning*, p. 69.

⁹¹Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 10.

⁹²Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 156.

⁹³Paget, *Counter-Insurgency Campaigning*, p. 69.

⁹⁴Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 156.

⁹⁵Paget, *Counter-Insurgency Campaigning*, p. 69.

included on the Director of Operations' most senior planning committee and was always available in case an immediate need for his special expertise should arise.⁹⁶ It was estimated that in September 1955 alone, some 50 million leaflets were dropped.⁹⁷ However, the audible broadcasts were found to be generally more effective and cost-efficient than the printed propaganda materials, particularly since a high proportion of the guerrillas were illiterate.⁹⁸ Another key asset of the broadcast aircraft "lay in the fact that even the toughest CT commander could not be sure whether or not his men were listening. The death penalty for picking up a leaflet might deter many CTs from reading them, but the Voice aircraft could not be ignored . . . [and they] played an impressive part in inducing waverers to surrender."⁹⁹ On other occasions, the RAF broadcast loud noises to harass the guerrillas by preventing them from sleeping or otherwise relaxing. These broadcasts were often carried out in combination with sporadic bombing (one bomb might be dropped every half hour) or in tandem with belts of blank machinegun cartridges that were fixed with delay detonators to fire indiscriminately and thus simulate actual weapons fire.¹⁰⁰

At the height of the psychological warfare campaign, in 1956, the government broadcast 639 separate recorded voice messages, and at least 2,200 "sky-shouting" sorties were flown.¹⁰¹ The leaflet-dropping program was also expanded that year. More than 100 million leaflets were dropped by the RAF announcing the government's new amnesty program for surrendered guerrillas, citing specific individuals who had taken advantage of this offer as well as (dead) guerrillas who had not. Other leaflets were more general and addressed "strategic" themes. For example, 20 million RAF leaflets reported the outcome of truce negotiations between the government and guerrilla forces. Another 10 million leaflets focused on the impending expiration of a government amnesty offer and on the "coming Chinese New Year and thoughts of family reunion." Having exploited the "carrot," a final series of 10 leaflets took up the "stick," warning the guerrillas that Malaya's impending independence, to be granted the following year, would in no

⁹⁶Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 10.

⁹⁷Paget, *Counter-Insurgency Campaigning*, p. 73.

⁹⁸Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 10.

⁹⁹Barber, *The War of the Running Dogs*, pp. 209-210. See also Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counterinsurgency Effort*, p. 72.

¹⁰⁰Peterson et al., *Symposium on the Role of Airpower in Counter-Insurgency and Unconventional Warfare*, p. 10.

¹⁰¹Komer, *The Malayan Emergency in Retrospect: Organization of a Successful Counterinsurgency Effort*, p. 72.

way mitigate the government's determination to defeat the communist insurgents.¹⁰² It is estimated that about 50,000 leaflets were dropped per guerrilla between 1955 and 1957.¹⁰³ Indeed, by the time the RAF's No. 656 Psychological Warfare Squadron was absorbed into the newly created Army Air Corps in 1958, that unit could claim a record 143,000 individual sorties—the most flown by any single unit during the entire Malayan Emergency.¹⁰⁴

KENYA

The troubles in Kenya began in September 1952, with the revolt by Kenyan nationalists of the Kenya African Union (KAU) and its strong-arm paramilitary organization, the Mau Mau, led by the future president of Kenya, Jomo Kenyatta. The emergency in Malaya had still not been brought under control, so the Kenya revolt occurred at a particularly unpropitious time for Britain. The generally rundown condition of Britain's military establishment following World War II, exacerbated by the unresolved conflict in Malaya and additional military commitments in British possessions throughout the world, had left the garrison in Kenya unprepared and ill-staffed to counter the Mau Mau uprising.¹⁰⁵ At the start of the insurrection, the RAF base at Eastleigh, outside the capital city of Nairobi, was the only RAF airfield active in East Africa. It had no operational squadrons except for a communications flight consisting of a single Proctor, one Valetta, and two Ansons.¹⁰⁶ British troop strength in Kenya had been similarly denuded: Only five battalions of combat troops were available to suppress the rebellion. This deficiency was ameliorated somewhat by a battalion of Lancashire Fusiliers from Egypt that was airlifted to Kenya in twelve RAF Hastings transports a month after the uprising began.¹⁰⁷ The Fusiliers arrived on October 20, the day a State of Emergency was declared and Kenyatta was arrested, along with 183 of his followers.¹⁰⁸

¹⁰²Ibid.

¹⁰³Paget, *Counter-Insurgency Campaigning*, p. 73.

¹⁰⁴Bowyer, *History of the RAF*, p. 196.

¹⁰⁵Carver, *War Since 1945*, pp. 28-29.

¹⁰⁶Air Chief Marshal Sir David Lee, *Flight from the Middle East: A History of the Royal Air Force in the Arabian Peninsula and Adjacent Territories 1945-1972*, London: HMSO, 1980, p. 62.

¹⁰⁷Paget, *Counter-Insurgency Campaigning*, p. 88.

¹⁰⁸Carver, *War Since 1945*, p. 33.

Initial Employment of Bombing in Kenya: 1953

By January 1953, however, despite the imposition of the emergency measures, the arrests, and the arrival of reinforcements, the situation was no better than it had been four months earlier.¹⁰⁹ Therefore, two more infantry battalions were dispatched from England aboard RAF transports, bringing the total military strength in Kenya up to some 7,000 troops (half of whom were African, and half British). In addition, General Sir George Erskine was appointed Commander-in-Chief of the Security Forces. Upon his arrival in June 1953, Erskine was quick to realize that the main reason for the lack of progress was the absence of any clear, well-formulated plan of action.¹¹⁰ Since the guerrilla organization's main base was in the White Highlands and the Kikuyu Reserve¹¹¹—encompassing the entire Central Province as well as the eastern part of the Rift Valley¹¹²—Erskine decided to concentrate on the guerrilla strongholds in the forest before turning to the cities.¹¹³

Although internal security was regarded by the government as a police responsibility, with support provided by the Army, according to Air Chief Marshal Sir David Lee (who was Air Officer Commanding, Air Forces, Middle East, during the late 1950s), "it very quickly became evident during the Mau Mau troubles that air action could play a major role."¹¹⁴ Erskine's hand in carrying out his plan was strengthened by the allocation in early 1953 of a flight of four Harvards from air training schools in Rhodesia. Originally an American AT-6 training aircraft, the propeller-driven Harvards were adapted for limited offensive action in Kenya by the addition of bomb racks which could carry eight 19-pound fragmentation bombs (designed primarily for antipersonnel targets) and one .303 Browning machinegun mounted with a fixed forward gunsight.¹¹⁵ In June 1953, the planned operation was executed. While one infantry brigade continued to operate in the

¹⁰⁹Dewar, *Brush Fire Wars*, pp. 50-52.

¹¹⁰Carver, *War Since 1945*, p. 36.

¹¹¹Lee, *Flight from the Middle East*, p. 63. The vast majority of the Mau Mau came from the Kikuyu, the largest tribe in Kenya.

¹¹²Within these regions, moreover, were the two large and densely forested areas of the Aberdare Mountains and Mount Kenya, both of which were ideal bases for guerrilla activity. (Paget, *Counter-Insurgency Campaigning*.)

¹¹³Carver, *War Since 1945*, p. 37.

¹¹⁴Lee, *Flight from the Middle East*, p. 62.

¹¹⁵*Ibid.*; Carver, *War Since 1945*, p. 36; Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 157; Wing Commander A.G.T. Jones, "If the RAF Had Not Been There," *RAF Quarterly*, 1977, Vol. 17, No.2, p. 117; Kidd, *Life in the Air Force To-Day*, p. 127; and Fred Magdalany, *State of Emergency: The Full Story of Mau Mau*, London: Longman's, 1962, p. 157.

Kikuyu Reserve, a mobile—though somewhat meager—striking force was formed from another brigade, an armored-car squadron, and an artillery battery¹¹⁶ to sweep through a 17,000-square-mile forested area of the Aberdare Mountains.¹¹⁷

The mobile columns were supported by the Harvards, which bombed suspected guerrilla hideouts in the dense forest. The bombings, like those in Malaya, were widely criticized in military circles as a waste of effort because they killed few guerrillas.¹¹⁸ Indeed, the main victims of the air strikes were not Mau Mau, but large game animals such as elephants and rhinos, which, according to one account, "in turn became the principal threat to soldiers operating in the forest."¹¹⁹ However, later interrogations of captured and surrendered Mau Mau indicated that the bombings had had a demoralizing, as well as harassing, effect on the insurgents, forcing them to keep on the move with little time for rest or eating.¹²⁰ An entirely unanticipated, additional benefit provided by the Harvards was the loud sound of their propellers, which in itself terrified the guerrillas and caused them to flee without a shot being fired or a bomb dropped.¹²¹ Hence, this aircraft proved to a uniquely potent psychological weapon.

In any event, the Harvard operation was deemed a success, as over 50 Mau Mau were either killed or captured.¹²² Paget recounts that "General Erskine maintained firmly that [the Harvards were] worth a further brigade of troops to him. Unlike bombing in a populated area, it did no harm to property or to civilians, and it was therefore . . . justified if it assisted the Security Forces in their task, which it must have done to some degree."¹²³

Close Air Support: The Kenya Police Reserve Wing

In both Malaya and Kenya, indigenous air units were used alongside the more sophisticated and better-equipped RAF contingents. In Malaya, a wing of the locally raised Malayan Auxiliary Air Force was used against the communist terrorists, albeit far less than the RAF

¹¹⁶Paget, *Counter-Insurgency Campaigning*, p. 95.

¹¹⁷Lee, *Flight From the Middle East*, p. 64.

¹¹⁸Paget, *Counter-Insurgency Campaigning*, p. 95.

¹¹⁹Carver, *War Since 1945*, p. 40.

¹²⁰Paget, *Counter-Insurgency Campaigning*, p. 95.

¹²¹Lee, *Flight from the Middle East*, p. 63.

¹²²Dewar, *Brush Fire Wars*, p. 55.

¹²³Paget, *Counter-Insurgency Campaigning*, pp. 95-96.

forces stationed there.¹²⁴ Nonetheless, the local units were important in that they formed the nucleus of a national air force for Malaya after that country was granted its independence.¹²⁵ In Kenya, an entirely indigenous air unit, known as the Kenya Police Reserve Wing (KPRW), was put to far greater use and, indeed, made a more significant contribution. Described as "one of the strangest combat air forces that ever went to war," the KPRW "evolved and developed to a formidable degree of usefulness from beginnings that were tiny, improvised and amateurish."¹²⁶

The unit had been formed in 1948 by a retired RAF officer who saw it as a means for amateur pilots to pursue their interest in aviation at public expense, while still performing a valuable public service. Kenya's vast geographical expanse and poor roads made policing by light aircraft an attractive and economical alternative to surface methods. The KPRW, however, was continually scrounging for money and therefore had never had more than a handful of second-hand Auster light aircraft or enthusiastic pilots. "It was all very pleasant and casual," one contemporary observer noted, "until October 1952 when the Emergency gave the flying policemen their opportunity." Even though the Austers were woefully inadequate for high-altitude flight, the KPRW immediately volunteered their services for the counterinsurgency campaign and initiated a recruiting drive to attract more pilots (those who could provide their own aircraft were given special preference). By the end of 1952, an operational flight had been formed and a training scheme was inaugurated to familiarize the fliers with their new support role.¹²⁷

This expansion, however, was not immediately accompanied by a commensurate budget increase. To compensate for the paucity of aircraft at their disposal, the KPRW was forced to lease additional aircraft from a charter company. Hired aircraft were still being used in February 1953 when the KPRW's main operational base was established at Marrian's Farm in Mweiga, at the foot of the Aberdare Mountains. The KPRW base was, in fact, little more than a coffee plantation with a few tents pitched at the side of a 400-yard soil airstrip. Mweiga nevertheless became the nerve center of the counterinsurgency campaign in the Aberdares, possessing a police headquarters and accompanying intelligence detachment and serving as a forward base for all ground operations in the region.¹²⁸

¹²⁴Kidd, *Life in the Air Force To-Day*, p. 137.

¹²⁵Jones, "If the RAF had Not Been There," p. 117.

¹²⁶Magdalany, *State of Emergency: The Full Story of Mau Mau*, p. 178.

¹²⁷Ibid, pp. 178-179.

¹²⁸Ibid, pp. 179-180. See also Lee, *Flight from the Middle East*, p. 67.

With the establishment of both an operations base and a specific role, the financial constraints that had plagued the KPRW disappeared. The Auster, Anson, and Proctor light aircraft flown by the air wing were unsuitable to operations at altitudes above 7,000 feet, which were typical of the Aberdares region,¹²⁹ so at the start of Erskine's campaign in the Aberdares, in June 1953, the KPRW was allocated funds to purchase its own planes. The air wing now had at its disposal American Piper Pacers and Tri-Pacers, as well as Cessnas (the best of the light aircraft on service in Kenya, capable of performing and handling well at altitudes above 14,000 feet).¹³⁰ Its manpower was also increased to 14 full-time and 12 part-time pilots.¹³¹ The KRPW, as Lee explains,

had no offensive capability, if one discounts the World War I tactics of lobbing hand grenades out of the cockpit! They had, however, a valuable light communications and reconnaissance role and, what was probably their greatest asset, they had pilots with an intimate knowledge of the country. Here then was a small air component which could always play a valuable complementary role to any additional forces which the RAF might bring in.¹³²

Given the unique and exceptionally difficult flying conditions of the Aberdares region—"valleys and ravines . . . were steep and treacherous, sometimes narrowing to a dead end, sometimes dangerously curving," and a "mountain could be blacked out in less than a minute by cloud and the aircraft had to endure an incessant buffeting by capricious air currents"—the wealth of experience possessed by the wing's pilots could not be matched by RAF aviators fresh from England or the Canal Zone. Something more than ordinary skill was needed to fly in these conditions, one account relates, "something more like the high-frequency 'radar' of bats to 'feel' a course between towering bamboo slopes and suddenly jutting shoulders."¹³³

During the operations in the Aberdares, the Army tried various methods of uncovering Mau Mau hideouts. At first, troops supported by armored cars, artillery, and the Harvards would sweep through the forest, much as "beaters" do in pheasant hunting. But the Mau Mau camps were so cleverly hidden that the troops would often walk right past them without realizing what they had overlooked. More successful

¹²⁹Lee, *Flight from the Middle East*, pp. 65-66.

¹³⁰Magdalany, *State of Emergency: The Full Story of Mau Mau*, p. 180. See also Lee, *Flight from the Middle East*, p. 67.

¹³¹Ibid.

¹³²Lee, *Flight from the Middle East*, p. 62.

¹³³Magdalany, *State of Emergency: The Full Story of Mau Mau*, p. 181.

was the subsequent method of assigning the ground forces to a specific area of the forest where they would remain for extended periods of time to familiarize themselves completely with their sector. However, this created problems because it was difficult to supply and maintain communications with these isolated platoons and companies as well as provide low-level visual reconnaissance.¹³⁴

Air delivery of supplies presented a particular problem, since the small, independent ground units were deployed over a wide area of the forest. It was impractical to use standard drop zones for bulk supplies because the individual ground units required only small quantities. It was equally wasteful to use large transport aircraft like Valettas and Dakotas to drop those small quantities. Moreover, the large aircraft were considerably less maneuverable than the light aircraft of the KPRW; given the unique flying conditions in the Aberdares, therefore, such operations were hazardous as well as inefficient. Helicopters were similarly impractical—the only helicopter available in Kenya, the Sycamore, suffered loss of power at high altitudes.¹³⁵ Indeed, the air was so thin that the helicopters were convulsed by sudden wind currents and could not travel at speeds greater than 100 miles per hour.¹³⁶

Given the requirement for what was termed “low-level free dropping,” the KPRW, with its small Pipers and Tri-Pacers and Cessnas, was pressed into service for this important task. A system was devised whereby supplies, packed into 30-pound units designed to withstand ground impact without damaging their contents, were dropped at low altitudes without parachutes. Each aircraft was able to carry eight such loads¹³⁷ or, alternatively, up to four men.¹³⁸

The KPRW also performed a variety of other essential services, including helping ground units in the dark forests to determine their geographical location on maps; directing patrols in pursuit of insurgents spotted from the air; transmitting and relaying signals, orders, and reports; and dropping food, letters, and news of events beyond the forest. This type of air/ground coordination had an important ancillary benefit in its effect on troop morale, which was particularly buoyed by KPRW pilots advising ground commanders on the quickest route through the forest for evacuating casualties. Thus, an “intimacy developed between troops, isolated for days in the forest, and the little

¹³⁴Lee, *Flight from the Middle East*, pp. 65, 67.

