

*Air Power, Insurgency and the
“War on Terror”*

Edited by
Joel Hayward

INDEX

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INTRODUCTION

Air Power and Insurgency: Some Preliminary Thoughts

Joel Hayward

Air Power and Insurgency: Some Preliminary Thoughts

Joel Hayward

When Major James Loden of 3 Para, based in the southern Afghan province of Helmand, spluttered in a September 2006 email that the Royal Air Force was “utterly, utterly useless” at providing British Army soldiers with adequate close air support, he created a national furore. Whether his views chimed with those of most British soldiers may never be known, but the head of the British Army, General Sir Richard Dannatt, certainly spoke openly in support of his sister service and called the Royal Air Force’s performance “exceptional”¹. This flash-in-the-pan controversy actually reveals the persistence of the longest-lasting misunderstanding between air forces and armies: the latter want the air cover above them to be ubiquitous, precise and lethal. In other words, soldiers ideally want aircraft above them in cab-rank virtually every minute of the day, loitering until they call them down to accurately strike the enemy with whom they are in contact but without any fratricide. Unfortunately, with the best will in the world, these expectations have always been very hard to satisfy.

This discordance is not new. Indeed, it emerged during the Great War. Bombing soldiers, positions and equipment on the battlefield was very difficult and dangerous for air forces. Increased inter-service co-ordination brought greater effectiveness to both sides’ efforts by war’s end. Yet neither side proved masterful at what later became known as close air support. Impermanence of presence, lack of lethality, high fratricide and excessive casualty rates characterised attempts at army support and battlefield attack. Yet bombing military things *behind or leading* to the battlefield proved less difficult and dangerous and altogether more effective. This established an air-land integration focus (and operational ratio) that favoured interdiction over close air support. This logical favouritism – airmen preferring to avoid close joint battle and strike instead at people and things *en route* to and from battlefields – has never significantly changed and has often confused and disappointed soldiers who have expected friendly aircraft to be continuously overhead or on call.

In the indistinct, highly decentralised and ever-changing battlespaces that tend to characterise insurgencies, air power faces those same old challenges plus some others. Discriminating between friendly and enemy combatants has always been hard from the air, but in counter-insurgency campaigns it is equally difficult to distinguish between combatants and non-combatants. Additionally, many of the air power activities that we commonly call “strategic,” such as coercion, denial and punishment campaigns, are not as applicable against guerrillas as they are in conventional warfare contexts. Take coercion,

for example. Even if one believes that a carefully nuanced air campaign has the ability to change the mind of national leaders by threatening or conducting attacks that will hurt or cost them too much, in counter-insurgency campaigns air forces are ordinarily *supporting* the national leaders whilst they struggles against troublesome sub-state actors. Therefore, air forces certainly cannot damage national infrastructure or high-value “public” objects. Moreover, the misbehaving sub-state actors own almost nothing valuable in a traditional sense that air forces can use as objects of coercive leverage.

A denial campaign is equally problematic. Air forces would ordinarily undertake this type of campaign if coercion failed and they had to prevent or stop a state from doing harm with its armed forces. Yet very few insurgent groups in today’s world – and neither the insurgents in Afghanistan nor those in Iraq – would attempt a degree of symmetry by raising armed forces with which they hope to compete in decisive battles against the state’s own forces. Instead they deliberately employ guerrilla “hunt and pounce” tactics involving very few of the bases, barracks, warehouses, armoured vehicles and heavy weapons that traditionally form the target sets of many denial air campaigns.

It is the same even with old-fashioned punishment strikes which ordinarily occur retributively when both coercion and denial campaigns have failed. Designing target sets to punish insurgent groups successfully for their maleficence is almost impossible. The insurgents rely on local populations for many of their material needs and do so in such discreet ways that finding valuable targets belonging only to the culpable within the local civilian communities is virtually unachievable.

A lack of viable independent “strategic” roles in most counter-insurgency contexts does not mean that air power is of minimal importance or influence against insurgents. Traditional “tactical” air power still plays a key role. This usually comprises air-land integration (although some air forces do also operate closely with maritime forces). The two key roles of air-land integration are close air support and interdiction and they ordinarily prove highly effective during conventional warfare. Yet the nature and physical settings of modern insurgencies makes these two roles rather difficult. At the heart of close air support doctrine for conventional warfighting lies the issue of fire-support co-ordination; that is, the synchronisation of the use of weaponry, or “fires,” from above with the fires provided by land forces. This is normally rendered possible by the establishment of fire support co-ordination lines. These are agreed positions lying between the forward lines of one’s own troops and the forward lines of the enemy’s troops. They exist to minimise fratricide and to maximise the impact of joint fires during contact battles. In modern insurgencies there are seldom any lines of troops, friendly or enemy. Fighting smartly to compensate for their disadvantages and limitations, the insurgents intentionally fight in

widely dispersed and often only loosely inter-related small groupings of warriors – rarely choosing to fight in groups bigger than army companies – with little regard for traditional concepts on linearity. This compels the counter-insurgency ground forces also to disperse in keeping with their foes, which in turn robs air power of easy ways to provide valuable support at all potentially critical points.

Similarly, the insurgents gain advantage from simultaneity; that is, from undertaking many unrelated small, surprising, seemingly spontaneous yet intense strikes or IED bombings all over troubled sectors in the theatre each and every day. This is naturally extremely wearying, frustrating and challenging for counter-insurgency forces, and perhaps especially for air forces because of their difficulties in maintaining persistent presence at every place where they might be needed at very short notice. Identifying enemies and discriminating between them and the civilians around them (who often look remarkably similar) is extremely difficult from the air, even if they receive detailed and timely information from the ground. Soldiers are naturally better able than airmen to identify and pinpoint their opponents in contact battles or fire-fights. Yet even with the best communication networks their ability to convey the information to aircraft with sufficient positional and discriminative advice, and to keep the enemy held in place until aircraft arrive, is such that, more often than not, insurgents have dispersed by the time aircraft have arrived.

Related to this is the suitability of the offensive platforms that most western or western-styled air forces keep: high-speed, multi-role fighters or attack helicopters². Both are proving useful in Afghanistan and Iraq, but they have limitations. High-speed multi-role aircraft are expensive to operate, have large logistical overheads, and need to operate from bases with significant infrastructure. They also tend to have limited endurance (which can be minimised by air-to-air refuelling although this creates additional resourcing pressures and reduces flexibility) and inadequate permanence. Helicopters, on the other hand, pose their own challenges. They are ideally suited to flying low and slow, and they ordinarily carry direct-fire, low-yield weapons, which make them ideal for operations against foes that choose to fight in close proximity to civilians. Yet they are relatively vulnerable to rockets, man-portable missiles and especially small arms fire, as US forces in Iraq learned to their sorrow in 2007³.

Slower-speed, armoured, survivable and precise fixed-wing aircraft and gunships with good loiter capacity (such as the A-10 Warthog, the AC-130H Spectre and the AC-130U Spooky) may seem the answer⁴, but few air forces have them and, in the case of the gunships, few can afford them. UAVs (unmanned aerial vehicles) and UCAVs (unmanned combat aerial vehicles) are accordingly becoming far more numerous and, as various

authors demonstrate below in this volume, their contributions are increasingly influential.

Interdiction is also problematic as a means of reducing the fighting strength of insurgent forces because they deliberately minimise their reliance on western-style logistics tails. Interdiction tends to work best in a conventional setting with an intense battle rhythm that involves the consumption of vast quantities of *materiel*. Ideally for the air force undertaking the interdiction, the battleground would be containable, have no porous borders and have only supply routes that are limited in number, well known and reasonable free of non-combatants. In both the major insurgencies in which NATO and other western forces are currently engaged this ideal situation is noticeably absent. Instead, the insurgents generate a non-mechanised battle rhythm that requires hardly any centrally-sourced supplies. They have very few heavy vehicles with unusual rates of consumption, instead preferring ordinary cars and four-wheel-drive vehicles such as the Toyota Hi-Lux. These fast, rugged, economical and relatively low-maintenance vehicles look exactly like those driven by civilians and can be fuelled almost anywhere in local towns and villages. The insurgents have few large weapons requiring heavy ammunition and almost none that need to move openly via major roads. Whereas our forces require the forward movement of staggering quantities of food and water, the insurgents have no centralised food requirements and tend to gain their sustenance from local village and town sources and in such discreet ways that the counter-insurgency forces cannot achieve effective disruption. No less important, the insurgents avoid concentrating, much less moving on open roads along predictable and well known routes. Indeed, they tend to use a maze of small supply and movement routes either through terrain that causes surveillance problems to air power assets or through populous villages and towns where the insurgents simply disappear amidst civilian traffic.⁵ Destroying any “dual-use” roads and bridges is seldom possible for air forces because that would cause highly unwanted effects on the local population’s attitude towards the counter-insurgency forces.