¹³⁵Ibid., p. 66.

¹³⁶Magdalany, *State of Emergency: The Full Story of Mau Mau*, p. 181.

¹³⁷Lee, *Flight from the Middle East*, p. 67. The Harvards were also occasionally used for supply dropping. (Ibid., p. 66.)

¹³⁸Magdalany, *State of Emergency: The Full Story of Mau Mau*, pp. 180-181.

aircraft that regularly sought them out to look after and fuss over them and save them from getting lost. The police airwing fetched and carried for the army [and, in effect,] became its eyes and ears."¹³⁹

The KPRW made an equally important contribution in identifying Mau Mau targets for offensive air strikes by the Harvards. The low-flying KPRW aircraft would sight guerrilla concentrations or camps and immediately pass the information on to the Joint Operations Command Center established at Mweiga. "Distances were so short in the prohibited area," Lee writes, "that a Harvard strike could often be over a target within a few minutes of it being reported by a KPR Wing pilot."¹⁴⁰ The KPRW pilots were also able to fly in difficult conditions that lesser pilots could not have managed, and they had the further advantage of being able to fly in the dark. The Mau Mau encampments, as previously noted, were so well concealed in the forest that even troops walking past them often failed to detect them. Reconnoitering these guerrilla positions from the air was even more difficult. After nightfall, however, it was often possible to spot cooking fires in Mau Mau camps that were invisible by day. Accordingly, the KPRW regularly took to the air just after dusk or before dawn and relayed sightings of guerrilla units to the ground forces standing by. On occasion, KPRW pilots themselves would bomb the guerrillas. At first, they simply lobbed hand grenades from cockpit windows. Later, however, the small bomb racks fitted onto the bottom of the KPRW aircraft allowed for more effective targeting.¹⁴¹

In any event, the KPRW's main contribution was in directing larger aircraft to Mau Mau targets for air strikes. During Erskine's sweep of the Aberdares in June and July 1953, this system enabled an almost unrelenting rain of bombs to be dropped on the guerrillas. During one typical week of operations (July 22-29), the Harvards of No. 1340 Flight flew 56 sorties. They expended a total of 232 fragmentation bombs and 18,950 rounds of ammunition during attacks on 35 suspected Mau Mau hideouts; 21 additional sorties were flown in direct support of ground-force operations. During the final month of the campaign, in September, 1340 Flight racked up 332 offensive sorties, dropping a total of 2,555 bombs and firing 97,760 rounds of ammunition.¹⁴²

"One unsatisfactory feature of these offensive operations," Lee recalls, "was the near impossibility of obtaining information of the

¹³⁹Ibid.

¹⁴⁰Lee, *Flight from the Middle East*, p. 68.

¹⁴¹Magdalany, *State of Emergency: The Full Story of Mau Mau*, p. 180.

¹⁴²Lee, *Flight from the Middle East*, p. 68.

results." The weather conditions and topography of the Aberdares precluded accurate photographic or visual reconnaissance from the air. More often than not, the Mau Mau were able to evacuate their dead and wounded from the target areas well before the ground patrols were able to get there. Nevertheless, subsequent intelligence revealed that the bombing raids were extremely effective in relentlessly harassing the guerrillas and forcing them to stay on the move. Based on this information, Erskine decided to increase the air strikes in support of his ground forces.¹⁴³

The Air Campaign During the Final Stage of the Emergency: 1954-1955

By January 1954, the force at Erskine's disposal had grown to eleven battalions (or 10,000 men), some 21,000 regular police and 25,000 auxiliaries in the Kikuyu Home Guard—a total of 56,000 men.¹⁴⁴ The previous September, reinforcements from the 49th Brigade (comprising two infantry battalions of The Royal Northumberland Fusiliers and The Royal Inniskilling Fusiliers) had arrived from England. Between September 10 and 29, 1953, this force was airlifted by RAF Transport Command, using Hastings and a makeshift assortment of commercial York, Hermes, and Argonaut aircraft.¹⁴⁵ Erskine was now in a position to press home the campaign against the Mau Mau that had begun in the Aberdares the previous year.

The success of the air operations during this initial phase of the campaign had convinced Erskine that it was time to increase the scope of air action against the gangs. However, the Harvards were capable of carrying no larger ordnance than 19-pound bombs, which were relatively ineffective in dense jungle. Therefore, Erskine requested that aircraft able to carry larger, more powerful ordnance loads—aircraft specifically designed for bombing (unlike the Harvards, which had been adapted for this purpose)—be allocated to his command. His request was approved, and in January 1954, six Lincoln bombers arrived at Eastleigh from England. British air strength in Kenya now comprised the six Lincolns, along with the eight Harvards of No. 1340 Flight, two Austers and a Pembroke for "sky-shouting" operations, one Sycamore helicopter for casualty evacuation, four communications aircraft, two

¹⁴³Ibid.

¹⁴⁴Frank Kitson, *Bunch of Five*, London: Faber & Faber, 1977, p. 11; and Magdalany, *State of Emergency*, pp. xv-xvi.

¹⁴⁵Lee, *Flight from the Middle East*, pp. 68-69.

Meteor PR-10 photoreconnaissance aircraft, and the 13 light aircraft of the KPRW.¹⁴⁶

During the first months of the new year, the pace of bombing accelerated as more and more intelligence concerning Mau Mau hideouts and encampments reached the Joint Operations Centre. In March, the Lincolns flew 81 sorties, dropping 612 500-pound and 171 1,000-pound bombs and firing some 18,000 rounds of 0.5-inch ammunition on guerrilla targets below. So successful was this initial deployment of medium bombers that in August a directive was issued by the Joint Operations Command Center stating, "The Commander-in-Chief has decided that air operations are to be given priority over ground operations in the Aberdare forest from 22 August until commencement of a certain operation timed to begin in December 1954."¹⁴⁷ Under this plan, Meteor PR-10 photoreconnaissance aircraft¹⁴⁸ would first identify targets for the bombers. Any ground forces in the area would then be surreptitiously evacuated at prearranged times in the hope of maintaining at least a modicum of surprise. This completed, a massive bombing strike would be made, at the end of which the troops would reoccupy their sectors for mopping-up operations, and "sky-shouting" aircraft would fly over the targeted sites, calling on the guerrillas to surrender. By September, 159 day and 17 night sorties had been flown, a total of 2,025 500-pound bombs had been dropped, and 77,850 rounds of ammunition had been expended. So successful were these operations in the Aberdares that the following month the campaign was expanded to the area around Mount Kenya.¹⁴⁹

It was soon clear that the bombing campaign was having a significant effect on the guerrillas. Ever-increasing numbers of starving and demoralized Mau Mau "were coming out of the jungle to surrender and it was evident from the stories they had to tell that the bombing was seriously affecting the morale and determination of the gangs. There was an inevitability of the bombing," Lee explains, "which they knew could be maintained and which they could not in any way counter." Subjected to relentless attack from the air, with all means of escape cut off by the cordon of troops around their stronghold in the Kikuyu Reserve, the guerrillas were harassed to the point that they were

¹⁴⁶Ibid., pp. 69-70, 75. See also Fitzsimons, *A History of the RAF Through Its Aircraft*, p. 160.

¹⁴⁷Quoted in Ibid., pp. 70-71.

¹⁴⁸Jones, "If the RAF Had Not Been There," p. 117. Despite the "difficulty of obtaining good photographic intelligence in the dense forest area, no less than 250,000 photographic prints were made between August 1954 and May 1955." (Lee, *Flight from the Middle East*, p. 75.)

¹⁴⁹Ibid., pp. 70-71.

unable to mount raids against farms and villages to obtain food and supplies.¹⁵⁰

The "certain operation" referred to in the Joint Operations Command Center directive commenced in January 1955. Erskine had postponed it to take advantage of the more favorable weather conditions that prevailed during the generally dry months of January and February. The operations followed the same pattern as those that had been staged in the Aberdares the previous August and September. Specific areas of the forest were assigned to individual units, which were to alternate between static and active patrol to track down and eliminate the Mau Mau gangs, who would not be given a moment's respite from sweeps and concentrated air strikes.¹⁵¹ During January, the Lincoln bombers of No. 49 Squadron alone flew a record number of 204 sorties—many more than had been planned—dropping 2,725 500-pound bombs and 13 350-pound bomb clusters. In addition, greater use was made of "sky-shouting" Austers and Pembrokes over the bombed areas to induce surviving guerrillas to surrender.¹⁵²

In April, Erskine completed his tour of duty in Kenya and was succeeded by General Sir Gerald Lathbury. The government had made tremendous progress in the counterinsurgency campaign against the Mau Mau. The operations in the Aberdare and Mount Kenya areas had resulted in the death or surrender of over 5,500 guerrillas during Erskine's final 12 months in command. Mau Mau strength had been halved, with no more than 5,000 men still at large.¹⁵³ Erskine "had pursued a relentless offensive policy which had clearly been highly successful and had undoubtedly broken the Mau Mau movement. He had been quick to appreciate," Lee writes, "the part which the RAF could play in an unusual campaign." Indeed, in a farewell address to the RAF detachment at Eastleigh, Erskine cited "the great success and economy of the bombing campaign." Had this air action not been taken, he declared, "an additional infantry brigade or three regiments of artillery would have been essential; neither would have achieved such good results and both would have been more expensive."¹⁵⁴

So successful was the bombing campaign that by 1955 there were few targets left for the Lincolns. The guerrilla concentrations in the forests had been so completely broken up that it was a poor return on

¹⁵⁰Ibid., p. 71.

¹⁵¹Carver, *War Since 1945*, p. 41.

¹⁵²Lee, *Flight from the Middle East*, p. 74.

¹⁵³Carver, *War Since 1945*, p. 42.

¹⁵⁴Lee, *Flight from the Middle East*, p. 74.

investment to continue the massive air strikes.¹⁵⁵ In fact, only one more major air/ground operation was launched by the British.¹⁵⁶ "Operation Dante," as it was known, was also the last to employ the Lincolns. Following its completion at the end of June, the Army and the RAF decided that there was no further need for the bombers, so the Lincolns and the Meteors returned to their respective bases in England and the Canal Zone. Even the Harvards were finding fewer opportunities for action.¹⁵⁷ Although they had proved useful during two smaller mopping-up operations that succeeded "Dante,"¹⁵⁸ there was little for them to do afterwards, and on September 30, No. 1340 Flight was disbanded. The Austers and Pembrokes, however, continued their "sky-shouting" mission, although because of parts shortages and the paucity of available aircraft, only about 40 sorties were flown per month.¹⁵⁹

Although the "air war" in Kenya was over, it took another year before the overall situation had improved sufficiently that British troops could be withdrawn. And it was not until late 1960 that the emergency was declared officially ended.

CYPRUS

Air power played a considerably smaller role in the Cyprus conflict, between 1955 and 1959, than it had in Malaya or Kenya, largely because the Cyprus anti-colonial revolt was of quite a different nature from its two contemporary counterparts. The communist forces in Malaya and the Mau Maus in Kenya were based primarily in the jungles or forests, and consequently, most of the fighting in those conflicts occurred in the countryside; on Cyprus, the guerrilla campaign waged by the Greek nationalists of EOKA took place in the cities and towns. The *raison d'être* of EOKA was "enosis"—the removal of British rule and unification with Greece (the Greek majority on the island coexisted uneasily with a sizable Turkish minority). The EOKA strategy, under the direction of Colonel George Grivas, was to concentrate on urban terrorist activity¹⁶⁰ to force the government to concentrate its

¹⁵⁵Ibid., p. 75.

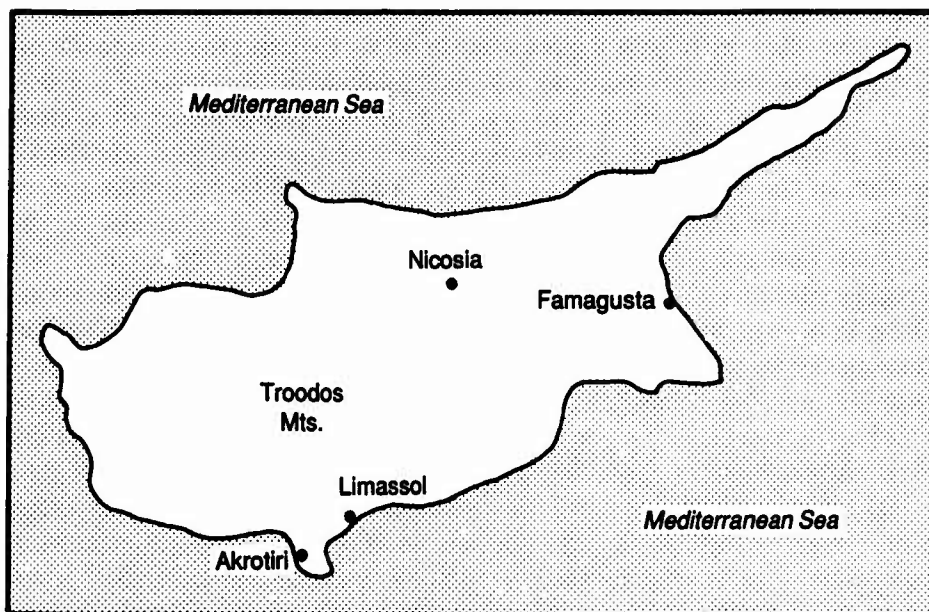
¹⁵⁶Carver, *War Since 1945*, p. 42; and Dewar, *Brush Fire Wars*, p. 60.

¹⁵⁷Lee, *Flight from the Middle East*, p. 75.

¹⁵⁸Dewar, *Brush Fire Wars*, p. 60.

¹⁵⁹Lee, *Flight from the Middle East*, p. 75.

¹⁶⁰Carver, *War Since 1945*, pp. 45-46.



Cyprus

security forces in the cities, thereby permitting the guerrillas to operate at will in the countryside.¹⁶¹

As in the postwar conflict in Palestine, it was out of the question to bomb the urban centers, which accounts for the limited contribution that could be made by the RAF. But it should be noted that EOKA's forces never numbered more than 267 well-armed, hardcore terrorists, with 750 less-well-equipped "auxiliaries" scattered throughout the island.¹⁶² There were no large guerrilla encampments in Cyprus. The RAF nevertheless was able to make an important contribution. Sycamore and Whirlwind helicopters were used both as "flying observation posts" and as troop carriers; light aircraft, such as Austers and Chipmunks, were also used for reconnaissance and patrol; and the Pioneer was again employed on supply-dropping missions. Perhaps most important, close liaison was maintained between the air and ground forces. An Air Office was established by the Army and the RAF in which a Ground Liaison Officer worked with his RAF counter-

¹⁶¹Dewar, *Brush Fire Wars*, p. 71.

¹⁶²Carver, *War Since 1945*, pp. 51, 53.

part overseeing the allocation of aircraft, responding to requests, and planning sorties.¹⁶³

At the start of EOKA's campaign in 1955, British troop strength on Cyprus totaled 12,000 men, along with 2,000 RAF personnel.¹⁶⁴ However, the numerical advantage was vitiated by the absence of a clear plan of action, coupled with a dangerous complacency and underestimation of the seriousness of the EOKA revolt.¹⁶⁵ These problems were evident in the first joint military/police operations carried out in the Kyrenia Mountains in June 1955. The planners had hoped that converging columns of motorized infantry, aided by helicopters directing them in pursuit of fleeing guerrillas, would be able to mop up a particularly heavy area of EOKA activity. But the British found that not only was it impossible to completely seal off all roads or escape routes in the cordoned-off area, it was considerably more difficult to search forested, mountainous terrain than had been expected.¹⁶⁶

By the following year, an additional 5,000 troops had been transferred to the island, and plans were laid for a large-scale military operation to be staged in the Troodos Mountains, the guerrillas' main stronghold, in May. The planned operation was made possible in part by the allocation of additional Sycamore helicopters to the RAF establishment on the island (until this point, the few helicopters stationed on the island were there primarily for sea search-and-rescue operations and, because of the demands on them, could be used on counterinsurgency operations only sporadically).¹⁶⁷ In a massive push against the guerrilla forces in the mountains, 2,000 troops supported by the Sycamores and Auster spotter aircraft cordoned off a 400-square-mile area.¹⁶⁸ Although underpowered and hampered by a diminished lift capacity when operating in mountainous terrain, the helicopters nevertheless proved invaluable.¹⁶⁹ Seventeen leading members of EOKA were captured, large quantities of weapons were seized, and important documents identifying other members of the organization and revealing future terrorist plans were discovered. Colonel Grivas himself was nearly arrested, but he escaped as the cordon tightened

¹⁶³"Extract from a British Note on the conclusions drawn from Operation 'Mare's Nest' (28 January 1959)" appended to General George Grivas, *Guerrilla Warfare*, London: Longman's, 1964, pp. 106-108.