These observations are not intended to convey an impression that traditional air power concepts are entirely inapplicable in today’s insurgency contexts. On the contrary, air forces are recognising these challenges and seeking ways of overcoming them and are performing as well as can be expected under the circumstances. In any case, neither close air support nor interdiction is the most significant contribution to the counter-insurgency campaigns that our air forces are making. Their most significant contributions are probably in the areas of mobility and intelligence and situational awareness.

Inter-theatre and intra-theatre airlift provide the “lifeblood” of joint counter-insurgency campaigns. Whereas in the Second World War almost all combatants moved between their home countries and the combat theatres by ship, nowadays they go by air, along

with most of their light equipment. Within the theatres themselves airlift allows the rapid insertion, movement, supply and extraction of troops and their supporting personnel. Medical evacuations also ordinarily occur by air. There is tangible advantage in moving people and things by air in these highly hazardous environments. Road transportation in insecure areas involves high risks of insurgent violence in the form of IEDs, drive-by shootings and ambushes.⁶ Yet even air mobility faces challenges. Heavy aircraft require long and good runways, which are scarce and, in regions infected by insurgents, labour-intensive to protect. Light aircraft tend to require shorter runways, yet they cannot carry as much or for such long distances.

Whereas major airborne ISR platforms are best suited to conventional contexts, they do provide reasonable information-gathering, surveillance and reconnaissance capabilities in counter-insurgency contexts. The growing number of UAVs employed to assist with the creation of theatre-wide information pictures by providing local and highly detailed information has been a tremendous success story during the last eight years. Yet even UAVs have limitations. While their low energy consumption, highly efficient characteristics and low-observability give many UAVs a remarkable ability to loiter and thus a degree of permanence, only larger quantities than are currently available would provide the ubiquity needed to provide optimal battlespace awareness in the highly awkward terrain in which we are currently fighting insurgents.

So, then, it is clear that air forces face unusual challenges in counter-insurgency wars and operations and that many of the concepts that underpin doctrines for using air power in conventional contexts are less applicable, at least without significant tailoring and increased requirements for flexibility and adaptability. This poses a number of questions. Has it always been this way when dealing with insurgents? How have air forces responded to the challenges of insurgencies in the past? Have they ever done well against insurgents, and, if so, how and why? Have air forces forgotten valuable lessons? To what degree are today’s difficulties without precedent? What challenges will we probably encounter tomorrow? How best should air forces prepare for them? This collection of well constructed, convincing and important essays from civilian and military thinkers from five countries goes some way to answering these and other related questions.

These essays first appeared – as papers presented at a major conference – “Air Power, Insurgency and the “War on Terror” – that I had the honour of convening in August 2007. I had originally selected that topic as the conference theme because I had observed that, in today’s messy and indistinct strategic environment, it is common to see the two major campaigns against insurgents being characterised as primarily soldiers’ struggles. Media coverage of those campaigns routinely depicts platoons of soldiers in body-armour

patrolling hostile suburbs or firing upon unseen enemy fighters from behind stone or mud-brick walls.

Yet the media seldom reports on air forces and their activities despite them playing significant roles in almost all aspects of the multi-faceted, multi-theatre “War on Terror” and its two main counter-insurgency campaigns. The most substantial bursts of British media interest in air power in Afghanistan and Iraq occurred in September 2006 when a RAF Nimrod crashed during a reconnaissance mission in Afghanistan, killing fourteen military personnel, and later that same month when Major Loden’s condemnation of RAF close air support caused a burst of inter-service tension and a few weeks of public harrumphing. Likewise, an investigation of the online indexes of the *New York Times* and the *Washington Post* reveals that, in the US, most stories on counter-insurgency in Afghanistan and Iraq focus on the difficulties, successes and failures of nation-building as well as on the gritty reality of soldiering and close-quarters fighting. The majority of the relatively few articles that do cover air power, on the other hand, less-positively convey accounts of fratricide and the accidental deaths of civilians in air strikes. To be fair to the media, an investigation of online military bibliographies (including even those published by the USAF’s Air University⁷) as well as Amazon.com reveals that scholars and military professionals who have analysed the insurgencies in Afghanistan and Iraq have also tended to focus their attention on both nation-building and soldiering. By comparison, air power has received scant attention.

The various chapter authors and I therefore hope that our collection of essays will make a useful contribution to the re-balancing of analysis that is needed before a more complete picture of today’s major counter-insurgency efforts can emerge. With chapters covering counter-insurgency campaigns going back almost to the First World War and with the case studies including several little-known operations, careful readers may notice the existence of some fairly constant patterns of cause and effect and observe that certain air power activities have tended always to produce the same sorts of results. They may also notice that insurgencies have always presented air forces with the challenges that I outlined above. Some air forces have fared better than others at overcoming those challenges and some have made catastrophic mistakes – such as defoliating vast tracts of Vietnam to deny insurgents sustenance and the protection of jungle canopies – that will surely never be repeated. Most have learned some common lessons, such as the importance of exercising forethought on the potential negative impacts of any planned operations on the morale and empathy of the civilian population amidst which the insurgents operate. The growing importance of civilian immunity in the western understanding of war nowadays makes this lesson especially important. The chapters that offer recommendations on how air forces can best contribute to current and likely future counter-insurgency operations –

Corum’s and Meilinger’s chapters in particular – are highly thoughtful and insightful and nicely round off the broadly chronological unfolding of ideas shared by the other authors.

CHAPTER 1

The Air Power Profession:
Adaptions to Continuity and Change in the Strategic Environment

Matthew R H Uttley

The Air Power Profession: Adaptations to Continuity and Change in the Strategic Environment

Matthew R H Uttley

Introduction

This volume focuses on historical, contemporary and conceptual dimensions of the employment of air power in counter-insurgency (COIN) operations. It is predicated on two assumptions: first, that in-depth case studies and theoretical treatments of air power in COIN enhances academic understanding of the subject; and, second, that the various chapters should reveal practical insights for air power practitioners striving for successes in Afghanistan, Iraq and other ongoing campaigns in the variously termed “Global War on Terror” or “Global Counter-Insurgency”.⁸ Consequently, the inference is that air power professionals can derive lessons from historical research and conceptual frameworks in the practical business of combating insurgencies.

The general premise that assimilation of lessons from past COIN campaigns can guide contemporary air power decision-makers is not disputed. As Parton points out, unless practitioners “have an understanding of what has gone before – what has worked, and perhaps more importantly what has demonstrably not – [they] have nothing on which to base [their] decision making”.⁹ What continues to be debated, however, is how organisations charged with the delivery of air power acquire, internalise and apply knowledge and lessons about what does and does not “work”. It is this debate – fundamental to COIN operations and the employment of air power in any milieu – that is the focus of this chapter.

A largely unchallenged assumption shared by academics and practitioners is that air forces are an occupational group that possesses “professional knowledge” which informs and guides decision-making when military force is applied. My first section reviews the essential characteristics of the air power profession, and the issues this raises for understanding its attributes and motives. The historical and contemporary application and performance of air power in COIN operations remains controversial. On the one hand, practitioners and policy-makers have tended to suggest that cumulative developments in air power professional knowledge – codified in doctrine, education processes, as well as organisational structures and capabilities – provides the necessary conceptual tools for practitioners to implement appropriate contributions in support of the political objectives in COIN campaigns. On the other hand, critics identify deficiencies in the air power profession’s ability to address insurgencies because of limitations in its professional

knowledge base. My second section reviews these contending perspectives. My final section raises questions arising from this debate about air power's contribution in creating conditions for the defeat of insurgencies.

The Nature of the Air Power Profession

Since the publication of Samuel Huntington's *The Soldier and the State* and Morris Janowitz's *The Professional Soldier*, scholars of civil-military relations have been preoccupied with the nature and characteristics of armed services as a distinct professional group.¹⁰ Within this broader literature the assumption has been that those organisations tasked with the delivery of air power, primarily but not exclusively national air forces,¹¹ form a discrete profession within the wider military profession.¹² A myriad of theoretical and empirically-based heuristics have attempted to codify military professionalism but three dominant perspectives have framed the debate.¹³

The best-known and most established perspective delineates professions from other occupations in terms of their achievement of necessary and sufficient professional "traits". Although analysts have disagreed on the relative importance of individual traits, the consensus is that any occupation requires certain attributes to be classified as a profession. The first requirement is that the professional knowledge of the occupation must be founded on a systematic body of theory that is both abstract and practical, with a unifying theoretical basis with logical connections between its main parts. The second is that the abstract and practical elements making up the professional body of knowledge must generate techniques justified by rules that identify the optimum ways to proceed in a given situation. Third, the occupation must enjoy authority based on hard-to-master professional knowledge, which differentiates the professional from the lay-person. This bestows a monopoly of judgement upon the profession, which translates into community sanction in the form of autonomy in areas that include recruitment and monopoly powers to practice its skill. Fourth, to be a profession an occupation must be bound by regulatory codes of ethics that govern the relationship between the profession and client. Finally, the "traits" perspective suggests that professions require a distinct professional culture built on values and norms.