¹⁶⁴*Ibid.*, p. 52.

¹⁶⁵Dewar, *Brush Fire Wars*, pp. 70-71.

¹⁶⁶Grivas, *Guerrilla Warfare*, London: Longman's, 1964, pp. 8-9.

¹⁶⁷Carver, *War Since 1945*, pp. 52-53.

¹⁶⁸Dewar, *Brush Fire Wars*, pp. 74-75.

¹⁶⁹Carver, *War Since 1945*, p. 53.

around him. The operation was judged a success, however, having dealt the guerrilla organization in the countryside a stunning blow.¹⁷⁰

This successful operation led in 1957 to the establishment of a distinct helicopter force which, according to Paget, significantly enhanced ground-force mobility against the guerrillas in the areas outside of the towns.¹⁷¹ But the eradication of EOKA's power in the countryside merely shifted the locus of terrorist attacks to the cities and towns.¹⁷² In January 1957, the British mounted two more major operations in the countryside to mop up the few remaining guerrilla units hiding in the mountains. These effectively broke the back of the Grivas organization, and guerrilla activity declined appreciably.¹⁷³ According to Paget, the "skillful" manner in which the helicopters were employed in these two operations "proved a decisive weapon, and had given the troops such mobility that they were able to neutralize the mountain guerrillas almost completely."¹⁷⁴

The destruction of the main EOKA force also succeeded in bringing Grivas to the negotiating table. The talks dragged on until February 1959, when Britain and the Greek Cypriots finally reached an agreement calling for the creation of an independent republic of Cyprus, with Britain retaining two strategic bases on the island. The revolt officially ended on March 13, 1959, when EOKA surrendered sufficient arms to satisfy the authorities that the agreement could be implemented.¹⁷⁵

¹⁷⁰Dewar, *Brush Fire Wars*, pp. 74-75. A far different perspective and interpretation is offered by Grivas in his book, *Guerrilla Warfare*. To his mind, the operation was "a complete fiasco," lacking any element of surprise and conducted by undisciplined, poorly trained troops. This divergence of opinion, although of interest from a tactical standpoint, is irrelevant to the issue of air power, since Grivas did not fault the manner in which the helicopters were used. (See Grivas, *Guerrilla Warfare*, pp. 40-41.)

¹⁷¹Paget, *Counter-Insurgency Campaigning*, p. 135.

¹⁷²Dewar, *Brush Fire Wars*, p. 75.

¹⁷³Carver, *War Since 1945*, pp. 59-60.

¹⁷⁴Paget, *Counter-Insurgency Campaigning*, p. 140. Grivas offers a diametrically opposite interpretation of the role played by helicopters in the Cyprus conflict. He makes no bones about the importance of the helicopter in modern guerrilla warfare, but he contends that the British made use of helicopters on only a very limited scale, and even then, in an improper manner. Grivas mainly faults the British for overreliance on helicopter reconnaissance, pointing out that on "many occasions when we found ourselves in a tight corner under pressure from the British, we came to realize how serious things would have been if proper use had been made of the helicopter." At the same time, he cites no specific examples of misuse. (See Grivas, *Guerrilla Warfare*, p. 76.)

¹⁷⁵Carver, *War Since 1945*, pp. 60-61.

ADEN: 1947-1949

In addition to these three major conflicts, Britain was also involved in suppressing periodic tribal rebellions in the area just south of Yemen and Saudi Arabia known as the Aden Western Protectorate, and border conflicts in the region to the east known as the Eastern Protectorate, which embraced Muscat and Oman. The RAF establishment in South Arabia had gradually expanded during and after the border war with the Imam Yahaya between 1920 and 1934. By the end of the 1940s, it consisted of some fourteen geographically scattered stations and detachments, staffed by approximately thirty units (most of which were administrative or technical). Included were the major airbases at Khormaksar and Steamer Point, a radio communications center, an air/sea rescue station, and marine command units located in or near Aden; an armored car section in Jhadir and the RAF stations at Riyan and the island of Socotra in the Western Protectorate; the RAF stations at Salalah and Masirah in the Eastern Protectorate; another station at Ras el Hadd in Muscat; and various support units located at Addis Ababa across the Red Sea in Ethiopia, and Bandar Cassim and Har-gaissa in Somaliland.¹⁷⁶

Overall command was still exercised by the senior RAF officer at Headquarters, British Forces in Aden, whose responsibilities included the protection of a coastline some 1,000 miles long, as well as the interior regions of the Aden Colony and the Western and Eastern Protectorates. He had at his disposal for offensive operations in the Western Protectorate the Mosquito fighter-bombers of No. 8 Squadron, an RAF armored car squad, supporting artillery units,¹⁷⁷ and an indigenous force known as the Aden Protectorate Levies, which had been created by the RAF in 1928 to provide additional security for both the airbases and the government posts in the hinterland.¹⁷⁸ The Levies were trained by RAF personnel and commanded by regular RAF officers.¹⁷⁹

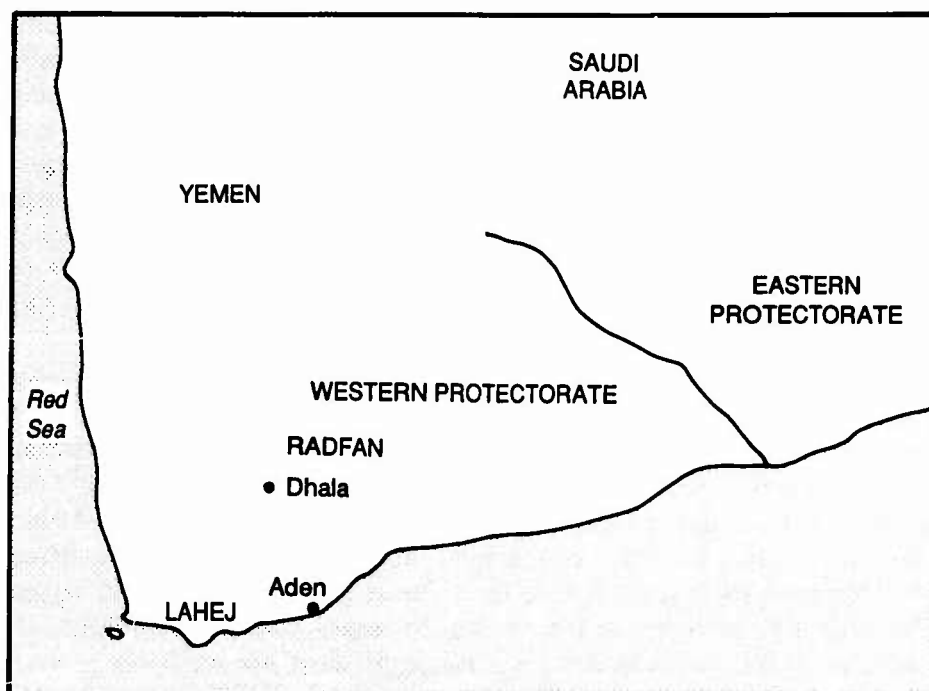
In February 1947, a new round of tribal rebellions broke out in Dhala, in the northern region of the Aden Protectorate, just south of the border with Yemen. The rebel forces, led by Haidan, the son of the Amir of Dhala, were based in a well-defended fort on the plateau of the 7,000-foot-high Jebel Jihaf. After attempts to negotiate an end to the insurrection failed, the government dispatched a punitive column comprising a mobile wing of the Aden Protectorate Levies, a 3-inch

¹⁷⁶Lee, *Flight from the Middle East*, pp. 12, 36. For the complete RAF order of battle, see *ibid.*, pp. 297-298; see also Kidd, *Life in the Air Force To-Day*, pp. 131-132.

¹⁷⁷*Ibid.*

¹⁷⁸Carver, *War Since 1945*, p. 63.

¹⁷⁹Kidd, *Life in the Air Force To-Day*, pp. 132, 159.



Aden and the Eastern and Western Protectorates

mortar flight and two RAF armored cars, with the Mosquitos of No. 8 Squadron in support,¹⁸⁰ to dislodge Haidan and his followers from their mountain fortress. In the sharp and brief engagement that followed, the fort was destroyed, but Haidan and his men were able to escape.¹⁸¹

This operation was the first in which 60-pound rocket projectiles were used against a structure as solid as Haidan's fort, which had walls four and a half feet thick. But effective as these semi-armor-piercing projectiles were, they failed to completely demolish the fort, which was finally brought down with gun cotton. Henceforth, fully armor-piercing heads would be used when the Air Force was confronted with such formidable targets. In any event, the accuracy of the rocket attacks proved to be excellent, and over time, No. 8 Squadron came to be regarded as one of the most accurate and experienced rocket firing squads in the RAF.¹⁸²

No sooner had the threat from Haidan been neutralized than trouble erupted from another tribe, in the nearby village of Al Husein, just west of Dhala. A British agent and his escort of native guards had been murdered while attempting to collect a fine imposed by the government on the village. Once again, punishment was applied from the air. Four Mosquitos and three Tempests from No. 8 Squadron were ordered to destroy the village. The rocket and cannon air strike, the after-action report stated, "was most impressive and awe inspiring, and the attack undoubtedly made an impression not easily forgotten." The operation was also the first to use the Tempest VI fighter-bomber, which eventually replaced the Mosquitos of No. 8 Squadron. The Tempest, an all-metal aircraft, was better suited to the climatic conditions of South Arabia than the wood-skinned Mosquito and was used in an operation against the village and fortified buildings of the Qutebi tribe at Thumier (just south of Dhala) a few months later. This operation was mounted in retaliation for raids on the caravan route between Thumier and Aden. A joint force of Tempests and six Lincolns (from Khormaksar) dropped a total of 66.7 tons of bombs and fired 247 rockets in the attack. As Lee notes, "No deaths were caused, making this an outstanding example of tribal control by air action."¹⁸³

Additional tribal insurrections from the Bal Harith, Hanshabi, and Mansuri tribes during 1948 were suppressed the RAF in the same manner. Typically, leaflets announcing the assault were dropped from Anson light aircraft 48 hours in advance of a punitive air strike.

¹⁸⁰Based at Khormaksar, No. 8 Squadron was formed shortly after World War I and was the longest-serving RAF unit in South Arabia. (Ibid., pp. 131, 159.)

¹⁸¹Ibid., pp. 36-37.

¹⁸²Ibid.

¹⁸³Ibid., pp. 38-39.

"Every tribe knew from bitter experience," Lee recounts, "that these leaflets contained no idle threat and there was rarely a living soul or head of cattle to be seen when the attack materialized." Thus the authority of both the British administration and the local sheikhs under its protection was regularly enforced. One operation in October 1948 lasted for three days, during which seven pilots of 8 No. Squadron flew a total of 107 hours in their Tempests, firing 468 rockets and scoring 202 direct hits. Eleven of the tribe's sixteen forts were completely destroyed, and only one of the remaining structures was left suitable for habitation. The squadron's overall average target margin of error was assessed at six yards—a particularly impressive figure in view of the small physical size of the targets and their location in a narrow wadi (dried river bed in a valley).¹⁸⁴

Throughout these operations, only one Tempest was lost and its pilot killed. The loss was most likely caused by a high-speed stall, an error that Lee points out, "was not difficult to make when attacking from low level in mountainous country, [when] concentrating on accurate [target] identification and attack." In addition, maps of these areas were often so rudimentary and inadequate that it became standard operating procedure for a formation leader to first reconnoiter the target site in an Anson to obtain precise visual identification before leading the attack. This meant that the attack squadrons needed to maintain a high level of continuity and experience among their pilots.¹⁸⁵

In April 1949, the squadron's Tempests were replaced with eight Brigands. Although the Brigands proved to be as effective as Tempests during operations against a rebel stronghold near the Yemen border shortly after their arrival, they were considerably less maneuverable than the Tempests.¹⁸⁶ Given the difficult terrain in which many of the RAF's targets in Aden were located (e.g., the narrow wadis noted above), this was a significant drawback. Furthermore, it was impractical to use the Brigands in a support role that could be performed by less-sophisticated aircraft. Accordingly, a separate flight known as "The Protectorate Support Flight Group" was created by the RAF regional command within the squadron and equipped with Anson spotter aircraft to support the Brigands.¹⁸⁷

¹⁸⁴Ibid., pp. 39-40.

¹⁸⁵Ibid., p. 38.

¹⁸⁶This is not surprising, considering that the Tempest was a single-seat fighter, while the Brigand was a three-seat aircraft originally designed as a torpedo-bomber.

¹⁸⁷Ibid., pp. 42-43.

MUSCAT AND OMAN: 1952-1958

The RAF also had to contend with problems outside of the Protectorates. In August 1952, a small armed force crossed the border from Saudi Arabia into western Muscat and seized the oasis at Buraimi. The Sultan of Muscat requested British assistance, and after demands for the Saudis to withdraw went unheeded, London decided that it might be able to remedy the situation with a dramatic show of force, rather than having to resort to actual combat. The force was provided



The Arabian Peninsula

by a unit of Trucial Oman Levies, who, supported by three RAF Vampires and a Valetta, moved into the disputed area. Although no offensive strikes were mounted, the Vampire, according to Lee, "with its high speed and the characteristic whine of its Goblin engine, created a feeling of confidence among friends and instilled some apprehension among potential offenders." The aircraft successfully employed what amounted to a form of aerial blockade of the oasis in hopes of starving the intruders out while a diplomatic solution was being pursued. Supply caravans moving toward the oasis were spotted from the air and then intercepted by the Trucial Oman Levies and armored cars of an RAF detachment below. The dispute continued until 1955, when it was finally resolved. By that time, four Lancaster bombers (capable of flying longer and over greater distances than the Vampire or Valetta), Ansons, and four Meteors had participated in the successful blockade operation.¹⁸⁸

Undaunted by this setback, the Saudis turned their attention to the area bordering central Oman. There they found a compliant ally in the Imam Ghalib, who switched allegiance from the Sultan to the House of Saud and seized the villages of Nizwa, Izki, Tanuf, Birkat al Mauz, Bakhla, and Firq. The Sultan again appealed to Britain for help.¹⁸⁹ Perhaps one of the main results of the short-lived conflict was the abandonment of the traditional policy of air control. Faced for the first time by a truly formidable enemy, Britain realized that it was no longer possible to control the restive tribes or maintain order on the Arabian peninsula through air power alone.¹⁹⁰ Thus, in July 1957, two companies of the Cameronians were flown in from Bahrain. Together with a detachment of the 15/19th Hussars in Ferret scout cars airlifted from Aden and two squadrons of Trucial Oman Scouts, they descended on the troubled area,¹⁹¹ supported by RAF Venom FB Mark 4 fighter-bombers, four Beverley transports, and two Shackleton bombers from Khormaksar. The Shackletons undertook photoreconnaissance of all the villages occupied by the Imam, while Pembroke light aircraft conducted visual reconnaissance to detect any rebel movement. The plan was to bomb the five villages on successive days in advance of ground assaults.¹⁹²

On July 24, the operation commenced. Forty-eight hours before the attack, the Shackletons dropped leaflets warning the rebels to evacuate

¹⁸⁸Ibid., pp. 111, 114-122.

¹⁸⁹Dewar, *Brush Fire Wars*, p. 85.

¹⁹⁰Geraghty, *Who Dares Wins: The Special Air Service, 1950 to the Falklands*, p. 107.

¹⁹¹Dewar, *Brush Fire Wars*, p. 85.

¹⁹²Lee, *Flight from the Middle East*, p. 127.

the villages. Approximately ten Venoms then duly appeared,¹⁹³ directing an accurate rain of rockets against the fortresses manned by the rebels, who were quickly dislodged from their positions and sent fleeing. Nizwa was then retaken by the ground force, without any opposition.¹⁹⁴ Successive air strikes were subsequently directed against the other villages, with the ground units following on mopping-up operations. As Lee recounts,

By 30 July, the air action had built up to a peak with the Venoms patrolling in pairs as well as continuing to attack the selected [rebel] forts, Shackletons joining in the patrols, Meteor fighter reconnaissance aircraft . . . taking low level oblique photographs for assessment purposes and even the Canberra [jet bomber]—the first to operate in this area—ranging widely over Central Oman with its cameras collecting intelligence information.