Though debate continues about the "state of the profession" within the "traits" perspective,¹⁶ analysts agree that air power practitioners meet the necessary and sufficient criteria to be classified as a profession. This reflects a consensus that the air power organisations have an appropriate body of professional knowledge, and possess sophisticated mechanisms to ensure the professionalisation of members which include initial officer indoctrination and socialisation; extensive formal and "on-the-job" training; command and staff education programmes; developed decision-making tools and the codification of professional knowledge in written doctrine.

A second major perspective conceptualises the military in terms of a "pluralist" model, which holds that the military profession is best distinguished as a set of discrete segments.¹⁷ Extrapolating from this framework, three types of segmentation can be identified. First, air power professionals are a sub-set of the military profession with a distinct sphere of competence, but they share key military-professional characteristics with practitioners in the land and maritime environments. Second, the air power profession itself is internally segmented, containing elements which display narrow professional military characteristics and others that share characteristics with neighbouring professions (for example, engineering, medicine, physics). Third, the military profession as a whole can be viewed as that segment of a state's national security profession which contributes the military component in an inter-agency setting. Consequently, this "pluralist" perspective focuses on the inter-relationship of closely-related professional groups linked together in the common goal of delivering national security.

The third perspective draws on a distinction between "independent" and "dependent" professions, where the military profession is categorised as a "dependent" profession because it is part of the state and reliant on it for its existence as the sole client.¹⁸ This military/state fusion means that the profession simultaneously delivers national security and operates a bureaucracy of the state. In this bureaucratic role, the military profession, and the air power profession within it, are presented as actors that pursue the twin objectives of maximising their professional influence over the conduct and direction of military operations, but also in maximising their institutional access to government budgetary resources to support the core organisational goals of survival and growth.¹⁹

Taken collectively, these frameworks suggest that the air power occupation has the attributes of a professional group, forms a segment of a wider military and national security profession, and should be understood as a "dependent" profession motivated by the imperatives of increasing national security, and institutional preservation and consolidation.

"Professional Knowledge" and Controversies Surrounding the Application of Air Power in COIN

The major perspectives on the air power profession raise a series of questions about the generation and employment of air power that are relevant to COIN, namely:

- Is professional knowledge cumulative, building on successive theorising and practical experience of the application of air power? Or, is the body of knowledge susceptible to paradigm shifts whereby previous assumptions become obsolete?

- Is the body of abstract and practical professional knowledge actually systematic, with a unified theoretical basis and logical connections between its main parts?
- How does professional knowledge assist air power practitioners in operating with other military components and government security agencies responsible for the delivery of COIN doctrine and capability?
- And, finally, how does the profession reconcile the potentially conflicting imperatives to deliver air power in support of national political COIN objectives with calculations of institutional vested self-interests in areas including force posture and weapons acquisition policies?

Contending claims and counter-claims about the answers to these questions underpin debates about the historical application of air power in COIN, and controversies surrounding contemporary coalition interventions in Afghanistan and Iraq. On the one hand, there are those – primarily but not exclusively within the practitioner community – who imply that the profession possesses the necessary conceptual tools and practical capabilities to optimise the contribution that air power can make. This conclusion is founded on several assumptions.

The first is that enduring principles exist to guide the application of all forms of military power, which are identified through *deductive* reasoning. Examples include Clausewitz's "centre of gravity" concept, which is essentially tautological in nature. Understanding of these principles is seen to provide the overarching framework for context-specific decision-making about the efficient and effective deployment of force to achieve political ends.

The second assumption is that influences including new government policies, technological innovation, operational experience and characteristics of a given conflict or adversary can readily be assimilated, enabling professional knowledge to be enhanced through an *inductive* process. These knowledge enhancements are transmitted across the profession through revisions to training, education and doctrine, thereby enhancing practitioner understanding of how to act in a given context.²⁰ Consequently, the assumption is that development in professional knowledge – derived from deduction and induction – is a cumulative process because conceptual innovations make the profession better equipped to deal with new operational challenges.

The third assumption is that the air power profession is immune from paradigmatic changes that can render current body of knowledge either redundant or irrelevant. Instead,

principles concerning the application of military force are viewed as remaining constant and requiring only incremental adaptation in response to new operational environments or innovations in technology.²¹ Consequently, the professional knowledge base is seen as providing sufficient conceptual and practical tools to identify and execute rational and appropriate responses to a given politico-military scenario.

In the context of the "pluralist" perspective, the fourth claim is that the air power profession has developed appropriate shared concepts and practical interfaces with other military and non-military state agencies to guide appropriate strategic, operational and tactical responses to COIN situations. Contemporary manifestations of this in the UK can be found in official commentary surrounding the "Comprehensive Approach," "Effects Based Operations" and "Network Centric Warfare" concepts, which assume air power professionals are configured to provide comparative advantage in an inter-agency setting. According to the UK Defence Development, Concepts and Doctrine Centre, for example, "military operations are part of what is known as a 'Comprehensive Approach', where all interested parties have recognised a unifying theme and work constructively to achieve commonly understood principles and collaborative processes, so that an enduring resolution can be affected".²²

Finally, the assumption is that the air power profession is motivated to optimise available resources (equipment, training, force posture etc.) to meet capability requirements across the spectrum of potential mission types, which include COIN. Implicit here is the notion that national governments act as rational allocators of available resources across competing security priorities, and that the armed services act as rational allocators of the resources assigned to them to optimise contributions to national defence and security priorities.

On the other hand, these orthodox assumptions have been challenged in several ways. Although there is a consensus that there are enduring principles to guide the application of military force, commentators point out that they are only of utility if tailored to specific operational contexts. As Ian Beckett points out, successful counter-insurgency campaigns require "the evolution of a strategy that takes into account the political, civil and military dimensions of the conflict," whereby generally accepted counter-insurgency principles and doctrine need to be adapted to prevailing conditions. A concern is that military organisations, preoccupied with a mindset emphasising cumulative knowledge, have a tendency to use the template from the previous conflict and thereby always fight "the last war".

A related criticism is that military organisations tend to be selective in their application of history, which risks distorting doctrine and operational decision-making. Colin McInnes

is typical of those who claim that operational innovation “is inevitably reduced by doctrine because doctrine explicitly teaches the nature of operations to be of a particular kind and not another”. Others challenge the notions that professional knowledge is cumulative, suggesting instead that paradigm shifts can occur that call into question the utility of “traditional” assumptions about strategy and the capabilities in the inventories of modern state-of-the-art air forces. Indeed, it could be said that air power as a concept came into being as a result of just such a paradigm shift. There is general recognition that the so-called “revolution in military affairs,” which marries intelligence systems with precision strikes, now provides technologically-capable western armed forces with a decisive edge in symmetrical state-on-state forms of warfare. Correspondingly, some critics argue the so-called “revolution in political affairs” and the prevalence of “4th Generation” non-state actors present asymmetric threats against which high-technology and precision are ill-suited, suggesting that armed forces now lack the conceptual tools and physical capabilities required to defeat the insurgencies making up the Global War on Terror.²⁵

Other areas of concern are the practical difficulties encountered in employing military force as part of a coherent inter-agency “comprehensive approach” against insurgents employing asymmetric strategies. Here, critics have pointed to inter-agency frictions, competition and misunderstanding as key impediments to the achievement of the political, operational and tactical requirements of COIN operations.²⁶ Finally, air forces and national militaries as a whole are criticised for failing to invest physical and intellectual resources into COIN campaign requirements. Some, for example, claim that acquisition and retention of highly capable offensive air capabilities reflect organisational vested interest in expensive and inappropriate high-technology platforms rather than the needs of contemporary COIN operations. This reflects a concern that, since 1945, insurgencies have been more widespread than conventional wars²⁷ but most air forces remain primarily organised, trained, educated and equipped to fight conventional war.

The specific attributes of COIN present particular challenges for air power practitioners and the military profession as a whole. Whichever “national principles” are adopted as a framework for COIN operations, they all point to conceptual, practical, inter-agency and institutional complexities when compared to symmetrical forms of warfare. These complexities arise from the political nature of insurgencies, the unique challenges in creating co-ordinated government counter-insurgency machinery, difficulties in generating intelligence, identifying appropriate mechanisms to separate insurgents from the “people,” and issues of proportionality when the military instrument of state policy is applied.