On August 7, the only village still occupied by the rebels was Firq. Directed by RAF "Air Contact Teams," which accompanied the ground forces, the Venoms attacked the town with rockets and cannon while the Shackletons dropped anti-personnel bombs. The well-armed and disciplined rebel forces were entrenched in ideal firing positions and were able to hamper the advance until August 11, when the town was recaptured.¹⁹⁵

The insurrection was still, however, far from broken. Although the Imam had given up the fight, his brother and a number of followers continued to resist the authority of the Sultan. Although air control was incapable of suppressing the revolt by itself, the RAF had played a critical part during this early phase. Air power had done the initial softening up of enemy positions, destruction of forts, and harassment of ground movement. Equally important, the RAF (in a role more familiar in Malaya and Kenya than in South Arabia) provided a steady flow of supplies to the ground forces occupying the recaptured villages and furnished invaluable photographic and visual reconnaissance from the air. In addition, a Pembroke fitted with loudspeakers flew "sky-shouting" sorties after the bombings, calling on the rebels to lay down their arms and desert the Imam.

During the next six months, the Venoms carried out a gradually escalated campaign of harassment, bombing rebel water supplies and agricultural plots. In addition, the Shackletons were permitted to use 1,000-pound bombs against water tanks, dams, and aqueducts. In a typical operation, during the week of September 12, 1957, the Venoms

¹⁹³Ibid.

¹⁹⁴Dewar, *Brush Fire Wars*, p. 85.

¹⁹⁵Lee, *Flight from the Middle East*, p. 128.

fired 40 rockets and the Shackletons dropped 148 1,000-pound bombs (each plane could carry 12 such bombs). At the end of the month, the aircraft carrier H.M.S. *Bulwark* anchored in the Gulf of Oman, and its Sea Venoms and Seahawks joined in the campaign, flying 43 offensive sorties during one week alone. These operations were so effective that all movement by day was brought to a halt, and as RAF night-flying capabilities over the desert improved, even nighttime movement became difficult.¹⁹⁶

The conflict dragged on for another year, until October 1958, when a final air/ground assault was planned against the remaining rebel strongholds on the 9,500-foot-high Jebel Akhdar. A detachment of the 22nd SAS Regiment, fresh from Malaya, was called in for this operation, which involved a rope-assisted ascent of the mountain. After the SAS unit reached the plateau, three RAF Valettas appeared exactly on schedule to drop some 30,000 pounds of equipment, ammunition, food, and water to the detachment.¹⁹⁷ For the next two months, mopping-up operations were conducted by the SAS throughout the mountainous region of the Jebel.¹⁹⁸ The SAS unit was supplied by both single- and twin-engine Pioneers, which landed on airstrips carved out of the plateau's rough surface. Although the leaders of the revolt were able to escape, the rebellion nonetheless ended. In February 1959, the SAS withdrew and handed control of the Jebel over to the Sultan's forces and the small remaining units of British infantry and engineers.¹⁹⁹

CONCLUSION

During the fifteen years following World War II, Britain was involved in no less than three major and two minor (though protracted) "peripheral conflicts." These successive, and often simultaneous, conflicts placed a severe strain on Britain's reduced postwar military establishment, making the outright victories in Malaya and Kenya, the satisfactory political agreement reached in Cyprus, and the termination of recurrent tribal insurrections and border disputes in the South Arabian Protectorates and in Muscat and Oman all the more impressive. As far as the RAF itself was concerned, the Air Force made an important contribution in each conflict, except the one in Palestine.

¹⁹⁶Ibid., pp. 129-134.

¹⁹⁷Dewar, *Brush Fire Wars*, p. 91.

¹⁹⁸Geraghty, *Who Dares Wins: The Special Air Service, 1950 to the Falklands*, pp. 112-113.

¹⁹⁹Lee, *Flight from the Middle East*, p. 136.

It should be noted that after World War II, the RAF's primary mission was to prepare for general war against the Soviet Union along the central front in Europe. The RAF's resources were apportioned around *this* priority, and out-of-area contingencies tended to receive short shrift in RAF planning and the allocation of limited defense monies. From the late 1940s to the mid-1960s, for example, British air power spending was oriented toward the development of the V-bomber force (the Vulcan and the Victor) and new supersonic fighters such as the P-1.²⁰⁰ These jet aircraft were meant to replace the older, slower piston-engine planes, which were better suited to operating in the dense jungles of Malaya, the mountainous forests of Kenya, or the narrow wadis of the Arabian Peninsula. Thus, aircraft that were doubtlessly regarded as castoffs by the RAF proved themselves of tremendous value in these peripheral conflicts. In addition, the British discovered that what the jet aircraft provided in speed was generally lost in bombing accuracy. Moreover, STOL aircraft proved invaluable for supply missions in Malaya, while simple commercial Cessnas and other light aircraft performed a similar role (dropping supplies by parachute rather than actually landing) in Kenya.

Indeed, the role of air power in these postwar peripheral conflicts was considerably broader than it had been before the war, ranging from offensive air strikes to troop transport, supply dropping, casualty evacuation, and aerial reconnaissance (both photographic and visual), to "sky-shouting" and leaflet-dropping psychological warfare operations. The array of aircraft used in these operations ran the gamut from medium bombers to STOL light aircraft, from jet-powered and propeller-driven fighter-bombers to helicopters. It involved regular RAF and Royal Navy aircrews, as well as local units such as the Malayan Auxiliary Air Force and the Kenya Police Reserve Wing. As Lee noted in connection with the Kenyan uprising,

The part played by the air, in the shape of the RAF and the Police Air Wing during . . . the campaign was very important, if not spectacular. In this type of jungle warfare against a fleeting enemy, the initiative must be with the ground forces, the air playing a supporting role; but no other type of warfare can make greater use of the versatility and flexibility of aircraft with a consequent saving of large numbers of troops and police.²⁰¹

²⁰⁰C. J. Bartlett, *The Long Retreat: A Short History of British Defence Policy, 1945-1970*, London: Macmillan, 1972, pp. 35-37, 66-71, 108-109.

²⁰¹Lee, *Flight from the Middle East*, p. 65.

In fact, the same can be said of the emergency in Malaya,²⁰² and even of the very different conflicts that were fought in the countryside of Cyprus and the mountains and deserts of the South Arabia Protectorates and Muscat and Oman. On balance, although air power may not have been a decisive element in these conflicts, it was nevertheless an essential one, and it certainly contributed to their successful prosecution.

²⁰²See, for example, the Army view in Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 164, and that of the Air Force in Jones, "If the RAF Had Not Been There," pp. 116-117.

IV. THE PERIPHERAL CONFLICTS OF THE 1960s AND 1970s

In 1960, the conflicts in Malaya and Kenya were declared officially ended and the states of emergency imposed in both those countries were lifted. A year earlier, a political agreement among Britain, Greece, and Turkey had resolved the revolt on Cyprus, and for the first time in more than a decade and a half, Britain's military enjoyed a respite from involvement in peripheral conflict. This hiatus, however, was short-lived. Within three years, Britain was again embroiled in two minor wars, one in the Dutch East Indies on the island of Borneo, and the other—a far more serious challenge to British authority—in Aden.

Against the backdrop of these new conflicts, two so-called "revolutions" had occurred in British defense policy and planning. In April 1957, the recently appointed Minister of Defence, Duncan Sandys, had presented his *Outline of Future Policy* in that year's Defence White Paper. Sandys himself described it as the "biggest change in military thinking ever made in normal times."¹ The ineluctable rationale behind the new statement of policy was the desire to reduce defense expenditures in view of Britain's continuing economic difficulties.² At its heart was the contention that the development of an effective nuclear deterrent had fundamentally altered the character of warfare:

Major conventional wars [are] now precluded by nuclear weapons sufficiently powerful to deter a potential aggressor. Under the umbrella of the nuclear deterrent scattered local conflicts might still erupt, though limited in scale and in duration by the threat of nuclear intervention; but long-range air transport and mobile seaborne forces gave the possibility of handing them from a central reserve, with only a moderate supplement of fixed bases and garrisons to hold the line of communications.

Under this rationale, cost savings could be achieved through reductions in both the number of strategic bases hitherto maintained by British forces and the personnel required to staff them.³

¹Quoted in Alun Gwynne Jones (Lord Chalfont), "Training and Doctrine in the British Army Since 1945," in Howard Michael (ed.), *The Theory and Practice of War*, Bloomington, Indiana, and London: Indiana University Press, 1975, p. 321.

²William Wallace, "World Status Without Tears," in Vernon Bogdanor and Robert Skidelsky (eds.), *The Age of Affluence, 1951-1964*, London: Macmillan, 1970, p. 192.

³Quoted in *Ibid.*

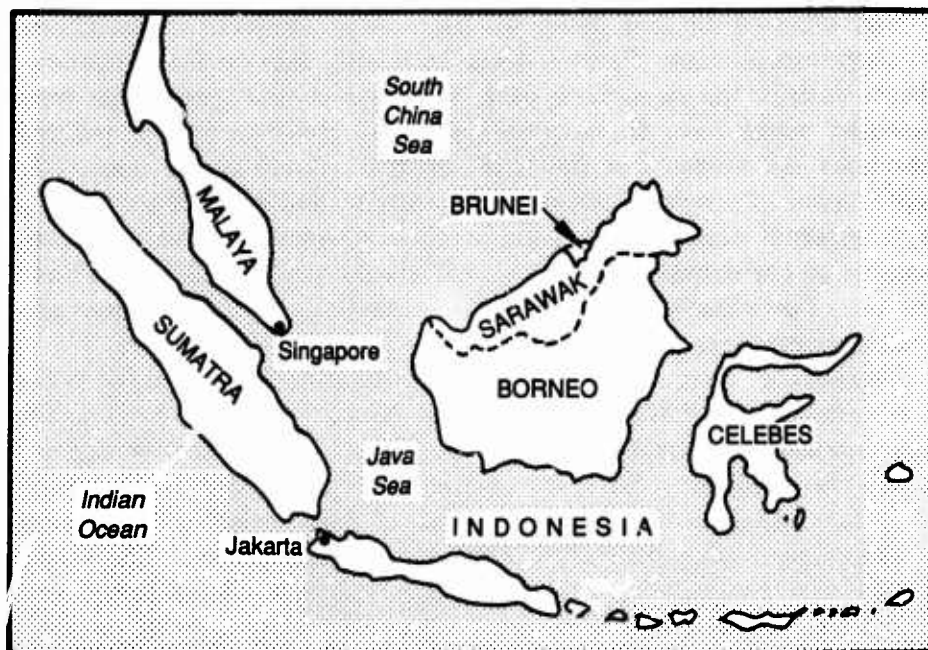
The effect of the new policy on Britain's involvement in peripheral conflicts was obvious: Britain would inevitably take on fewer commitments than in the immediate past, and those commitments that were accepted would have to be prosecuted with fewer men and reduced resources and funds. For the RAF, the 1957 White Paper meant the replacement of aircraft with strategic missiles, and reliance for dealing with external threats placed on nuclear weapons. Given the constraints on the defense budget, this orientation toward nuclear war and the use of missiles left little room for allocations for replacement aircraft or nonnuclear contingencies.

The second "revolutionary" policy occurred nine years later, with the publication of the 1966 Defence White Paper. This was, in fact, the logical outcome of the Sandys Doctrine. The new statement contained a sweeping revision of Britain's overseas defense commitments outside of Europe, marking the end of its "East of Suez" role and confirming publicly the decline of Britain to a second-rank power. The major change was the government's decision to withdraw all military forces from Aden, Malaya, and Singapore; to maintain only a small presence in the Persian Gulf; and to greatly reduce the remaining garrisons on Gibraltar, Malta, and Cyprus. Once again, fiscal considerations and a strained economy had been the driving force behind the new policy.⁴ And once again, those British forces—including the RAF—that were either still involved or soon to be involved in peripheral conflicts would be forced to function under severe manpower, resource, and materiel constraints.

BORNEO

The conflict in Borneo originated with a proposal made by the newly independent Federation of Malaya in 1962 to incorporate the city-state of Singapore and the offshore territories of Sabah, Sarawak, and Brunei into an expanded federation. This was opposed not only by a section of the native Brunei population, but by Indonesia, whose rule embraced the larger, southern part of the island known as Kalimantan. The Malayan proposal was anathema to Indonesia's strongly nationalist President Sukarno, not only because it represented an encroachment

⁴See R. N. Rosecrance, *Defense of the Realm: British Strategy in the Nuclear Epoch*, New York: Columbia University Press, 1968, pp. 269-273; and William Jackson, *Withdrawal from Empire: A Military View*, New York: St. Martin's, 1986, pp. 229-231. See also, C. J. Bartlett, *The Long Retreat: A Short History of British Defence Policy, 1945-1970*; and Phillip Darby, *British Defence Policy East of Suez 1947-1968*, London, The Royal Institute of International Affairs and Oxford University Press, 1973.



Borneo, Brunei, and Sarawak

ment on Indonesia's sovereignty over Borneo, but because it flew in the face of Sukarno's own expansionist dream of creating a greater Indonesia incorporating Malaya, Singapore, Borneo, and even the Philippines!⁵

In December 1962, an Indonesian-backed revolt was staged by the "secret army" of Brunei nationalists known as the TNKU. The insurrection was quickly and effectively defeated, but only after British reinforcements were hastily airlifted from their bases in Singapore by RAF transports. Within 24 hours of the first rebel attacks, a brigade of Gurkhas was airlifted to Brunei in three Beverley and one Hastings transport aircraft. Although the rebels had failed to gain control of the airfield at Brunei, they had succeeded in blocking part of the runway, so only the Beverleys were able to land. The Hastings was rerouted to the larger airstrip on nearby Labuan Island, and the men on board were ferried to the mainland by smaller aircraft. The Gurkhas then moved toward the principal site of rebel activity in Tutong; by 9:00 a.m. the next day, they had routed the dissident forces and were in control of the city.⁶

⁵Carver, *War Since 1945*, pp. 83-84.

⁶*Ibid.*, pp. 84, 86-88.

Further down the coast in Seria, another rebel unit had seized the facilities of the Shell Oil Company and were holding its employees and their families as hostages. With the Gurkhas still preoccupied with securing Tutong, the operation commander decided to move a detachment of The Queen's Own Highlanders, standing by in Singapore, to Seria on December 10. One company of 90 men was transported in a Beverley, which landed on a grass airstrip just east of the oilfield, while another 60 men were airlifted to the west of the rebel-controlled area by five Twin Pioneers. On December 11, the two companies converged on the Shell facility from opposite directions. Within 24 hours, the action was over. The rebels were routed, and the hostages were rescued unharmed.⁷

Meanwhile, on December 11, the No. 42 Royal Marine Commando unit was flown by the RAF from Singapore to Brunei and commenced operations against the remaining dissident forces at Limbang. The commandos were again successful, and the rebellion was decisively defeated. Additional British forces were brought by air from Singapore, and in the course of their operations were supported by both RAF helicopters and helicopters from the Navy's commando carriers. For a time, the situation remained quiet, but in April 1963 new fighting broke out. Frustrated by the failure of the indigenous rebellion, Sukarno ordered Indonesian forces to intervene, and attacks commenced against police stations and villages along the border in Sarawak.⁸ In September, after the Malayan unification proposals of the previous year had been formally enacted, Sukarno deployed guerrilla troops into Sarawak. The guerrillas, together with local Chinese communists, began to stage sporadic attacks against villages and police stations.⁹ At the end of the month, a force of some 200 Indonesian troops crossed the border and overran a local police post. In response, a Gurkha brigade was airlifted to the area by the Wessex helicopters of No. 845 Squadron, Fleet Air Arm, in hopes of cutting off the raiding party's retreat.¹⁰ The procedure for inserting the Gurkhas involved dropping an initial unit of men equipped with power saws, who were to carve a landing zone from the dense jungle to enable the helicopters to land. "The naval Wessex helicopters from the commando carriers," Carver writes, "took to this new task with enthusiasm, and were soon

⁷Ibid., pp. 86-88.

⁸Ibid., pp. 89-90.

⁹Jones, "If the RAF Had Not Been There," p. 118.

¹⁰Dewar, *Brush Fire Wars*, pp. 102-103.

permanently based ashore."¹¹ Over the course of twelve days, most of the Indonesian forces were destroyed, and in a similar operation two months later, Gurkhas transported in Wessex helicopters cut off another Indonesian raiding party, killing or capturing all but six of its members.¹²

Throughout the two succeeding years, British forces in Sarawak continued to repulse the inchoate Indonesian invasion. The few available helicopters played a critical role in supplying the British positions spread out along the frontier. British units, emulating the tactics honed in Malaya a decade before, took up positions in isolated areas of the jungle for long periods of time and were kept supplied by light aircraft or helicopters.¹³

Ground forces, involved in jungle warfare, were continuously supported from the air and were almost entirely dependent for rapid movement and supply on helicopters and STOL aircraft. The RAF provided air defence, air transport, air reconnaissance and ground attack support for the army. . . . As a result, ground forces were able to dominate 1,000 miles of frontier jungle in Borneo for three years, against guerrilla action by hostile forces that were always superior in numbers.¹⁴

In fact, during the last two years of the conflict, the RAF and the Royal Malayan Air Force transported some 31,000 tons of freight and nearly 25,000 men into Borneo, often flying in extremely difficult and dangerous conditions.¹⁵

The "confrontation" in Borneo (as the conflict was euphemistically known) ended in August 1966 with the signing of the Bangkok Agreement. Indonesia renounced its claims on the territories of northern Borneo, and Malaya's territorial integrity was upheld.¹⁶

ADEN: 1963-1965

In 1954, Britain embarked on a program to unite the various tribes of the Western and Eastern Protectorates with Aden under a centralized federal government. But the new federation was never very

¹¹Carver, *War Since 1945*, p. 91.