Key Questions Confronting the Air Power Profession in COIN Operations

This brief survey suggests that there are several unresolved questions concerning the air power profession and COIN operations. These include:

- Are new paradigms required to understand contemporary COIN requirements or can practice be inferred from historical analysis of previous campaigns?
- Is air power likely to be a favoured military instrument by contemporary casualty-averse governments? If so, has it always been the case or is this a new phenomenon?
- Can air power have a decisive strategic effect in COIN operations as it can in conventional conflict? If so, then how and why? Is this effect best focussed on the leadership or the population?²⁸
- In what ways can air power positively contribute to or risk undermining the political goals in a COIN campaign?²⁹
- Is air power an inherently supporting military capability?
- Are traditional concepts of air control relevant in asymmetric warfare?
- And are there offensive roles for air power in COIN, particularly where insurgents are operating in urban environments? Or is its role limited to non-attacking “presence,” air transport, logistics, intelligence gathering and reconnaissance, and support to psychological operations rather than interdiction, close air support and independent targeting of insurgent groups in their bases?³⁰
- What is the impact of COIN on core air force institutional values? Do these place too much emphasis on air control and the application of air power against conventional armed forces and state actors?
- In what ways have air forces adapted to COIN challenges throughout the preceding decades?
- And, in what ways have air forces learned and implemented lessons from previous campaigns?

The answers to these questions, many of which are addressed in the subsequent historical and theoretical contributions, are significant in assessing the current state of the air power profession, and whether its conceptual and practical knowledge is indeed “fit for purpose” in contemporary COIN campaigns.

CHAPTER 2

Air Power and Insurgency: Early RAF Doctrine

Neville Parton

Air Power and Insurgency: Early RAF Doctrine

Neville Parton

This chapter provides an overview of one specific area of counter-insurgency (COIN) in the early Royal Air Force, and that is the way in which the RAF's COIN doctrine evolved during the twenty-year period between the First and Second World Wars. Such an approach will not provide the complete story, and there is also benefit in examining what actually occurred in terms of actions in the various operational theatres where the RAF operated between 1919 and 1939. However, studying the doctrine can reveal a great deal about not only the way that the RAF approached this task, but also about its lessons learnt process. And whilst the area of action and operations has been covered to a significant extent, that of the evolution of doctrine is not so well known.³¹ Perhaps it would be fair to say that unless both aspects are known, the overall view will not be balanced.

Furthermore, there are some specific reasons why doctrine in this area is of particular interest. After all, doctrine can be regarded, at least to some extent, as simply a means of codifying lessons that have been learned from previous experience to inform future action. Yet in the area of COIN it also represents one of the few aspects of RAF doctrine where there was an opportunity, over an extended period, to actually try different approaches out and see what worked and, perhaps just as importantly, what did not. That certainly qualitatively differentiates this area of RAF doctrine from most of the rest during the same period, certainly when compared to that relating to strategic bombing for instance. Another motive for considering this area is that it is one which clearly shows a growing sophistication in terms of understanding about the way in which air power should best be employed. The last reason is quite straightforward: what was learnt then might prove to be useful to us today, or in other words the lessons learned may still be relevant, but forgotten. After all, the RAF, in common with many large bureaucracies with a long history, has been known to suffer from a degree of what can be thought of as "institutional Alzheimer's".

Part of the problem is that in terms of the historic aspect of the RAF and COIN, whilst a considerable amount has been produced on this subject in recent years, sometimes what has been produced has been over-simplistic or has over-stated the case for what was actually achieved.³² Nevertheless it is worth noting that the RAF was employed continuously on COIN-type operations, across a number of theatres, for the entire inter-war period, and its operations in this area were subject to a considerable degree of scrutiny within the RAF itself, within the broader defence establishment, and within

the public arena. The latter certainly saw debate both within the press and Parliament on the effectiveness and humanity, or lack of it, occasioned by the use of air power for empire policing. The fact that the main areas of operation for the RAF then, are the same areas that we are involved with today should also not be overlooked. All in all, there are enough parallels between operations in the inter-war years and those today to justify the relevance of this as an area of interest to current airmen.

To begin with, it is important to have some understanding of the strategic backdrop against which the doctrine to be considered was developed. It is no exaggeration to say that to a great extent the COIN role, more generally referred to as “air control” or “air policing” at the time, was the saving grace for the RAF in the early to mid 1920s.³³ It is worth remembering that the RAF was not regarded as a permanent part of the defence establishment at this time, with advocates of both the Army and Navy pressing, each for their own reasons, for the disestablishment of the RAF and return of its resources, both people and equipment, to them. Indeed, Trenchard was to spend much of his time as Chief of the Air Staff simply trying to keep the RAF in being, and the success of air control provided a very powerful argument which could be deployed by the Air Ministry in defence of the Service; which was that it had introduced new ways of working that significantly reduced the costs of running the Empire. And whilst arguments based on the war-winning capabilities of future bomber forces were highly theoretical in the 1920s, which happened to be the time when the RAF faced its severest challenges, the realities of economies produced by the Service on an Imperial scale were something which both politicians and civil servants in the Treasury could understand.³⁴ Hence the reason for the early RAF being so insistent that in any such operation the RAF had to have the overall command. It needed the credibility that success in this area would bring. Indeed, the matter was so important that Trenchard issued a specific paper for the Imperial Defence Council to consider on the subject under his own name, *after* leaving the post of CAS.³⁵

A reasonable question would be to ask what doctrine actually existed during this era, and whether it provided any useful guidance on the subject of COIN. In order to answer this it is necessary to have a degree of understanding of the various sources of doctrine which exist from the period, together with other sources which can provide insights into the way that the RAF thought about its own purpose and use. The first and prime documents, at least in absolute hierarchical terms, are the two manuals which provided the official line in terms of RAF thinking on the use of air power, or air warfare as it was more generally termed at the time. The first of these arrived in 1922, under the title of the “Operations Manual” for the Royal Air Force, or “Confidential Document 22” (CD 22) as it was alternatively titled.³⁶ This in turn was replaced in 1928 by Air Publication 1300, or the “Royal Air Force War Manual,” which would last, albeit in four different editions and in

various states of amendment, until 1989.³⁷ However, for this exercise it is the first edition which concerns us, which after issue effectively remained unaltered until 1941. These two publications between them therefore provide the top level of doctrinal understanding within the RAF during the entire inter-war period.

There was also a significant amount of other material produced, and much of this came in the form of Air Staff Memoranda (ASM) and Air Staff Notes (ASN). In the very early post-war period, in other words from 1919 through to 1922, ASN in particular represented the only guide to the “official” thinking of the RAF, and indeed the need to produce a more coherent package underlay the drive to produce CD 22 in the first place. However, both ASM and ASN continued to be produced over the rest of the inter-war years, and as will be seen later on, were used as a vehicle to pass information on ahead of the lengthy process involved in producing a new Air Publication. To illustrate that point, it is a matter of record that a decision was made by the RAF in 1923 that CD 22 should be replaced, and yet it was to take five years before AP 1300 appeared, so ASM represented the main vehicle for passing on any changes in that period.

The final set of source material comes from quasi-doctrinal sources, such as presentations at the RAF Staff College, and papers in the *RUSI Journal or RAF Quarterly*. These are a valuable basis for ascertaining changes in thinking during periods when new or revised official publications were quite clearly being worked up. As an example, the RAF recognised sometime in the late 1930s that AP 1300 needed considerable rewriting to reflect new realities such as radar, the Dowding system, and indeed a rapidly expanding RAF. A bright young wing commander, Ivelaw-Chapman, who would eventually end up as the first Chief of the Air Staff of the Indian Air Force, was brought in specifically to oversee the production of the new manual.³⁸ Unfortunately it only reached the stage of being ready to print in 1939, and the interesting decision was made to defer publication until 1940. So in the case of trying to determine what changes in thinking about air power and small wars, as it had become known by then, had taken place since the last ASM was produced on the subject, Staff College presentations – which tended to involve what would now be termed SMEs (subject matter experts), operating as representatives of the Air Ministry – provide a useful insight into the development of particular lines of thought.

In terms of analysis, the amount that can be addressed in a short chapter is of necessity limited, and a convenient approach is to divide the two decades into four distinct periods. This is possible, at least as far as RAF doctrine is concerned, as the periods can be tied into the issue of particularly key documents. In fact, they are delineated by the publication of the major doctrine documents, CD 22 and AP 1300, as well as a particular ASM (46) on counter-insurgency which was issued as a supplement to AP 1300, thus giving periods of

1919-1922, 1923-1928, 1929-1931 and 1932-1938. Then, within each of these eras, extracts from the sources already mentioned can be used to identify the key changes to the RAF's approach, or at least to the approach that was being taught, in strictly chronological order, thus enabling some general conclusions to be drawn about the changes in RAF thinking over the entire period.

The first three years of the RAF's existence certainly did not see a plethora of material being produced on the subject of counter-insurgency, although the same can actually be said for *all* doctrinal matters. What was issued during this period included a small number of Air Staff Notes, and some of these certainly looked at aspects of the subject, for instance one was issued in 1920 on operations along the Indian Frontier, and in 1921 the effects of aerial bombardment on tribesmen were also being considered.³⁹ However, our main area of interest is that very first RAF doctrine document, CD 22. The final chapter, quaintly-titled, at least in modern terms, "Aircraft in Warfare against an Uncivilised Enemy," contains the RAF's first coherent set of thoughts in this area. Although operations in 1919 in British Somaliland against Mohammed bin Abdullah Hassan, more popularly known in the British press at the time as the "Mad Mullah," had been an undoubted success, and the RAF had been in charge of Iraq since 1921, there was still not a great deal of counter-insurgency experience within the Service at this point. Yet from the very start it was formally recognised as a doctrinal position that such operations would almost always require joint action:

The role of aircraft in operations of this nature will be a major one, though it is unlikely that they will be in a position to undertake a campaign entirely independent of military assistance.⁴⁰

The assumption was that this would generally be under RAF command. It was also recognised that the principles of regular warfare would have to be "considerably modified," which was the main thrust of the chapter's contents. The overall tenor was very definitely focused on attack activities:

the force in the field must first be attacked and destroyed. This should then be followed up by continuous bombing of his capital and subsequently the surrounding villages, crops and live stock.⁴¹

The importance of the morale factor is stressed throughout, as, unsurprisingly, is the need for a vigorous offensive (a particularly Trenchardian phrase). A clear stress is placed on the need for concentration of force, particularly with regard to the greater efficiency

that air forces can provide in this regard, and there is some consideration of the support infrastructure that will be required, such as an effective country-wide wireless system, and a number of pre-prepared and permanently stocked advanced landing grounds. However, bearing in mind the background of most of those involved in campaign planning at this stage, it is not surprising to see that much appears to have been read across from long-standing Army methods of dealing with unruly tribes throughout the Empire and simply substituting the use of air bombardment for the punitive raid.⁴² Nonetheless there were some areas where such an approach was felt to be inappropriate. For instance the original draft stated that:

In operations against fanatical tribes the commander should bear in mind that a single attack on a sacred town or shrine will probably have the desired effect without further action.⁴³

After referring to the outcry that followed Kitchener's destruction of the Mahdi's Tomb after Omdurman in 1898, a more humane approach is suggested by the RAF's first-ever legal representative.⁴⁴ The final version reads thus:

In these attacks, endeavour should be made to spare the women and children as far as possible, and for this purpose a warning should be given, whenever practicable.⁴⁵

It would be wrong even at this stage to think that air power was simply seen as a tool for rapid retribution. A statement clearly pointed out that the ability of aircraft to inflict punishment could be open to abuse:

Their power to cover great distances at high speed, their instant readiness for action, their independence (within the detachment radius) of communications, their indifference to obstacles and the unlikelihood of casualties to air personnel combine to encourage their use offensively more often than the occasion warrants.⁴⁶

This in turn led to a particular prescient closing comment, namely: "The danger to be guarded against is thus that the power to go to war at will should result in a thoughtless application of that power."⁴⁷ The need for sustainment of operations was also noted, at least in terms of seeing an operation through to its planned conclusion, as if this could not be achieved then it was possible that "respect will change to contempt".⁴⁸ Finally, in terms of maintaining the peace in an area, the importance of being seen by the general population was emphasised, particularly as this was known to establish an impression

amongst those overflown that their movements were being watched and reported. It was suggested that this should be achieved by routinely employing aircraft over the whole country, with leaflet dropping, dissemination of news, and ensuring correct interpretation of orders from political officers being considered as suitable tasks. In outline terms a reasonable summary would be that there needed to be a degree of careful consideration before making the decision to commence a campaign, but once the choice had been made, the campaign would need to be prosecuted vigorously, and in a manner which made the most of the advantages provided by an air force.

“CD 22” rapidly fell out of favour, for reasons which are beyond the scope of this chapter, although the extent of this is worth bearing in mind – as was exemplified by the note that from 1924 onwards was pasted on the inside cover which stated: “This manual is not at all points in accordance with the present views of the air staff and will shortly be revised.”⁴⁹ However, it would be another four years before a replacement was issued, and in the interim a number of ASM were issued on a range of subjects associated with the subject. All of these, however, were swept up in the document which was issued in 1928, namely the very first edition of AP 1300. Here the chapter of interest to us is still the last one, although the title has changed to that of “Air Operations in Undeveloped and Semi-Civilised Countries”. The change of title is indicative of a much more in-depth examination of the subject, beginning with a short and accurate précis of the problem faced, namely that of dealing with an opponent who has no air forces but is a “mobile and elusive enemy”.⁵⁰ The principles of war, which are outlined earlier in the publication, are seen as still being applicable albeit with some modification. Operations are divided into two fundamental categories: those to restore law and order within a country, and those to subdue troublesome people beyond a country’s frontiers. However, in both cases the role of intelligence is seen as particularly important with regard to the overall aim which is understood as being:

to induce the enemy to submit, with the minimum destruction of life and property and with due regard to economy in time money and energy.⁵¹

This sentiment should still find resonance today. Considerable time is spent explaining the advantages of air-led operations as opposed to land operations, with the stress being placed upon the lack of opportunity for the enemy to fight, the rapidity with which action can be taken, and the ability to vary the time and strength of such action, as well as the ability both to destroy or harass so as to prevent normal life. Yet it also recognises some limitations with regard to the use of air power in this role, such as where the enemy is in particularly rugged country, or where enemy and friendly tribes are too intermixed to

be able to tell them apart. Interestingly here success is judged to lie in “a well planned combination of the mobility of aircraft with the direct action of land forces.”⁵² When it comes to selecting the objectives for any campaign in this sphere, a number of comments are made that are worthy of note, the first of which regards the requirements of planning an operation:

[The] selection of the correct air objectives demands a comprehensive and accurate knowledge of the psychology of the enemy and of his customs and characteristics which can only be expected from those who have made a special study of the people. The choice is therefore governed primarily by political considerations and should be made only after due consultation with the political authorities in the locality.⁵³

In terms of examples it outlines two ends to the spectrum, first punitive raids where the aim is to cause the greatest damage, and secondly those intended to pacify a district for re-settlement, where:

it is most desirable to avoid widespread destruction which may result in a state of famine or deprive the people of their livelihood, thereby creating the very conditions which are the most conducive to lawlessness.⁵⁴

The final point made is that operations in this area will present a difficult target set, where results will only come about through the cumulative effect of sustained attacks on morale of the enemy. A return to the subject of intelligence then occurs, with the particular need for accurate maps stressed, before the primacy of the political administration is discussed, and together with it the fact that air action is regarded as being the last, rather than first, resort. Civil (administrative) action would be expected to take place first, which would then be followed with a clear ultimatum to “obviate useless destruction of life,” and then shows of force if these were felt to be appropriate.⁵⁵ However, once the decision to undertake offensive action has been made, the need for that action to be pursued with vigour until the aim is attained is emphasised. At the operational level careful consideration is given to the problem of how to gain surprise, as well as the way in which targets for attack are likely to change during a campaign. The approach suggested is to commence with intensive and sustained attacks at the start, and then move to harassing operations thereafter.

The manual also specifically addresses the particular roles of air forces when working with ground forces in countering rebellious tribes, with the main duties described as: location

of the enemy, direct support of British troops and the observation of artillery fire. The ability of aircraft to enhance the morale of local troops is noted, as is the ability to enhance communications between army forces in the field and their headquarters. Here the need for close co-operation is stressed: for instance, “during an operation, air observers must be fully informed of the situation up to the moment of their leaving for a flight,” and it is also suggested that an air force liaison officer should be attached to any advancing column to provide advice to the commander on all aspects of air operations.⁵⁶

Other aspects of support are also explored, such as the ability to provide support or relief for isolated detachments, including the capacity to provide supplies by parachute, as well as casualty evacuation. The escorting of ground convoys is also seen as an important role, together with that of direct offensive action against forces remote from the reach of the ground forces. The chapter finishes with a summary which looks at problems relating to basing and support, and concludes that the optimal approach is one where all aircraft should be concentrated at a few central air bases, both to ease the logistics burden and to ensure that they can be secured by adequate military garrisons.