¹²Dewar, *Brush Fire Wars*, p. 103.

¹³Carver, *War Since 1945*, p. 93.

¹⁴Jones, "If the RAF Had Not Been There," pp. 188-119.

¹⁵Maynard, "The Far East Air Force," p. 7.

¹⁶*Ibid.*

stable;¹⁷ it was beset, as the Protectorates had long been, by both indigenous tribal rebellions and the traditional expansionist designs of neighboring states such as Yemen. Its stability was perhaps further, though inadvertently, undermined by the British decision of 1964 to grant independence to the South Arabian territories under its aegis not later than 1968, while retaining its key military base at Aden. The federation was thus assailed by both internal and external elements as a "puppet" regime that would conceal Britain's intention to continue to exercise influence over South Arabia even after its formal withdrawal. The primary aim of the various terrorist movements (backed by both Yemen and Egypt) that surfaced in 1962-1963 was the eradication of all British influence in the region and the overthrow of the federal government. This aim was a reflection of both the strident pan-Arab nationalism propounded by Egypt's Gamel Abdul Nasser and the Marxist-Leninist orientation of the rebels themselves.¹⁸

The initial catalyst was provided in 1962, when Badr, the son of the recently deceased ruler of the Yemen, Iman Ahmed, was overthrown in an Egyptian-supported coup. Now Egypt and the socialist regimes in Yemen turned their attention to subverting South Arabia and spreading their nationalist revolution southward.¹⁹ In June 1963, the National Liberation Front (NLF) was formed in Yemen to be the vanguard of this revolution. The NLF did not conceal its intention to destroy the federation, completely eliminate British influence in South Arabia, and establish a Marxist state with close links to Egypt and Yemen, through terrorism and violence.²⁰ Thus in December 1963, an Egyptian-backed, Yemeni-supported terrorist campaign was inaugurated with the bombing of a delegation of senior British and federal government officials gathered at the Aden airport to attend a constitutional conference in London. The Assistant High Commissioner and an Indian woman were killed, and 53 others—including the High Commissioner himself—were wounded.²¹

It was all too apparent that the revolt would not be confined to Aden but would extend to the Arabian hinterland, where renegade tribes had long resisted British suzerainty and control by the federal government. The tribes in the Radfan in particular were courted by Egyptian and Yemeni agents, who offered weapons, money, and other

¹⁷Carver, *War Since 1945*, p. 63.

¹⁸Paget, *Last Post: Aden 1964-1967*, pp. 113, 143.

¹⁹Carver, *War Since 1945*, p. 65.

²⁰*Ibid.*, p. 71.

²¹Dewar, *Brush Fire Wars*, p. 113.

support to join the rebellion.²² Accordingly, the border with Yemen was immediately closed, and a State of Emergency was declared throughout South Arabia. Within weeks, in fact, a joint British/federal Regular Army was dispatched to the Radfan (the area due north of Aden, bordering Yemen, in the western part of the federation) to subdue the rebellious tribes.²³

Until that time, the system of air control had been the most effective and economical means for ensuring the security of South Arabia. "It was excellent," Lee writes, "for quelling tribal dissidence in a swift, economical and humane manner. But it clearly had its limitations when it came to maintaining security along a closed frontier, or countering subversion in a populated area, such as Aden State."²⁴ Moreover, during the years following the 1956 Suez Campaign,²⁵ a mood of febrile nationalism swept the Middle East generating renewed hostility towards Western domination and interference in regional and local affairs. In these circumstances, the traditional method of disciplining restive natives had become not only politically unacceptable, but also an international embarrassment.²⁶ Therefore, in 1964, Britain decided to buttress the authority of the federal government by deploying additional British ground forces to the region. As a result, command of British and indigenous forces in South Arabia passed, after more than three decades, from the RAF to the Army, as the General Officer Commanding of Middle East Land Forces (MELF), Major-General John Lubbon, assumed overall responsibility for counterinsurgency and counterterrorist operations.²⁷

This is not to imply, however, that the RAF did not play an important role in the campaign. If anything, in fact, air power had a greater contribution to offer, because of the paucity of roads in the most disturbed areas and the strain placed on the sappers and Royal Engineers of having to repeatedly clear the main Dhala Road (linking Aden with the key cities of Lahej, Thumier, and Dhala to the north) and other key thoroughfares for mines, as well as build new roads. The only way to supply this force was by air. An average of 30,000 pounds of

²²Ibid., p. 117.

²³Carver, *War Since 1945*, p. 66-68.

²⁴Lee, *Flight from the Middle East*, p. 203.

²⁵In November 1956, a joint British-French-Israeli force had invaded Egypt with the aim of seizing the Suez Canal, which had recently been nationalized by Egypt, and overthrowing the increasingly anti-Western Nasser regime. This heavy-handed exercise of big-power intervention had been decried throughout the world as a reassertion of "colonialism."

²⁶See Carver, *War Since 1945*, p. 66; Darby, *British Defence Policy East of Suez 1947-1968*, pp. 89-90; and Paget, *Last Post: Aden 1964-1967*, p. 45.

²⁷Paget, *Last Post: Aden 1964-1967*, p. 53.

supplies was airlifted daily to the Radfan during one month alone (29 April-May 1964) by six helicopters in approximately 30 separate sorties.²⁸

By 1965, the RAF establishment in South Arabia had grown to some 7,000 personnel and 204 aircraft organized into thirteen squadrons.²⁹ The Hunter fighter-bombers, Shackleton converted bombers, Beverley and Argosy transport planes, and Belvedere helicopters were the main RAF "workhorses" in South Arabia. The Hunters were armed with 30-mm cannon and equipped with 3-inch rockets and were regarded as extremely effective ground-attack aircraft. The Shackletons were adapted from their original mission of maritime search and rescue to carry conventional bombs, depth charges, and flares, and were fitted with 20-mm cannon. The STOL Beverleys were especially useful for operations in the Arabian hinterland, where they could land on short, rough strips and carry heavy loads. The Argosies were employed as troop and supply transports, providing regular air service between Aden and Bahrain and Nairobi. Between 1962 and 1965, the Argosies of No. 105 Squadron flew more than a million miles and ferried nearly 4 million pounds of freight. Finally, the Belvederes of No. 26 Squadron provided the essential helicopter support lift required for the rapid deployment of troops to inaccessible hilltops and wadis throughout the federation. Although the Belvedere, according to one account, "acquitted itself magnificently . . . it [was] not the ideal helicopter for tactical flying in this mountainous region." Among its drawbacks were poor deceleration and maneuverability at high altitudes and its long wheelbase, which required relatively large landing areas.³⁰ Because of the loss of power suffered by the Belvederes at high altitudes, their maximum lift capacity often had to be halved. Air operations were also limited by the sudden and dangerous daily changes in weather condi-

²⁸Ibid., p. 58.

²⁹The aircraft included 36 Hunter GA9 fighter-bombers, divided equally between Nos. 8, 43, and 208 Squadrons, along with an additional four Hunters attached to 1417 Flight; seven Belvedere HC1 helicopters of No. 26 Squadron four Shackleton MR2s of No. 26 Squadron; eight Twin Pioneer transport CC1s of No. 78 Squadron six Beverley CIs of No. 84 Squadron; ten Argosy CIs of No. 105 Squadron; six Valettas of No. 233 Squadron; three Sycamore HR14 helicopters of an SAR Flight (Lee, *Flight from the Middle East*, pp. 204-205); six Wessex helicopters provided by the Royal Navy from the aircraft carrier, *H.M.S. Centaur*; two Scout helicopters of No. 653 Squadron Army Air Corps; and four Austers and five Beaver light aircraft (Paget, *Last Post: Aden 1964-1967*, pp. 45, 47).

³⁰Air Vice Marshal J. E. Johnson, "The Role of Air Forces Middle East," *RAF Quarterly*, Vol. 5, No. 3, 1965, pp. 171, 173.

tions that regularly grounded all aircraft for two hours in the afternoon.³¹

Operation "Nutcracker"

On January 4, 1964, the first major operation of the campaign, code-named "Nutcracker," was launched in the Radfan. A force of some 1,100 men, consisting of three battalions of federation troops and the Federation Armored Car Squadron,³² backed by a troop of British tanks, a battery of light artillery and a troop of engineers, moved into the area.³³ The RAF's mission was not only to provide close support for the advancing ground force, but also to transport part of the force to their deployment positions and thereafter supply them.³⁴ This critical link was provided by the RAF's twin-rotor Belvederes and four of the Navy's Wessex helicopters, with the RAF Hunters of No. 208 Squadron and Shackleton MR2 maritime patrol aircraft covering the lift.³⁵

The operation's objective, as its commander Brigadier John Lunt explained, was "to carry out a demonstration in force in the area of Radfan, with a view to compelling the withdrawal from the area of 12 named dissidents, and convincing the tribesmen that the Government had the ability and the will to enter Radfan as and when it felt inclined."³⁶ In addition, the operation had two ancillary aims: to put on a show of force specifically directed at the traditionally rebellious Quteibi tribe resident in the region, and to construct a road over a goat track that would enable motorized transport to operate in the area.³⁷ According to Lunt's plan, a battalion of Federal Regular Army (FRA) troops would first be airlifted by helicopter onto hilltops overlooking both sides of the Wadi Rabwa and the high ground above Thumier, while the main force, composed of another FRA battalion, would advance up the wadi and dislodge the rebels.³⁸

The operation, however, had problems from the outset. Low cloud cover prevented the helicopters from taking off on schedule, and although the first group of 16 FRA troops was successfully deposited on the heights, a second helicopter came under fire from the tribesmen

³¹Paget, *Last Post: Aden 1964-1967*, p. 58.

³²*Ibid.*, pp. 47, 58.

³³Carver, *War Since 1945*, pp. 66-67.

³⁴Lee, *Flight from the Middle East*, p. 205.

³⁵*Ibid.*, p. 206; and Carver, *War Since 1945*, p. 67.

³⁶Quoted in Paget, *Last Post: Aden 1964-1967*, p. 47.

³⁷Dewar, *Brush Fire Wars*, p. 119.

³⁸Paget, *Last Post: Aden 1964-1967*, pp. 47-48.

below. Because the Belvederes were so large and vulnerable, it had been agreed that they should not be exposed to enemy fire. Moreover, no contingency plan had been devised for use if this should occur. The RAF officer overseeing the air component of the operation therefore ordered the two Belvederes and the four Navy Wessex helicopters that were en route to the wadi to return to base. This decision, Lunt angrily protested, not only left the force already on the ground exposed to attack, but threatened to undermine the entire operation. The matter was not resolved until it was referred to the highest echelon of the British command structure in Aden, and only then were the helicopters instructed to resume the operation as planned. By this time, however, the troops waiting for transport had become impatient and had scaled the wadi on their own. According to Paget,

This was the first experience that Middle East Air Forces had had of controlling helicopters in a tactical role like this in Radfan, and the notoriously difficult problem of their command and control, as between the RAF HQ in Aden and the commander on the spot, had not yet been fully resolved. Following this incident, a more satisfactory relationship was established.³⁹

The FRA battalions ensconced atop the wadi were attacked by a guerrilla force at least three times their size.⁴⁰ Critical support was provided by the Hunters of No. 208 Squadron, which systematically destroyed enemy positions identified by the ground forces, and by the Belvederes and Wessex, which continually ferried artillery pieces and supplies to the beleaguered troops.⁴¹ A section of 105-mm field guns was lifted onto the wadi by the Belvederes, in what was "possibly the first time that guns had been moved in this way on active operations." This initial operation was deemed to have been successful and, having achieved its objective, i.e., pacifying the area around Thumier and driving out the rebels, the force was withdrawn.⁴²

Radforce

This turned out to be a precipitous move, since within weeks of the operation, the Quteibi returned to their old positions and destroyed the new road.⁴³ In addition, Yemen had stepped up its support of dissident activity so that not only had raids on border villages and FRA forts

³⁹Ibid., p. 48.

⁴⁰Ibid., p. 49.

⁴¹Lee, *Flight from the Middle East*, p. 207.

⁴²Paget, *Last Post: Aden 1964-1967*, p. 49.

⁴³Carver, *War Since 1945*, p. 68.

increased, Yemeni MiGs and helicopters were now flying in support of these attacks. In consequence, on March 28, eight Hunters staged a retaliatory raid against a Yemeni frontier post at Harib, destroying the fort.⁴⁴ The air strike, however, had no effect on the growing incidence of attacks along the Dhala Road. The government therefore decided that some additional action was required, this time including British as well as federation troops. A mixed force of No. 45 Royal Marine Commando and paratroops from the 3rd Battalion and two battalions of the FRA, supported by a battery of 105-mm artillery, a troop of engineers, and a squadron of armored cars (instead of the tanks used in January), was hastily put together and named "Radforce."⁴⁵ Offensive air support was furnished by Hunters and Shackletons, and supply and transport were provided by Twin Pioneers, along with Belvedere and Scout helicopters⁴⁶ (the Wessexes being temporarily unavailable). The plan was the same as the one that had been followed the previous January: A small force was to occupy the high ground of the Rabwa Pass and prepare the way for a rather more ambitious night parachute drop of the main force, which was to advance under cover of darkness and reach the heights by first light.⁴⁷

The operation began on the night of April 29, with the deployment of one SAS troop by three Scout helicopters under cover of artillery fire. The deployment was completed within about 20 minutes. However, hostile tribesmen located the SAS force the following day and mounted an intense attack. Unable to mark the drop zone, the patrol was now dangerously isolated and radioed for air support. "The RAF responded magnificently," Paget relates, "and provided air cover throughout the entire day; Hunter aircraft were constantly overhead, diving again and again on the encircling enemy, sometimes opening fire on them as close as 30 yards from the SAS patrol." The accuracy of these strikes was made possible by the skill of the Hunter pilots themselves, as well as the communication and control apparatus improvised by the SAS commander directing the deployment from Thumier and the air liaison officer attached to his operations center. Ground-force target identification was communicated almost immediately to the

⁴⁴Dewar, *Brush Fire Wars*, p. 120.

⁴⁵Carver, *War Since 1945*, p. 68.

⁴⁶Lee, *Flight from the Middle East*, pp. 208-209.

⁴⁷Carver, *War Since 1945*, pp. 68-69.

pilots,⁴⁸ and by the end of the day the Hunters had flown a total of 18 sorties, firing 127 rockets and 7,131 rounds of ammunition.⁴⁹

The rebel assault having been repulsed, the SAS now had the problem of seizing the heights (codenamed "Cap Badge") to complete the operation. Since the parachute drop had been canceled, it was decided that the parachute company and Marines should move on foot up the mountain. Despite an 11-hour march, they were unable to reach their objective, and at daybreak they were spotted by tribesmen and pinned down in the low ground just east of the ridge.⁵⁰ Trapped beyond the range of artillery, the detachment again had to call in the Hunters,⁵¹ which once more laid down a barrage of rocket, cannon, and machine-gun fire, often striking within 150 yards of the British positions. In addition, the Beaver helicopters of the Army Air Corps flew repeated resupply sorties, often under heavy fire, and accurately dropped ammunition and water onto the paratroops' position⁵² while an RAF Belvedere evacuated casualties.⁵³

Meanwhile, the Beavers airlifted a reserve company of commandos to the top of "Cap Badge" to attack the rebel positions farther down the ridge that were firing on the main force. More than a day after the operation began—and after a 10-hour battle—"Radforce" achieved its objective and secured the mountaintop.⁵⁴ The mission was accomplished at a loss of only two men killed and ten wounded.⁵⁵

By mid-May, "Radforce" was firmly ensconced on "Cap Badge" and was in a position to consolidate its control over the surrounding territory. Its first move was to "proscribe" the entire region—forcibly evacuating all the inhabitants of the villages and settlements in the area⁵⁶—and reimpose a form of air control.⁵⁷ All offensive operations except air operations were restricted, as efforts were undertaken to ease the demands of supplying "Radforce" on the few available helicopters. Roads were cut for ground transport through previously inaccessible

⁴⁸Paget, *Last Post: Aden 1964-1967*, p. 64-65. For a vivid firsthand account of the deployment and battle by a member of the SAS patrol, see Peter Stiff, *See You in November*, Aberton, South Africa: Galago, 1985, pp. 35-37.