Yet the greatest difference from the previous doctrine in this area without doubt comes in the context within which the use of force in general, and that of air power in particular, is situated. Consider for instance the following statement:

The basis of law and order in an uncivilized country is a sound and strong administration. The strength of an administration in the eyes of a native is judged by its capacity to mete out suitable and adequate punishment without delay when misbehaviour occurs.⁵⁷

Taken together with previously noted comments regarding the need for military action to be considered as the last resort, and in particular that the action undertaken had to have due regard for the desired end-state, it is clear that a far more sophisticated approach to the problems of “air policing” had been developed in a relatively short period of only five years. This reflects the significant gaining of experience in this area during that period, as the RAF took on first the complete responsibility for all military activity in Iraq, and then provided significant support in the North-West Frontier area (now Afghanistan).

AP 1300 was not amended until 1940. Yet there was a significant addendum provided in 1931 in the form of ASM 46. This was actually issued in the confidential document (CD) series, which specifically stated that it was intended to “supplement the general principles outlined in Chapter XIV of the “Royal Air Force War Manual Part 1,” and, furthermore, that all RAF officers were expected not only to be familiar with

the policy itself, but also the rationale that lay behind the policy.⁵⁸ This may well have been due to the significant parliamentary and public debates that took place on this subject in the late 1920s and early 1930s. The *Spectator* journal for instance had a thoughtful series which began with the heading “To Bomb or Not to Bomb?” in 1930, whilst the *Telegraph* in the same year had a series on experiences of “their own correspondent” with the RAF on the North West Frontier.⁵⁹ Here a heading of “With the Night Bombers” was followed up by a sub-heading of “Air Work Inadequate” and a script that began “Gallant and devoted as the members of the Air Force are, they have proved totally incapable of driving back the tribesmen. All the real donkey work fell on the Army”.⁶⁰ By 1935 letters with titles such as “A Weapon That Will Recoil Upon Ourselves” and “British Policy A Menace to All Nations” were appearing in the *Manchester Guardian* on a regular basis. The charges made in these letters were not allowed to go unchallenged, however. When “Bombing Frontier Tribes: A Soldier on its Effects” stated that, “when our troops enter a bombed village the pariah dogs are already at work eating the corpses of the babies and old women that have been killed,” a rapid response followed from Air Commodore Chamier, writing in his capacity as a Secretary General of the Air League of the British Empire.⁶¹ Public opinion was evidently not always on the side of the RAF, and part of the necessity for the ASM lay in providing officers with a moral rationale for air control operations that they in turn could pass on to a broad audience. Bearing this in mind, it is perhaps surprising to find that the memorandum does not contain any great changes to the doctrine already outlined, at least in terms of implementation. Where it does differ is in reminding future commanders of the need to situate their activities within the desired political end state, which in turn means that they need to both gain an understanding of the political situation – at all levels – and to develop close and harmonious relationships with the political administration within the country:

[I]n countries under air control the Air Force Commander is the responsible military adviser to the political authority ... the proper employment of air power requires the most intimate co-operation between the Air Force Commander and the political authority.⁶²

However, it is clearly identified that for a country where air control is being practised, then the senior commander advising the politicians will, de facto, be an airman. Significant mention is also made of both an ethical understanding of air control, measured in particular against more traditional methods, and also of the need to remember that an area will need to be governed again at the end of any operations. Activity that will make this more difficult should be avoided, and conversely actions that would enhance it, such as the provision of medical support for any injured, should be encouraged.⁶³ This will clearly

be seen as introducing a more nuanced approach, with a number of additional factors highlighted that the commander needs to think about when formulating his campaign plan. Little more was added in doctrinal terms over the next few years. In fact, the next formal publication would be the second edition of AP 1300 in 1940. However, much of the tenor of the COIN chapter in this edition is evident in the final stop in this short journey through doctrine, which ends appropriately enough at the RAF Staff College, Andover. Here a series of four lectures were given on “Air Participation in Small Wars” by Wing Commander Ellwood DSC on the 16th course; the last complete course before the outbreak of war. The very first lecture commenced with a rather amusing, but also highly apposite introduction, which certainly bears reproduction here. Ellwood began by stating that:

Before we go any further we had better be quite sure what we mean by the term “small war”. I remember, when I first heard the expression, wondering at what particular point a small war attained the dignity of a big war. But the difference does not lie in the magnitude of the operations, but rather in the nature of the opposing forces. A small war is one in which regular forces are opposed by irregulars. It has been somewhat aptly described as “operations against wild men in wild places”.⁶⁴

So having defined his subject, what was brought out in the rest of his lecture? Having outlined the occasions on which small wars were likely to occur, a very strong line was then provided on the relative roles of the Army and the RAF, which he would return to throughout the rest of his presentation:

Imperial policing is a duty which by the nature of things must be shared between the Army and the Air Force. According to circumstances one of the two will be employed as the primary arm while the other will provide such co-operation as is necessary.⁶⁵

Having thus made the point succinctly that the lead would go to whichever service was best placed to produce the desired effect, the next aspect to be brought out was that the decision over who would take the lead, and what action that would entail, would be very definitely up to the political authorities.⁶⁶ Where the advantages of the RAF are advanced it is made clear that this was not to suggest that air control is a universal remedy, but simply to allow an understanding of what air power could bring to the table, and how it could therefore be best used – and in modern terminology, whether as the supported, or supporting, arm.

A clear case was made in this regard with respect to the use of air in support of the civil authorities in an urban environment. Here the overall aim of imperial policing was brought out, namely to restore order with the minimum use of force, and the avoidance of collateral damage. As discrimination from the air in such circumstances was seen as near impossible, it was suggested that in such cases the Army would, and indeed should, be the lead element. Yet the support that air could provide in such a case was then reinforced, whether in the provision of intelligence, what would now be understood as a “psy ops” campaign, or the use of “air manoeuvre” – the moving of men rapidly to head off potential trouble. Considerable time was spent in exploring those characteristics of air power that were particularly useful in the “small wars” environment, but it was in the complementary nature urged throughout that we can see the greatest difference from the views expressed only some seven years before. This, then, was the final understanding of air power in counter-insurgency operations during the inter-war years: a sophisticated approach which not only understood the necessity for the closest of co-operation between air and land forces, in a multi-agency environment, and with a clear understanding of the effects required by the political administration being served, but also knew how to use its characteristics to achieve the desired ends.

In summary, then, understanding why success in counter-insurgency operations was so vital to the role of the RAF in the inter-war years – and how the nature of its thinking on the subject changed throughout the two decades that the RAF spent on this activity – provides the context within which its doctrine developed. Beginning with an approach that was extremely attack-focussed, and where air was mainly seen as a less expensive way of mounting classical punitive expeditions, an understanding of the effects that it produced rapidly became appreciated, as did some of the dangers of using it too freely. The early 1920s saw the development of doctrine which stressed the psychological effects that aircraft could produce, the advantages that they could confer on friendly forces, and the need for some restraint in their use. By the late 1920s this had evolved into an appreciation of the requirement for accurate intelligence regarding one’s opponents, as well as an understanding of the overall aim, and the way in which air could influence the achievement of that aim (for better or worse). And by the end of the inter-war years we see a genuine understanding that this is a joint activity, with air and land needing to work together, with the lead in any particular operation being determined by the match between the circumstances at the time and the inherent characteristics of the two services. This is a far less polemic, more measured approach, and sees the political arm as being the most important – as is evidenced by the consistent reference to the overall aims of imperial policing. And that is a highly apposite point with which to finish. The overall aim of COIN operations in Imperial Policing, as stressed by Wing Commander Ellwood in 1938, was “to maintain order with the minimum of casualties amongst offenders and

the avoidance of harm to innocent members of the community".⁶⁷ This goal, it could be argued, would stand up equally well today as overall guidance regarding the way in which air power should be applied in current counter insurgency operations. Whilst it certainly should not be concluded that our predecessors had all the answers, it would also be foolish not to at least recognise that they had thought about, and practised, operations in this area over a protracted period, and at the very least it would be prudent to consider the lessons that they thought it worth formally recording. Bearing that point in mind, the last words in this chapter, and those with the strongest sense of *déjà vu* about them, most appropriately come from that final pre-war presentation:

Finally, I would like once more to stress the attitude of mind we should adopt when approaching this subject ... Let us remember that we and the Army alike are instruments of the Government we serve. We may differ in character, but we are there for the same purpose – to defeat the forces of disorder and lawlessness – and we are there to help each other. It is up to each service to be expert in its own particular sphere and to its commanders and staff officers to give impartial advice to the political authorities – the users – before any operation is undertaken, and to be ready with that advice as the situation develops. This means the closest co-operation between all three, both in peace and during actual operations, and the recognition by the Army and ourselves of the paramount position of the Government, in whom alone is vested the right to decide upon the form specific operations ... shall take.⁶⁸

CHAPTER 3

Royal Air Force Operations in South-West Arabia 1917-1967

Peter Dye

Royal Air Force Operations in South-West Arabia 1917-1967**Peter Dye**

Air control was an essential component of British policy in south-west Arabia for over fifty years. Aircraft offered a cost-effective method of exercising influence over an area of some 100,000 square miles; largely unmapped, and as inaccessible as it was lawless. In the aftermath of the First World War, and the collapse of the Ottoman Empire, the RAF proved highly efficient in protecting British interests across the Middle East while reducing the size of ground forces employed in garrison duties, all at significant savings to the Treasury. This remained the case through the inter-war years and the immediate post-war period. However, punitive air action, so successful at suppressing banditry, proved less effective in combating the growing resistance to British authority that emerged in the 1950s with the rise of Arab nationalism; particularly after Suez. The techniques of air control were found inadequate against the insurgencies that developed across southern Arabia. As a result, new strategies were introduced that saw air power as integral to joint operations conducted on a larger scale and at a higher intensity. Although militarily successful, the long-term effect was to strengthen and widen the insurgency. Some historians have gone so far as to assert that punitive air action was a flawed concept incapable of actually controlling those determined to resist British authority. When confronted by serious resistance, air power inflicted such extensive and serious damage that it entrenched opposition while exciting the interest of the international community.

This chapter will explore the history of British air control in south-west Arabia in the context of imperial policing across the Middle East. It will discuss the realities of punitive air action and consider whether its employment was as deeply flawed as has been suggested. Although strictly outside its geographic focus, the narrative will also touch on the RAF contribution to the Jebel Akhdar campaign from 1957 to 1959. Finally, it will assess the Radfan campaign of 1964/65 and discuss whether, in light of subsequent developments, air power either disguised or contributed to strategic and political failure.

Definitions

Before I go any further, I should perhaps explain four terms used throughout this chapter:

Air Control: The policy of assigning responsibility for defence of a region to the Air Ministry (and, de facto, assigning command to the senior RAF officer).

Air Policing: The employment of aircraft to maintain the internal security of a state.

Air Substitution: The replacement of ground forces by aircraft.

Air Proscription: The employment of aircraft to proscribe a designated area – related to *Air Blockade:* The denial of access to settlements and lands to disrupt economic and social life.⁶⁹

These definitions accord with those used by David Omissi in his 1990 study, *Air Power and Colonial Control*, and reflect the terminology employed by the Air Ministry at the time.⁷⁰

The First and the Last

On the afternoon of 29 November 1967, a RAF Hercules of No 70 Squadron, carrying 75 passengers, flew out of Aden's Khormaksar airfield, so ending 128 years of British rule in Aden. It was perhaps fitting that an aircraft should bring down the curtain on the British presence in south-west Arabia. For more than 50 years, the RAF had played a central role in securing the port of Aden and the Protectorates, although it was the Royal Naval Air Service (RNAS) that first employed aircraft in south-west Arabia.

Britain occupied Aden in January 1839, almost by accident. Yet, if it was a mistake, it turned out to be prescient as the opening of the Suez Canal, and the Royal Navy's demand for coaling stations, soon endowed the port with considerable strategic importance. Situated at the head of the Red Sea, Aden dominated the sea-routes to India and Africa and allowed the Royal Navy to control access to the Persian Gulf.

The administration of the colony was the responsibility of the Government of India, but, for a variety of reasons, little attention was paid to this remote outpost. The harsh climate, the lack of any substantial military threat (even after the Turkish occupation of Yemen in 1872), poor land communications and limited natural resources, meant that such investment as there was tended to focus on the port and its immediate surroundings; largely neglecting the interior.

On the outbreak of the First World War, Aden's defences were modest and were soon reduced further in order to reinforce the Western Front. War with the Ottoman Empire was not declared until November 1914 and, although Turkish forces rapidly advanced on the Suez Canal, the main threat to Aden was regarded as coming from the sea. There were two Turkish divisions in Yemen (approximately 4,000 strong) but the Resident believed that local alliances struck with the various Arab leaders along the coast, as far as Oman, would deter any attack overland.

In the event, this trust proved misplaced and Turkish forces occupied Lahej and Waht in June 1915 – without any resistance from the local tribes. A hastily despatched Movable

Column of British and Indian troops failed to stop the capture of Sheik Othman, the main source of Aden's water supplies, some eight miles from the port. The situation was only saved by disembarking a variety of units that happened to arrive in Aden's harbour, en-route to the Western Front. They were able to recapture Sheikh Othman by force of numbers and push the enemy back to the line Waht-Subar-Fiyush, roughly fifteen miles to the north of the port. Once Aden's water supplies were secure, neither side seemed interested in taking matters further. In fact, the investing Turkish forces would remain in place for the rest of the war. They were too strong to be removed by force but not strong enough to overcome the modest British garrison.⁷¹ The Government of India had few resources to spare and was not minded to send reinforcements, especially if a strategy of containment was possible.

The failure to stop the Turks from capturing Sheikh Othman had revealed how just difficult it was to fight in the extreme humidity and high heat of Aden's summer (when day time temperatures could reach 37 degrees Celsius, with a humidity of more than eighty percent). Most of the Movable Column had fallen to dehydration and heatstroke rather than to enemy action. The lack of logistic support, including medical cover and supplies, limited intelligence, inadequate maps and poor communications also impeded the defenders.

It is significant that, just when Aden seemed most threatened, the Resident should ask for aircraft support. The nearest machines were at Port Said, over 3,000 miles away, where the RNAS seaplane carrier Ben-my-Chree was based under the command of CinC East Indies, together with a small Anglo-French unit operating from the tramp steamers Anne and Raven II. Until the evacuation of the Dardanelles, there was no prospect of any support for the garrison at Aden, but, by early 1916 the position had improved sufficiently to allow the Raven II to be sent south with seven seaplanes transferred from the Ben-my-Chree (temporarily in dry dock for repairs).⁷²

In order to maintain a degree of surprise, Raven II stopped at Perim Island on 30 March 1916 to hoist out and erect her seaplanes, before entering Aden under cover of darkness. Early the next morning a single seaplane undertook a reconnaissance of the Turkish positions quickly followed by a series of attacks from the remainder, employing 16 and 20 lb bombs. Targets included the main Turkish camp at Subar and the villages of Fiyush and Waht. Further raids occurred in the afternoon and over the following days. The opportunity was also taken to photograph Turkish positions and drop leaflets encouraging the Arabs to desert the Ottoman cause. By the time that Raven II departed, three days later, some 2,000 lbs of bombs had been dropped. The physical damage was modest, but the effect on the Turkish troops and, in particular, their Arab allies, was reported to have been considerable.⁷³

This success led to further demands for air support. The Admiralty professed a reluctance to respond, suggesting that, as an Army operation, it was really a task for land-based aeroplanes.⁷⁴ Nevertheless, the Ben-my-Chree was despatched to Aden in June 1916.⁷⁵ This time a total of 845 lbs of high explosive, together with incendiaries and flechettes were dropped over a period of four days. Attacks were pressed home from less than 500 feet, the maximum height that could be reached, even when flying in the coolest part of the day. Many of the seaplanes were hit by ground fire although none were brought down. Once again, the opportunity was taken to map the Turkish lines and to drop propaganda leaflets.⁷⁶

Beyond several opportunity attacks carried out during the passage of seaplane carriers between the Red Sea and the Indian Ocean, the air defence of Aden now fell to the Royal Flying Corps. Limited resources and competing demands meant that the first aeroplanes, a detachment of No 114 Sqn, otherwise based in India, did not arrive until December 1917. Based at Khormaksar, where an airfield was created three miles from Steamer Point, a variety of elderly Henry Farman and BE2 aircraft carried out bomb dropping, reconnaissance and pamphlet dropping for the next ten months. Operating under very difficult conditions, this small unit provided outstanding support to the garrison, suffering several casualties in the process.⁷⁷

Aircraft were not decisive in the defence of Aden. Their direct military effect was minimal and they could not bring the enemy to battle; any more than the ground forces. On the other hand, they provided invaluable intelligence on the enemy and his intentions and greatly bolstered British morale. Perhaps more significantly, they were seen to enhance British prestige in Arab eyes and to offer the possibility, assisted by leaflet dropping, of subverting those still loyal to the Ottoman Empire and encouraging those prepared to fight on Britain's side. In this sense, air power served to reinforce the traditional British approach to colonial warfare rather than initiating a new strategic approach.⁷⁸

I have somewhat laboured over this description of the defence of Aden because it seems to me that it exemplifies the key elements of British policy in south-west Arabia: the focus on the port of Aden at the expense of the interior; the reliance on the influence of local Arab rulers to maintain order; and the emphasis, if not fixation, on economy of effort as a strategy in its own right.