⁴⁹Lee, *Flight from the Middle East*, p. 211.

⁵⁰Carver, *War Since 1945*, p. 69.

⁵¹Lee, *Flight from the Middle East*, p. 211.

⁵²Dewar, *Brush Fire Wars*, p. 123. See also Paget, *Last Post: Aden 1964-1967*, pp. 68-71.

⁵³Paget, *Last Post: Aden 1964-1967*, p. 71.

⁵⁴Lee, *Flight from the Middle East*, p. 211.

⁵⁵Paget, *Last Post: Aden 1964-1967*, p. 71.

⁵⁶Ibid.

⁵⁷Lee, *Flight from the Middle East*, p. 215.

wadis, and airstrips were constructed for use by light aircraft.⁵⁸ While this work went on, constant surveillance was maintained over the proscribed area by the Hunters and Shackletons, which attacked and harassed any rebel movement on the ground below.⁵⁹ In addition, the 653 Army Air Corps Squadron of Scout helicopters was moved from Aden to Thumier, nearer to "Radforce," thereby saving at least two hours of flying time each day. Any craft needing repair still had to return to Aden, but the flights to Aden were usually carried out at night so that daytime supply operations would not be affected.⁶⁰ The helicopters again demonstrated their value by moving two 105-mm howitzers to the top of "Cap Badge"—an operation that would otherwise have required a caravan of at least 28 camels!⁶¹

The government now decided to mount another major operation in the Radfan in the hope of ending all rebel activity in the region. The plan had two goals:

1. To demonstrate to the dissidents the ability of British troops to penetrate into their territory, and to invade even those areas of particular prestige value to the tribes.
2. To provoke the dissidents to fight and so to suffer casualties, which would lower their morale.

A force of seven battalions—five British infantry, parachute, and Commando units, two FRA battalions, and an expanded artillery battery equipped with a section of medium guns—was assembled. On May 19, the operation began with an armored show of force through the Wadi Misrah. The column encountered no opposition until May 26, when it made contact with a large force of dissident tribesmen. A concerted thrust, backed by artillery fire and air strikes, succeeded in routing the rebels from one of their principal bases.⁶² The Hunters, in particular, were reported by Lee to have "provided magnificent support. At considerable risk, they flew at ground level along the bottom of the narrow wadi, attacking the rebel positions as they were identified. As on a previous occasion, their support was so close that troops were hit by

⁵⁸Carver, *War Since 1945*, p. 69.

⁵⁹Lee, *Flight from the Middle East*, p. 215.

⁶⁰On one occasion, in fact, "a helicopter shot up in the afternoon had new rotor blades fitted that night at . . . Aden, was test flown at midnight and was back in action in the Radfan the next day." (Paget, *Last Post: Aden 1964-1967*, p. 72.)

⁶¹Ibid.

⁶²Carver, *War Since 1945*, p. 70.

spent cartridges as the Hunters passed over their heads firing at the enemy beyond."⁶³

The advance now continued toward the final objective, 5,500-foot-high Jebel Huriyah. The lift and supply requirements of the large force severely strained the capabilities of the few available Belvedere, Scouts, Whirlwinds, and Wessex helicopters. On May 25, the day the Wessex helicopters from the *Centaur* returned to operations in South Arabia from the Far East, they flew 90 sorties despite the pilots' unfamiliarity with flying conditions over the Radfan.⁶⁴ Until this time, the armored column had been supplied by just two Scout helicopters. Their daily sorties were absolutely crucial, since there was no water in the area except that transported on foot or by air.⁶⁵

As the column came within sight of Jebel Huriyah, some 50 tribesmen attacked it, firing from positions on the side of the wadi. Air strikes and artillery fire were called in on the rebels, who clung desperately to the hillside before withdrawing in the face of an intense barrage of rocket, cannon, artillery, and small-arms fire. When the assault force stormed the hillside the following morning, it found the rebel positions abandoned.⁶⁶ The tactical importance of Jebel Huriyah was evinced by the fact that this was the first time the tribesmen had chosen to stand and fight, rather than falling back on their usual hit-and-run tactics.⁶⁷

The battle went on for three more days, until June 10, when the mountain was taken under cover of darkness. The Shackletons facilitated the final advance by dropping flares to light the way for the force, and a single Scout helicopter flew nine supply sorties with only an 8-minute turnaround after each return to base. This was a particularly significant achievement in that it was the first time a nighttime helicopter assault had been carried out by the British Army.⁶⁸ The capture of Jebel Huriyah effectively ended dissident activity in the Radfan, and although it remained a commitment for another two and a half years,⁶⁹ "Radforce" was withdrawn in August. In its place, the local British military commander organized a small stand-by force composed of a platoon of infantry and four helicopters (three Scouts and one Wessex), which was placed on immediate notice to respond as

⁶³Lee, *Flight from the Middle East*, p. 214.

⁶⁴Ibid., p. 217.

⁶⁵Paget, *Last Post: Aden 1964-1967*, p. 85.

⁶⁶Carver, *War Since 1945*, p. 70.

⁶⁷Lee, *Flight from the Middle East*, p. 215; see also Paget, *Last Post: Aden 1964-1967*, p. 88.

⁶⁸Ibid., p. 99.

⁶⁹Carver, *War Since 1945*, p. 71.

quickly as possible to any report of dissident tribesmen having reentered the Radfan. When a report of enemy movement was received from a patrol or observation post, the force was immediately activated. After a quick briefing, the ground forces boarded their helicopters, and any additional information was transmitted to them while en route. Repeated preoperational drills and training exercises assured a high level of readiness and competence. This rapid deployment force provided a very effective and economical means of policing so large an area. Frequent overflights by various aircraft during daylight hours further hampered dissident operations. In 1966, the RAF commenced nighttime overflights as well. Shackletons and helicopters equipped with searchlights would drop concentrated clusters of flares to inhibit rebel movement or to push them toward particular locations where they were vulnerable to attack from the fighter-bombers.⁷⁰

The Urban Terrorist Campaign in Aden and the End of the Conflict

The victory in the Radfan, however, was not accompanied by a collapse of the rebel campaign elsewhere in the federation. As had happened in Cyprus a decade before, the locus of dissident activity merely shifted from the countryside to the city—in particular, to Aden. Here, too, the Air Force had a role to play, although only with its helicopters. For perhaps the first time, the British employed helicopters in crowded urban areas to alert the ground forces to any sign of trouble (such as crowds massing, incipient riot conditions, etc.), as well as to spot any terrorist movement (such as mortar or bazooka teams taking up attack positions). The helicopters pursued suspect automobiles or trucks and forced them to stop by depositing patrols of soldiers in front of them.⁷¹

By 1966, the still unresolved conflict was fast becoming a liability to the British government at home. Men and materiel were being expended on a terroritory from which Britain had already declared its intention to withdraw. The only reason to carry on was to protect the military base at Aden, which was to be retained after independence. But in February 1966, this requirement was removed with the announcement that military facilities would not be maintained following the withdrawal two years hence.⁷² Seeking to further extract itself from the worsening situation, the British government advanced the date of withdrawal and independence, and on November 30, 1967—a

⁷⁰Paget, *Last Post: Aden 1964-1967*, pp. 172-173.

⁷¹Ibid., pp. 148-149.

⁷²Dewar, pp. 130-131.

year sooner than had originally been planned—Britain formally granted independence to South Arabia. The ultimate outcome of the conflict was the establishment of the Marxist-Leninist People's Democratic Republic of Yemen (PDRY) in place of the pro-Western federal government.⁷³

DHOFAR: 1970-1975

Britain's withdrawal from South Arabia in November 1967 did not, however, end its involvement in the region. For the next decade, in fact, British military forces were engaged in another counterinsurgency campaign in the region, albeit a much smaller one. The "Dhofar Campaign," as this conflict is known, was in fact a legacy, or a continuation, of the communist-inspired insurrection that had occurred in South Arabia between 1962 and 1967. Within months of coming to power, the new government of the PDRY inaugurated a campaign of subversion against the British-backed Sultanate of Oman. The purpose of this campaign was to undermine the Sultan's control of Dhofar, the westernmost province of Oman, which bordered the PDRY.⁷⁴

Because of its geographical isolation from the rest of Oman, Dhofar was an ideal choice for the PDRY's expansionist desires. The Sultanate of Oman occupies some 120,000 square miles on the southeastern corner of the Arabian peninsula. It is bordered on the northwest by the United Arab Emirates, on the west by Saudi Arabia, and on the southwest by the PDRY. The vast majority of Oman's population live beyond the Hajar mountain range in the northeastern corner of the Sultanate, facing the Gulf of Oman. To the south and west of the Hajar is the *Rub al-Khalil*, or "Empty Quarter," the vast desert expanse that borders Oman and Saudi Arabia. The region to the south of the desert in Oman, some 500 miles from the Sultanate's population center, comprises the province of Dhofar. It is desolate and harsh country, with few roads and, accordingly, poor communications. "Dhofar's isolation," one account explains, "is further enhanced by its geography, which makes the province appear rather like an island, surrounded by the desert to the north and east, the Arabian Sea to the south and the extremely rough terrain to the PDRY border in the west." In Dhofar, the PDRY found fertile ground for insurrection among its indigenous tribes, which, much like their counterparts in the Radfan, were readily inclined to rebellion and easily seduced by prom-

⁷³Carver, *War Since 1945*, pp. 80-81.

⁷⁴Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," p. 29.

ises of largesse and plunder, sweetened by gifts of small arms and other weapons.⁷⁵

Trouble had been brewing in Dhofar since 1965, when an escalation of tribal raids had threatened the provincial capital of Salalah and the RAF base there. During that year, the RAF had twice transported a platoon of the Parachute Regiment from Bahrain to Salalah to protect the airfield. The Omani government had also been forced to deploy units of the Sultan's Armed Forces (SAF) and the Sultan's Air Force (SOAF) to the region to counter this threat.⁷⁶ Both forces were equipped and trained by Britain, and many of the officers were British. Britain had formed the SOAF in 1959 and provided it with three piston-engined Provosts and attendant RAF aircrews seconded to the Sultan. Airwork Services Limited, a private business concern, provided maintenance under contract to the Sultan. By 1963, the SOAF had evolved into a small but extremely competent and efficient force, comprising the three Provosts and an additional single Pioneer.⁷⁷ Two years later, the simmering rebellion was poised on the brink of becoming a more serious guerrilla war. The moving force behind this campaign was none other than the Sultan's old enemy, the Iman Ghalib, the leader of the rebellion fomented in Oman by Saudi Arabia during 1957-1958.⁷⁸

The RAF had not been called upon to provide any support beyond transporting the paratroops to Salalah, since the SOAF's Provost and Beaver aircraft were more than able to handle this task. Moreover, after a particularly serious attack on an SAF patrol in 1966, the SOAF staged its first air strike, with the Provosts attacking the retreating rebel band and destroying two vehicles. Nevertheless, guerrilla attacks continued to escalate throughout the year, and the Sultan's forces became increasingly frustrated by their inability to suppress the insurrection and eliminate the dissident forces. In October, after a rebel ambush had claimed the lives of several SAF soliders, the British government decided to intervene. A punitive expedition consisting of units of the 1st Irish Guards was landed from the HMS *Fearless* and routed the dissidents. Thereafter, a temporary quiet settled over Oman.⁷⁹

The RAF continued in its support role, transporting troops to and from Salalah and flying occasional reconnaissance missions over the

⁷⁵Ibid., p. 25.

⁷⁶Lee, *Flight from the Middle East*, p. 265.

⁷⁷Ibid., pp. 137, 201.

⁷⁸Ibid., pp. 265-267.

⁷⁹Ibid.

desert in hopes of spotting caravans smuggling arms to the rebels. One noteworthy activity was the organization of a school on the offshore island of Yas to train both British and Omani officers as forward air controllers and air contact team personnel. No. 208 Squadron, with its Hunters, was moved to the island, and having been recently reequipped with SNEB rockets in addition to the 3-inch RP already in use, it was able to gain invaluable practice working in concert with the training teams.⁸⁰

The curtailment of rebel activity accomplished by the Irish Guards was, however, short-lived. No sooner had Britain officially departed from South Arabia in 1967 than the PDRY began to channel arms (mostly of Chinese and Soviet manufacture) to the rebel organization that had been formed among the Imam's followers by the PDRY, called the Popular Front for the Liberation of Oman and the Arabian Gulf (PFLOAG).⁸¹ During the next three years, the situation in Dhofar remained relatively stable, characterized mostly by sporadic skirmishes between the dissident forces and the SAF.⁸²

Meanwhile, various RAF training activities continued, with Vulcan⁸³ squadrons from Cyprus practicing low flying and weapons training over Oman's empty desert spaces. These exercises accorded well with the Sultan's intentions of making the continuing British presence in his land known while he was regrouping and preparing for a new campaign in Dhofar. In 1971, Britain implemented the decision made the previous year to reduce its military presence in the Middle East by closing down the bases in Bahrain and Sharjah (in the Trucial Arab States). The RAF gave a large quantity of supplies and other materiel to the SOAF, the Kuwaiti Air Force, and the Abu Dhabi Defence Force, or simply transferred the supplies to its bases at Masirah. In particular, a new AR-1 radar system was installed at Masirah, and the Hunters of No. 208 Squadron consolidated with those of No. 8 Squadron at Salalah.⁸⁴ There was an attendant reduction of British military personnel, so that only some 150 seconded and 300 contract officers, in addition to 50 medical and BATT (British Army Training Teams), were stationed there at any one time.⁸⁵

⁸⁰Ibid., p. 267.

⁸¹Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," p. 29.

⁸²Dewar, *Brush Fire Wars*, p. 170.

⁸³The Vulcan was a heavy, strategic (hence, nuclear-capable) bomber.

⁸⁴Lee, *Flight from the Middle East*, pp. 280, 284.

⁸⁵Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," p. 32.

In 1972, the level of rebel activity in Dhofar increased significantly.⁸⁶ Two years earlier, a second PDRY-backed insurgent movement, known as the National Democratic Front for the Liberation of Oman and the Arabian Gulf (NDFLOAG), had joined PFLOAG in the campaign to subvert Dhofar. This combination now presented a more serious threat than had existed in the past.⁸⁷ This was demonstrated in July 1972, when the garrison at Marbat was besieged by a rebel force of some 250 men, armed not only with the usual Kalashnikov AK-47s, but also with a variety of heavy machineguns and various light and medium mortars, as well as two Soviet-manufactured 75-mm anti-tank guns and a Swedish 84-mm Carl Gustav rocket launcher. Worse still, the attacking force was able to penetrate the garrison's defenses in less than an hour. With the rebels on the verge of overrunning the compound, air support from the SOAF was urgently required. However, the rebels had calculated their attack to occur in the midst of the monsoon season and, as they had hoped, the cloud base was so low that all planes had been grounded. Meanwhile, the situation grew increasingly desperate. Finally, having no other recourse, two SOAF Strikemasters from the Salalah base took to the air. Flying just beneath the cloud cover at an altitude of only 50 feet, the Strikemasters set upon the rebels, dropping 500-pound bombs and racking the garrison perimeter with machinegun fire. Still reeling from the air strikes, the rebels were then confronted by a helicopter-borne party of 18 SAS commandos. After a brief but fierce assault, the attacking force withdrew as additional helicopters arrived to evacuate the garrison's wounded.⁸⁸

Thereafter, no major engagements involving the Air Force took place, although the SOAF was kept busy transporting men and supplies among the various military posts scattered throughout Dhofar. By mid-1974, the SOAF detachment at Salalah had expanded appreciably and even included a Strike Squadron of eight Strikemaster jet fighter-bombers.⁸⁹ Capable of flying at speeds of up to 350 knots, or as slow as 30 knots, the Strikemaster, according to the senior British officer in Dhofar, Brigadier John Akehurst, was "the ideal counter-insurgency aircraft both for reconnaissance tasks and for providing support to the military with their choice of 500-pound bombs, Sura rockets, or machine guns. Standard operating procedure for the squadron was for it to be available for immediate deployment anywhere in Dhofar during

⁸⁶Dewar, *Brush Fire Wars*, p. 170.

⁸⁷Pimlott, "The British Army: The Dhofar Campaign, 1970-1975," p. 30.

⁸⁸Dewar, *Brush Fire Wars*, pp. 170-173.

⁸⁹The Strikemaster was the combat version of the Jet Provost trainer.

daylight hours." The Strikemasters were generally deployed in pairs when called upon for support and were never more than 15 minutes away from any scene of trouble.⁹⁰

Logistical support was provided by Agusta Bell 205 helicopters, a version of the American-made Iroquois or Huey under license in Italy. In addition, two smaller (ostensibly two-passenger) AB 206 Jet Ranger helicopters based at Salalah were used for command, control, and communication duties. The tough and reliable Agusta, however, was the main workhorse of Dhofar. It could either carry cargo onboard or lift up to 1,500 pounds slung under its belly. Alternatively, it could transport twelve fully equipped troops, although in some cases up to 23 passengers were carried. The Agustas also performed an invaluable casualty evacuation role. "Without the helicopters," wrote Akehurst, "the war might be going on yet, and they were flown with great skill and courage by contract and loan service pilots alike." The pilots, he claims, were "the most skillful in the world at that time . . . flying very many hours in difficult weather conditions, over rugged terrain and at varying altitudes." Indeed, only one helicopter crashed in Dhofar—a particularly impressive record, given that more than 600 hours were logged each month in very difficult flying conditions.⁹¹

The Short Skyvan was the principal fixed-wing aircraft used for supply and transport. Able to carry 15 passengers or 2,500 pounds of supplies, the Skyvan "looked like an ungainly . . . great box with stubby wings that seemed to defy most of the rules of flight but was nevertheless tough, reliable and versatile." Dependability and toughness were especially important in Dhofar, where rough, short airstrips were the norm and sturdy, STOL-capable aircraft were a necessity. Initially, DeHavilland Beavers were used to relay orders and other information to isolated ground units, since the Beavers could be accommodated on rough airstrips. However, they were later replaced by two Britten Norman Defenders (the military version of the Britten Norman civilian Islander), which were able to fly for up to ten hours without refueling and thus proved especially useful for this liaison activity.⁹²

All of the aircraft were flown by both loan service and contract pilots and were maintained by ground crews hired by Airwork Services Limited. The entire SOAF detachment at Salalah was commanded, not as tradition would dictate, by a senior RAF officer, but by an Army Brigadier (Akehurst). The "circumstances were unusual," Akehurst

⁹⁰John Akehurst, *We Won a War: The Campaign in Oman 1965-1975*, Wilton, England: Michael Russell, 1982, pp. 38-39.

⁹¹Ibid., pp. 39, 76-77.

⁹²Ibid., pp. 39-40.

explains, but "few disapproved the arrangement. Indeed the confidence, respect and friendship that developed between the pilots and soldiers, forged by their total reliance on each other, became a shining example of how good inter-service cooperation can be, given the right circumstances."⁹³ The Strikemaster and Hunter pilots, he recalls, were not only brave, but extremely accurate in the dispatch of their bomb loads or direction of their machinegun and cannon fire. Unlike past conflicts where the pilots had to contend merely with small-arms fire, in Dhofar the rebels had shoulder-fired SAM-7 missiles. However, only two of them hit Strikemasters. The integration of command, control, and communication was in large part orchestrated by Akehurst himself, who supervised the conduct of operations and relayed requests for air support flying overhead in a helicopter.⁹⁴

It was not until February 1975 that Akehurst had a sufficient number of helicopters to carry out airborne assaults. "Suddenly," he relates, "it became apparent that we now had the potential to mount helicopter-borne *coups-de-main* in places where the enemy had felt themselves secure."⁹⁵ However, the SOAF never had more than 12 helicopters.⁹⁶ In any event, the first operation to use this new capability was "Broomstick," the purpose of which was to occupy a high ridge where the rebels had placed a battery of Katyushka rockets. The assault was to be undertaken by troops airlifted to the heights by helicopter, using one of two methods: the helicopter could come in as low and fast as possible (what amounted to "contour" flying) before landing, or it could maintain an altitude of 6,000 feet until the last minute and then dive straight down in a tight spiral to the landing zone. Akehurst chose the latter tactic, not only because it offered greater security and a better chance of surprise, but also because it was the easier tactic to execute over unfamiliar terrain. The SOAF Strikemasters were to soften up the area with rocket and cannon fire just before the assault. However, the preliminary strike was so effective that the guerrillas fled from their positions and the mission was accomplished without any opposition.⁹⁷

At the end of the month, a similar operation, codenamed "Himaar" (Arabic for donkey), was undertaken. On this occasion, however, the guerrillas stood their ground despite the efforts of the Strikemasters. A helicopter that was landing to evacuate casualties was fired upon by

⁹³Ibid., pp. 38, 42; see also Dewar, *Brush Fire Wars*, p. 182.

⁹⁴Akehurst, *We Won a War*, pp. 94-95, 105.

⁹⁵Ibid., p. 99.

⁹⁶Dewar, *Brush Fire Wars*, p. 177.

⁹⁷Akehurst, *We Won a War*, pp. 98-101.

rebels armed with RPG-7s. The Strikemasters again were called out and quickly dealt with this new threat, knocking out the guerrilla battery. Air strikes, accompanied by artillery, continued to rain down on the rebel positions, finally causing them to withdraw with heavy casualties. Snipers covering the withdrawal were similarly silenced by the Strikemasters and SAF howitzers. By nightfall, the battle was over and the helicopter-borne force was in possession of its objective. For two more days, the helicopters were kept busy removing captured weapons and supplies.⁹⁸

No aircraft was downed by enemy ground fire until August, when a Strikemaster was hit by a SAM-7. The incident was noteworthy for the daring rescue of the pilot, who ejected safely from the stricken Strikemaster. Under fire from the SAM-7s, a British helicopter pilot (who had only recently arrived in Oman), communicating to the downed pilot through the latter's Sabre radio rescue beacon, successfully lifted him to safety.⁹⁹ The entire operation, Akehurst writes, "had been highly successful, and provoking the enemy into revealing that they had SAM 7 was an unexpected bonus. If they had kept it until later they might have caused us headaches but now we had time to fit protective kits to the helicopters to recue infra-red emission and we devised tactics which gave the best possible protection against SAMs." Later on, however, the guerrillas did cause such headaches by acquiring the more sophisticated SAM-7B, which was unaffected by these precautionary measures. With a range 1,600 meters greater than the 2,400-meter range of the SAM-7, the SAM-7B was a much more formidable weapon. The rebels fired a total of 23 SAMs at aircraft in Dhofar, of which only three struck their targets (the last one struck a Strikemaster, which nevertheless managed to return safely to base).¹⁰⁰

In October, Hunters were used for the first time in Dhofar. These aircraft had been donated to Oman by Jordan's King Hussein only a few months before. The Hunters enhanced the SOAF's striking capability in that they were capable of carrying 1,000-pound bombs (twice the size of the ordnance carried by the Strikemasters) and were armed with 30-mm cannon. In addition, the Hunters were faster and more maneuverable than the Strikemasters and therefore were more difficult targets for the guerrillas' SAM missiles. Indeed, with the help of the

⁹⁸Ibid., pp. 101-109; see also pp. 117-119 for operations that successfully employed helicopter assaults with air and artillery support.

⁹⁹Ibid., pp. 139-142; and Dewar, *Brush Fire Wars*, p. 177.

¹⁰⁰Akehurst, *We Won a War*, p. 143. Apart from the two Strikemasters hit by SAMs, a helicopter flying at 10,000 feet had also been downed. See Dewar, *Brush Fire Wars*, p. 177.

Hunters, the campaign in Dhofar was successfully concluded a few months later.¹⁰¹

CONCLUSION

The conflict in South Arabia between 1962 and 1967 was a classic instance of military victory contradicted by political defeat. The victory, admittedly, was an incomplete one, achieved in only one theater of operations, the Radfan. And it was accompanied by the failure to defeat the urban terrorist campaign in Aden, which hastened Britain's withdrawal from South Arabia and led to the collapse of the federation and the creation of the PDRY. But this unhappy political legacy should not obscure the military success in the conflict. The British ground and air forces (including the Royal Navy's helicopter squadrons) were able to adapt to difficult circumstances and make do with limited resources through a highly innovative, flexible, and versatile approach.¹⁰² The operation conducted by "Radforce" between April 14 and May 11, 1964, for example, has been described as "a masterpiece of improvisation . . . [and] an impressive demonstration of flexibility and resourcefulness in the handling of a remarkable variety of tactical and administrative problems. The use of the air was, of course, a key feature, but this was the essence of the whole campaign."¹⁰³

The high degree of interarm and interservice cooperation contributed in large measure to the success of the campaign. It is all the more impressive given the lack of previous training and the unfamiliarity of its varied participants with the other forces. Individual units from different services not only cooperated with one another wholeheartedly, but often combined for truly "joint operations," as in the case of the Royal Marine Commandos and the Parachute Regiment and the helicopter squadrons of the RAF, Army Air Corps, and Royal Navy, most of which were performed in tandem with the indigenous government's armed forces. Logistic support of ground forces operating deep in enemy territory, especially ensuring the ground forces' water supply, was always the critical element.¹⁰⁴ The effective supply system developed in the Radfan was predicated on the integration of the air resources of all three service arms. Equally noteworthy was the close coordination and liaison that was maintained between the air and

¹⁰¹Akehurst, *We Won a War*, pp. 154-155.

¹⁰²Paget, *Last Post: Aden 1964-1967*, p. 103.

¹⁰³*Ibid.*, p. 76.

¹⁰⁴*Ibid.*, p. 78; and Carver, *War Since 1945*, p. 69.

ground forces in the identification of targets and direction of offensive air strikes.¹⁰⁵

It is clear that none of this could have been accomplished without the RAF. "From the moment that the Radfan campaign was conceived," Paget states, "it was obvious that it must hinge on the correct use of the air. The terrain and the total absence initially of any roads forward of Thumier meant that much troop movement and nearly all supply had to be from aircraft." In particular, the absence of accurate maps made on-the-scene reconnaissance, which could only be effectively done from the air, essential. This placed a particularly heavy burden on the few Scout helicopters available, since they were the best suited aircraft for this task.¹⁰⁶

The success of the campaign also rested on the tactical mobility of the British and federation forces. "The helicopters were the key to the mobility and speed of the campaign," Paget explains. "They could reduce the time it took a picquet to get into position on a mountain top from three hours to three minutes; they could move soldiers, weapons, radios, food and water in about a fraction of the time it took to do it on foot." The brunt of much of this activity fell on the Scout helicopters of the Army Air Corps. Although the RAF had between four and six Belvederes, they were larger and slower than the Scouts and therefore were more vulnerable to attack, even from rifle fire. The RAF was therefore loath to deploy the Belvederes, and this limited their use in forward areas.¹⁰⁷ When the Navy's Wessex helicopters were available, they provided invaluable assistance, but most of the work was shouldered by the Army's Scout helicopters. At first there were only two Scouts, but the demands placed on them led to the allocation of three more. However, repairs necessitated by the strenuous flying conditions in the South Arabian hinterland meant that frequently only two or three were available.¹⁰⁸ Nevertheless, between April and September 1964 alone, five Army pilots logged at least 7,200 high-altitude landings (an average of one every 8.5 minutes),¹⁰⁹ in addition to evacuating 89 serious casualties.¹¹⁰

The Auster and Beaver light aircraft on duty in South Arabia eased the burden on the helicopters by performing invaluable reconnaissance

¹⁰⁵Paget, *Last Post: Aden 1964-1967*, p. 78.

¹⁰⁶*Ibid.*, pp. 78, 104.

¹⁰⁷*Ibid.*, p. 104. This is not to imply that the Belvederes were not allowed to contribute to the success of the campaign. They performed exemplary service in difficult conditions, not the least of which was their use in deploying 5.5-inch artillery pieces to "precipitous firing points at altitudes well above their recognized ceiling for such loads, by skillful flying and airmanship." (Lee, *Flight from the Middle East*, p. 217.)

¹⁰⁸Paget, *Last Post: Aden 1964-1967*, pp. 104-105.

¹⁰⁹Lee, *Flight from the Middle East*, p. 217.

¹¹⁰Paget, *Last Post: Aden 1964-1967*, pp. 105.

work. The Beavers were also used for supply drops by parachute and occasionally in casualty evacuation, as well. The light aircraft, and especially the helicopters, were thus invaluable in maintaining troop morale, much as had occurred in Malaya and Kenya. "The troops knew," Paget notes, "that wherever they went, they would always be re-supplied, and also that if any casualties were incurred, they would be evacuated somehow and very rapidly."¹¹¹

Paget reserves his highest praise for the "strike aircraft of the RAF [which] were superb, brilliantly handled and always on the spot within minutes." The ground forces and fighter-bomber commanders maintained the closest liaison, which enabled the accurate direction of fire onto dissident positions. These air strikes also had a profound intimidating effect on the rebels and seriously hampered their operations during daylight hours. The precision of the air strikes and the often immediate appearance of aircraft over any scene of trouble had a profound bearing on troop morale. The fact that a fighter attack "nearly always achieved casualties—by no means a foregone conclusion against such an elusive enemy"—was of tremendous practical and spiritual value to the ground forces.¹¹²

All told, then, air power had proved a winning factor in a lost war—a loss that was in no way attributable to the military. In South Arabia during the mid-1960s, Britain had placed itself in the impossible situation of trying to maintain a strategic presence in a region from which it had pledged to withdraw in the near future. Given the strident Arab nationalism of the time, the two commitments became mutually exclusive, placing the British military and air forces in Aden in an unwinnable situation.

The campaign in Dhofar a decade later had an altogether happier outcome. It lasted for ten long years, but was successfully prosecuted by the British-trained and led SAF and, in particular, by the SOAF. One of the key elements in this success, Akehurst contends, was the effective air power supporting the ground forces, in particular, the helicopters.¹¹³ Not only was the SOAF effective in its tactical role, but it provided critical logistical support to the ground forces deployed in the harsh, mountainous country of Dhofar. The helicopters performed yeoman service, transporting assault forces to operations, keeping them supplied, and evacuating casualties. Fixed-wing transport aircraft such as the Skyvans and Beavers proved similarly invaluable, ferrying arms, ammunition, water, and other supplies.¹¹⁴ Water was often the

¹¹¹Ibid., pp. 105-106.

¹¹²Ibid., pp. 106, 144.

¹¹³Akehurst, *We Won a War*, p. 183.

¹¹⁴Ibid., p. 165.

essential commodity in the conduct of operations in this barren and arid region. Often, it was dropped in sackcloth containers, but on occasion, when ground fire prevented the planes from flying low enough to dispatch these containers without breaking them open, "tins full of ice were . . . dropped. These took eight hours to thaw in the sun but solved the water problem."¹¹⁵

The campaigns in the Radfan and Dhofar were the last in a progression of peripheral conflicts fought by the British since 1919. The success Britain achieved in both campaigns was largely the result of more than a half-century of experience in waging counterinsurgency warfare. Air power clearly played a pivotal role in each, but the key appears to have been the improvisational expertise demonstrated by the British military in coordinating and integrating the various ground, air, and naval elements involved in the campaigns.

¹¹⁵Ranulph Fiennes, *Where Soldiers Fear to Tread*, London: Hodder & Stoughton, 1975, p. 123.

V. CONCLUSIONS AND OBSERVATIONS

Five key themes emerge from the operations described in this report. First and foremost, in nearly all of the peripheral conflicts in which Britain was involved during the period under review, the air-defense threat posed by the enemy was often at best negligible and, with the exception of the latter stages of the campaign in Dhofar (when SAM-7 missiles were first used by the insurgent forces) was virtually nonexistent. Second, until the appearance of SAM-7 weapons in the Dhofari conflict, the "modernity" of the air equipment used by British forces did not seem to matter much. Moreover, "high-tech," sophisticated aircraft were not always an improvement over the older, slower aircraft, which could take off from and land on short, rough airstrips. Third, successful operations often hinged on close coordination and communication between air and ground forces. Fourth, air strikes were often inappropriate or ineffective in campaigns in rural areas (such as Malaya and Kenya) and were of no use whatsoever in conflicts centered in urban areas (Palestine and Aden). Finally, the British appreciated—particularly in the pre-1939 conflicts, but also in the postwar campaigns (i.e., in Kenya and the Arabian Peninsula)—the comparative cost savings of air operations over traditional ground force operations with similar goals and outcomes.

AIR DEFENSE

The fact that the British encountered no air opposition, and in only one instance (Dhofar) did they confront sophisticated ground-to-air defenses, imposes a preeminent qualification on the relevance of the British experience to possible future U.S. Air Force involvement in peripheral conflict. In the vast majority of the campaigns reviewed here, British forces had to contend with only relatively small bodies of irregular forces armed with small arms, automatic weapons, hand grenades, and such. Rarely did these forces possess weapons more sophisticated than plastic explosives, bazookas, mortars, or heavy machineguns. This is quite different from anything the U.S. Air Force might be expected to encounter in similar situations.

Given the nature of insurgent warfare during the 1980s—when even those guerrilla movements that do not have access to the extensive arsenals of foreign military powers possess at least some sophisticated

shoulder-launched missiles¹—insurgents in future peripheral conflicts will almost certainly possess such weapons as well. Accordingly, perhaps the closest analogy to a likely future situation would be the British experience in the Dhofar Campaign, where the rebel tribesmen were armed with SAM-7 missiles. Even so, it should be noted that of the 23 SAMs fired at British aircraft, only 3 scored hits on their targets.

The appearance of SAM-7s in the Arabian Peninsula made defensive countermeasures a matter of considerable moment to the British. The subsequent introduction of second-generation SAM-7s invalidated those measures and caused the British to abandon the comparatively slow, small, unsophisticated jet aircraft they had initially used with great success against the insurgents. Although the French confronted only older antiair weapons in their Indochina campaigns of the 1950s, they too discovered that they had to be concerned with ground-based defenses. Today and in the foreseeable future, this is likely to be among the most difficult problem air cadres committed to peripheral campaigns will face. It is the 21st Century equivalent of the masked artillery battery so beloved of 19th Century field commanders.

THE USE OF "LOW-TECH" VERSUS "HIGH-TECH" AIRCRAFT

Of greater relevance to U.S. Air Force capabilities in future peripheral conflict is the use of "high-tech" versus "low-tech" aircraft. The sophistication of British aircraft in the conflicts reviewed here was not a matter of concern until the Dhofari Campaign, when SAMs were first used. The aircraft and helicopters employed in the post-1945 operations were never of the most recent vintage, and their users must have frequently seen them as castoffs. In some respects, having older equipment may actually have been an advantage. These less sophisticated aircraft generally required less maintenance, often operated more capably from more primitive airstrips, and usually could be handed over to indigenous air forces with less concern for consequences than would have been the case with more modern machinery.

In Malaya, for example, propeller-driven aircraft such as the Lincoln heavy bomber and the Hornet fighter-bomber were replaced by jet-powered Canberras, Vampires, and Venom FB1s. However, the RAF found that what these jet aircraft may have provided in speed they

¹The introduction of American and British shoulder-launched infrared-guided ground-to-air missiles in Afghanistan suggests that any second-area conflict in which surrogates of a major power become involved will be marked by such weapons.

sacrificed in accuracy. They simply flew in too fast over the small, isolated, well-concealed guerrilla encampments to drop their bomb loads accurately; the slower, by-then supposedly obsolete, propeller aircraft were better suited to and more effective in this type of warfare. Whether they were easier or more difficult targets for air defense than the modern aircraft remains to be determined. However, extremely "high-tech" air forces that find themselves involved in future peripheral conflicts may have to acquire more varied and specialized capabilities (e.g., STOL capabilities) to wage such campaigns.

This is particularly relevant for supply and support aircraft. During the entire post-1945 period, the ability of RAF aircraft to operate from small clearings or short, rough airstrips was the key to successful troop mobility, logistic support, resupply, and evacuation of the wounded. Had the British air units not been able to operate in this fashion, their troops would have been hard pressed to perform most of the tasks to which they were assigned in the Middle East, East Africa, and Southeast Asia. British operations in Malaya, Kenya, the Radfan, and Dhofar involved the deployment of small, mobile ground forces in distant and isolated areas of enemy activity. The only practical means of supplying these forces was by air, and in many instances, STOL aircraft such as the Pioneer, Auster, and Short Skyvan were more practical and better suited to operations than either larger transport planes or helicopters.

The Pioneers used in Malaya, for example, could land on and take off from clearings as small as 150 yards in length; they could fly at airspeeds as slow as 36 miles per hour; they required less maintenance than more modern aircraft; and they were faster and considerably more cost-effective than helicopters. In Kenya, the Piper Pacers and Tri-Pacers of the KPRW proved to be better suited to dropping small quantities of supplies to small, widely scattered and independent ground units than were large transports such as the Valettas and Dakotas. Moreover, the smaller aircraft were considerably more maneuverable, which was an additional asset in the difficult flying conditions of the Aberdare Mountains.

Although helicopters were used extensively in the Radfan campaign—and indeed acquitted themselves well—STOL aircraft such as the Beverley were better suited to the peculiar terrain and climatic conditions of the Arabian hinterland. The Belvedere helicopter, for example, often suffered loss of power and attendant maneuverability problems at high altitudes and also had a poor deceleration capability. Accordingly, the British placed greater reliance on the Beverley, which required less landing space than the Belvedere (because of the latter's long wheelbase) and could carry heavier loads. The Beverley could also

land on and take off from the short, rough airstrips carved onto mountain plateaus or between steep wadis that were the essential lifelines of the ground forces deployed deep in hostile territory. During the campaign in Dhofar a decade later, the tough and dependable STOL Short Skyvan performed very well in places and situations where helicopters could not be safely or effectively employed. Thus, possession of and skill in the use of such aircraft would appear to be an essential attribute of any air force assigned to operate in peripheral conflicts.

HELICOPTERS

Despite the difficulties encountered in the Radfan and Dhofar, the helicopter nevertheless emerged as a key component in almost all the post-1945 conflicts. By the mid-1950s, helicopters accounted for the vast majority of the sorties flown by the RAF in Malaya. They increased appreciably the speed with which ground forces could be deployed to the scene of reported guerrilla activity and proved invaluable for maintaining the morale of troops operating for long periods in isolated country, who otherwise could not have been assured of speedy evacuation in case of injury or sickness. Although one of the drawbacks of using helicopters in tactical assaults was the loss of surprise caused by the distinctive noise of their rotor blades, ingenious methods of troop insertion developed by the SAS, such as "tree-jumping," overcame much of this disadvantage.

Despite being underpowered and having a limited lift capability in mountainous areas, the Sycamore helicopters proved invaluable during British operations in the Troodos Mountain range of Cyprus. Much the same can be said of the service performed by the Belvedere, Wessex, and Scout helicopters during the Radfan campaign. In one month alone, six helicopters transported 30,000 pounds of supplies in only 30 sorties. Not only were food, arms, ammunition, and, most important, water ferried to the ground forces, 105-mm howitzers were occasionally lifted to the tops of mountains occupied by British and local forces. Helicopters proved invaluable in urban areas such as Aden for crowd control and air patrolling and surveillance. Finally, the helicopter was cited by both Akehurst and Paget as a key element in the successful prosecution of the campaign in Dhofar. In sum, the British experience testifies to the need for having fully capable helicopters assigned to the logistics and support mission.

CLOSE COORDINATION AND COMMUNICATION BETWEEN AIR AND GROUND FORCES

Over the whole of the 65-year period during which RAF units were involved in peripheral conflicts of one sort or another, success attended those operations in which control was exercised either by the senior Air Force officer present or by an Army officer who understood the capabilities and limitations of and was able to work effectively with RAF units. Interservice cooperation was a key to success in the campaigns in and around Yemen after 1964. But more than that, direct communication between ground units and supporting air units characterized all of the successful actions. It is worth noting that the aircrews assigned to support British Army and local ground force units had considerable experience (or training) in the theater and in the kinds of operations expected of them.

Since the time RAF aircraft were first employed in peripheral conflict—in support of the Army Camel Corps during the campaign in British Somaliland in 1920—close coordination and communication between air and ground forces has been an essential element in offensive operations. Although communication problems undermined the success of joint air/ground operations in Northern Ireland a year later, it appears that they had been ameliorated by the time of the RAF's next major engagement, in Iraq. There, British and local ground forces—supported by D.H. 9 bombers and Vickers Vernon transports—successfully repulsed a series of Turkish thrusts into the Mosul between 1922 and 1924. A combined force of D.H. 9s and armored cars similarly repelled a Saudi Arabian invasion of Transjordan in 1924.

Technological advances in wireless transmission and practical experience and familiarity in the conduct of joint air/ground operations account for the expanded role played by the RAF during the 1936-1939 Arab Rebellion in Palestine. This increased participation was also a reflection of the emphasis the Army commander in Palestine, General Wavell, placed on new techniques of warfare that centered on enhanced mobility. The "critical link" in Wavell's strategy was air support. Under the strategy devised in Palestine, the RAF employed an air cordon to locate or "fix" the position of a rebel band. This information was then relayed by the pilots to ground-force headquarters, which then dispatched mechanized infantry units to the scene of rebel movement.

In Malaya, British ground/air units maintained close liaison through the creation of a Joint Operations Center, where a mobile team of air planners handled all requests for ground-force patrol insertion, casualty evacuation, and supply drops. In addition, RAF personnel regularly

accompanied Army units on patrol in the jungle in order to familiarize themselves with infantry tactics and gain a greater understanding of the problems faced by these small, isolated units. Based on this experience, starting in 1956, patrols were equipped with portable radar sets, which they would plant just outside the periphery of concealed guerrilla encampments. These sets projected a beacon to guide the bombers straight over the encampments with particularly accurate and devastating results. Building on this success, the RAF in 1957 developed a more sophisticated radar guidance system that enabled the bombers to mount accurate air strikes even at night.

The successful prosecution of the campaign against the Mau Mau in the Aberdare Mountains of Kenya was almost completely attributable to air support. Individual ground units were assigned to specific areas of suspected guerrilla activity, where they would remain for an extended period of time. Their isolation in widely scattered and inaccessible corners of the forest naturally created problems of supply that could only be addressed by the light aircraft of the KPRW. In addition to this essential supply role, the KPRW pilots directed patrols to the scene of enemy movement detected from the air, provided visual identification that enabled the ground forces to identify their positions, and bolstered infantry morale by advising ground commanders on the quickest routes through the forest to evacuate casualties.

The ability of the British to provide effective close-in fire support made airborne assault feasible. The British exploited this attribute in all of their post-1945 campaigns, but never more so than in both the Radfan and Dhofar campaigns. Coordinated troop lift and fire support may not have been an original British notion, but the British demonstrated the efficacy of the technique for the sort of peripheral conflicts in which it became involved. In most cases, the forces had been air-lifted into position, an operation doubly dependent on the availability of capable air support. On countless occasions, close-in air support turned the tide of battle against rebel tribesmen. During one engagement in the Radfan, for example, close communication among the ground force commander, the air liaison officer at the operations center, and the Hunter fighter-bomber pilots enabled the pilots to direct an accurate barrage of machinegun and cannon fire to within 30 yards of friendly positions. Indeed, the Strikemaster fighter-bomber used in Dhofar a decade later demonstrated similar feats of flying.

Although the British experienced effective enemy air defense only at the end of the period reviewed in this study, it clearly was their most difficult problem. Air superiority was the first requisite both for logistic support of forward combat units and for fire support of forward operations. By now, air defense in the form of highly portable

ground-launched missiles is readily accessible to virtually any combat unit, however remote from arsenals and supply lines, so its suppression has become a matter of great consequence for all logistic support operations.

OFFENSIVE AIR STRIKES

In the post-1945 era, there was a tendency, particularly among ground-force commanders but also on the part of some air officers, to raise moral objections to air attacks on civilian populations. The British responded, characteristically, by adopting a policy of announcing when and how they expected to "punish" opponents, with the result that civilians quickly decamped. There seems to have been little official concern for the "extraneous casualties" factor during the French years in Indochina, however, and there is no evidence of public protests. In pre-1965 Vietnam, American air power provided support to South Vietnamese ground units and attacked identified Viet Cong units, rarely bombing or strafing villages or other sites in which civilians were likely to be concentrated, so the problem seldom arose. Its importance after 1965 scarcely requires comment.

Air-delivered munitions served the British as a substitute for artillery in every peripheral campaign from 1919 to 1965 (and, for that matter, in the Falklands campaign of 1983). Air power was used for long-range bombardment of fortified places, as well as punitive attacks on villages and other habitable areas and close-in support of friendly ground forces which for one reason or another had no substantial artillery complement. In insurgencies that had an urban component, bombing was inappropriate and likely to be ineffective, if not counter-productive. This limitation was evident in the riots that erupted in Jaffa and Jerusalem in the 1920s and the urban-centered revolt staged by Jewish terrorists in the 1940s. Nevertheless, it should be noted that RAF bombers were successfully deployed to disperse Arab mobs massing to attack five Jewish settlements during the 1921 disturbances.

But even in conflicts where no such limitations existed, the efficacy of heavy bombing was sometimes questioned. As Clutterbuck observed, "Until they start operating as conventional forces, guerrillas are seldom vulnerable to air attack."² This was often the case in Malaya. Despite the development of more expeditious methods of directing air strikes onto enemy concentrations spotted by ground forces, guerrilla bands

²Clutterbuck, *The Long Long War: Counterinsurgency in Malaya and Vietnam*, p. 156.

would frequently disperse and disappear into the jungle before the planes could arrive. Then again, as British capabilities improved and greater progress was made in the war against the guerrillas, fewer targets were available for the RAF's heavy bombers. In four months of intense bombing and ground sweeps of an area of particular insurgent activity, for example, only 15 guerrillas were killed. However, the use of radar beacons placed near enemy encampments by ground forces to guide the bombers right over their targets (discussed above) did indeed result in an appreciably higher kill rate.

Given the "hearts-and-minds" thrust of the Malayan insurgency, it is patently obvious that large-scale bombing of suspected guerrilla strongholds where innocent (or, for that matter, culpable) villagers might become casualties would have negated the government's pacification efforts, alienated public support, and doubtlessly driven the populace into the guerrillas' arms. This was not, however, a problem in the sparsely populated, dense forest of the Aberdare Mountains in Kenya. Here, concentrations and suspected concentrations of Mau Mau activity could be bombed with impunity. Air strikes were so successful in harassing and inflicting casualties on the Mau Mau guerrillas that in late 1954, air operations were given priority over ground operations. Meteor PR-10 photoreconnaissance aircraft would first identify targets for the strikes, then Lincoln heavy-bombers would appear to carry out their mission. This procedure was subsequently used with equal success in the area around Mount Kenya.

COST SAVINGS OF AIR POWER

The pre-1939 campaigns revealed how little air operations cost in comparison with traditional ground-force operations having similar goals and outcomes. Cost-effectiveness was, in fact, one of the leading arguments for creating a peripheral war capability in the RAF in the interwar years. The total cost of RAF operations in Iraq, for example, was just £8 million, whereas the War Office estimated a cost of £20 million for ground operations. Although there has been little discussion of relative costs in post-1945 peripheral operations,³ it seems safe to speculate that the differences were at least of the same ratio.

³Questions about the cost-effectiveness of air operations in South Vietnam were of concern to the U.S. Department of Defense in 1964, but thereafter the matter seems to have been of little interest.

LESSONS LEARNED

The campaigns conducted by the British in Malaya, Kenya, Cyprus, Borneo, and the Arabian Peninsula were not waged against large enemy formations. That fact alone should cause analysts to proceed cautiously in making comparisons with somewhat similar operations of the French in Indochina or the Americans in pre-1965 Vietnam. British forces committed to action tended to be—and to confront—comparatively small units, rarely more than a few hundred people. The French on occasion both deployed and encountered division-size units in Indochina, although such occasions were rare prior to 1953. Nevertheless, the potential was there, a circumstance that did not exist for the British.

Despite the similarities among British operations in Malaya, French actions in pre-1952 Indochina, and American activities in pre-1965 Vietnam, two sets of differences are important. First, French air operations were largely controlled by ground-force commanders, a procedure that encouraged the diffusion of resources in ill-coordinated, small packet actions. American air operations were not always well coordinated with South Vietnamese Army units either, but that was due at least as much to communications problems as to fundamental defects in command structure. In any case, providing traditional close-in fire support was difficult in Vietnam because the Viet Cong, building on their painful learning experience under French tutelage, fully appreciated the importance of ground-to-air fire. The second important difference was in the nature of the logistics support to which the enemy had access: Both the French and the Americans had to cope with forces supplied and supported by the Chinese, who were physically adjacent and had easy access. In the abstract, that imposed a demanding interdiction mission on the air units—a mission that the French could not cope with at all and the Americans found both difficult and expensive. The British never faced such a challenge. Their opposition was more vulnerable and fewer demands were placed on their air assets.

The other functions and requirements of air units engaged in peripheral warfare are similar to those of conventional air operations against a major opponent *except* for the absence of air opposition. The British repeatedly demonstrated the great value of reconnaissance (and armed reconnaissance), conventional and combat-unit resupply operations, conventional bombardment, fire support, the evacuation of casualties, and a considerable range of psychological warfare operations. The chief differences between the British experience in peripheral conflict and conventional warfare involve terrain features (the

British operated with consistent success in arid and jungle regions and with sometimes surprising effectiveness in urban areas), the need for aircraft capable of short-field operations (helicopters are not always adequate), and the absence of a major requirement for "high-tech" aircraft. This is not to say that "high-tech" equipment, particularly munitions and sensors, can be dispensed with; however, the British learned early that finding and destroying a target were the most demanding tasks in peripheral warfare.

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