Air power's characteristics would prove to be a perfect match to these principles. Moreover, the evident difficulty faced in conducting offensive ground operations – exemplified not only by the fighting at Sheikh Othman but by the inability to induce the Turkish forces remaining in the Yemen to surrender until March 1919 – was a powerful argument in

favour of aircraft when post-war decisions were taken about how to best meet the defence needs of Aden and the Middle East in general.

The Protectorates

Although Aden was clearly the focus of British interest it occupied just 75 square miles compared to the 112,000 square miles of the Protectorates. The exact area was uncertain as the boundaries were never formally demarcated. Beyond Aden, the terrain was largely desert or arid mountains, rising to over 8,000ft on the border with Yemen. There were few roads and even fewer towns in what was largely a barren landscape characterised by deep ravines and small fortified villages. The tribes of the Protectorates, numbering perhaps no more than 450,000 individuals,⁷⁹ were independent of the British Government but linked by over thirty treaties of protection and friendship – the last signed in 1954 – sustained by annual gifts of rifles and ammunition – often on a considerable scale. The choice of tribes to be honoured by treaty was somewhat arbitrary, based more on subjective assessments than any detailed knowledge on the part of the Resident. This reflected a general neglect and lack of vigour on the part of those responsible for the colony. As a result, after nearly 100 years of British rule, the Western Aden Protectorate (some 22,000 square miles stretching from the south-west tip of Arabia, including Perim Island, to the east of Wadi Ahwar and bounded to the north by Yemen) was rarely visited and the Eastern Aden Protectorate (some 90,000 square miles stretching from Wadi Ahwar to the Omani frontier and bounded to the north by the Empty Quarter) was largely unexplored.

The district tribes were all formed on the same model, a chiefly family surrounded by a confederation of small tribes attached by ties of varying strength. Within the chiefly family, the chief was elected, his power depending on the strength of his personality. There were three types of chiefs: those who ruled by influence, hereditary right and conquest. In some ways, the latter were the easiest to understand since their rule largely followed a feudal pattern. On the other hand, the hereditary chiefs seemed unable to comprehend the word “rule” preferring to use the weapons supplied by the British to settle private feuds or to sell them to the highest bidder. As a result the politics of south-west Arabia represented, according to one experienced observer, “wild complications”.⁸⁰

Air Policing

The first recorded employment of “air policing” in Arabia was the rescue in September 1919 of Colonel Jacob's Mission at Bajil, a small town in the Yemen hinterland, some forty miles from the port of Al Hudaydah. Once the Turkish army had departed, the Imam of San'a, leader of the Zeidi Sect, had re-established his control over the high plateau of the Yemen. He also repudiated all boundaries accepted by the Turks, openly claiming all of southern Arabia, including the port of Aden.

Colonel Jacob had set out to negotiate with Imam Yahya at San'a, but little progress was made and it was soon discovered that they were, in effect, being held hostage. The colonel, still in communication with Aden, suggested that a few aeroplanes might be sent to show themselves over Bajil as a means of hastening their release. The GOC stated that the local military forces were inadequate to the task and that reinforcements would be required in the form of two artillery batteries, one infantry brigade, one flight of aeroplanes, two companies of Camel Corps, three companies of Pack Camel Corps and a Medical Department. He also pointed out that any hostile reaction on the part of the local tribes would require an even larger force to guarantee a successful outcome.

In the end, "K" Flight RAF with three officers, eight Other Ranks and two Sopwith Snipe aircraft were landed on Kamaran Island, to the north of Al Hudaydah, where the machines were assembled and, on 24 November 1919, flown over the port and the local area. Two days later a Snipe flew over Bajil itself, although owing to engine trouble the pilot had to descend over the town. Colonel Jacob subsequently reported that the low-flying aircraft had caused much consternation and panic amongst the armed tribesmen. Before further action could be taken, substantial progress was reported in the negotiations such that the Mission arrived safely at the coast on 10 December 1919.⁸¹

The Bajil incident is important, not only because it was the first occasion in peacetime that air power was directly used to further British interests in the Middle East, but also because it reflected aspects of air policing that would shape British strategy in the region for the next fifty years. It demonstrated a willingness to threaten military force (in the form of aircraft) to achieve political aims. It indicated that air power had a significant impact on the willingness of tribes to oppose British will, whether or not weapons were used. Finally, and perhaps just as importantly, it showed that aircraft offered significant economies compared to other means of exercising control.

Only two months later the RAF was in action again, but this time in British Somalia, 200 miles to the south of Aden, in the final campaign to defeat Haji Sayyid Mohammed Abdullah Hassan, or as the British preferred to know him, the "Mad Mullah". The Mullah had been in revolt since 1899 and had grown steadily stronger as he defied a series of punitive expeditions. A small contingent of RAF personnel were landed at Berbera in December 1919. In just 21 days their twelve DH9 aircraft, together with supporting ground forces, were able to disperse and then destroy the rebels. Although the Mullah escaped, the insurgency was effectively over, even before he died from influenza in November 1920.⁸²

Although aspects of the campaign would later be disputed by the Army,⁸³ particularly the RAF's claim to have been the main instrument and decisive factor in the defeat of

the "Mad Mullah," there was no doubt that air power had enabled a rebellion lasting for nearly twenty years to be ended in a matter of weeks, with few casualties and at a total cost estimated to have been just £83,000.⁸⁴ The lesson was not lost on those attending the Cairo Conference in March 1921 when it was decided to accept Trenchard's proposal to employ air control in Mesopotamia.

Air Substitution

The potential for air control in Aden and the Protectorates was raised soon after the Cairo Conference. Despite strenuous Army objections, transfer to the RAF was agreed in principle in October 1922, subject to a resolution of the financial aspects.⁸⁵ Given that the Chief of the Imperial General Staff, Henry Wilson, had previously described air control as "a fantastic salad of hot air, aeroplanes and Arabs," it is no surprise to discover that Services were unable to oblige. It took the creation of a special Treasury Committee to conclude that increasing the RAF presence from a flight to a full squadron would allow the Army garrison to be reduced at a net annual saving of £170,000 (about £10 Million at today's prices).⁸⁶ An important element in the substitution arrangements was the recruiting of local forces, the Aden Protectorate Levies, to undertake airfield defence and provide ground support for air operations. In December 1926 the Cabinet directed that authority for Aden should be transferred to the RAF, although the actual handover did not occur until January 1928, after an inquiry by the Chiefs of Staff Committee as to the risks involved.⁸⁷

In the intervening years, a single flight of Bristol F2Bs had undertaken a range of internal policing actions in the Western Aden Protectorate as well as securing the border against Yemeni incursions. The introduction of air control, together with a full squadron of DH9A bombers,⁸⁸ allowed the Imam's ambitions to be countered, but not before large areas of the Koteibi and Alawi districts had been occupied, including the town of Dhala, and further encroachment threatened near Beihan and the Subeihi desert between Aden and Perim.

Following formal warnings and leaflet dropping, the RAF mounted a series of attacks against the villages and forts that had been occupied. Over the next six months, with lengthy pauses for negotiations, more than sixty tons of bombs were dropped in over 1,200 hours of flying. The success of the offensive gave encouragement to several tribes to join in the fighting and by August 1928 the Yemeni forces were back on the border and Dhala re-occupied. Total losses on the Yemeni side were 65 killed or wounded (one RAF pilot was killed and one airman wounded). The results were an undoubted triumph for air control and the policy of air substitution. As one political officer observed:

There is no doubt that the lesson of the Yemeni defeat at Dhala, the reported concentration of frontier tribes, and the movement of

British officers in continual contact with aircraft in all those districts most open to Zeidi attack, checked the rapacity of the Imam.⁸⁹

The pressure on the Imam was such that an Anglo-Yemeni Treaty was signed in February 1934 to regularise the border. In return for British recognition of some modest territorial gains, the Imam agreed to respect the Anglo-Turkish border, subject to final settlement at a future date. Paradoxically, the immediate effect was to force the British to address the endemic lawlessness of the Protectorates. Within Yemen itself, travellers were relatively safe, but the Imam now demanded that steps be taken to ensure that the trade routes were secure once the border had been crossed. This precipitated a radical change in the relationship with the tribes; an outcome that had not been anticipated.

Continued British tolerance for the tribes' custom of exacting "taxes" on travellers now threatened to undermine the successful efforts to secure the border with Yemen. Yet, to control the trade routes, control had to be obtained over the tribes through whose territory the trade routes passed. Hardly had the treaty been promulgated before the Resident was forced to take action against the Quteibi tribe – the "Wolves of the Radfan" – for waylaying a Yemeni caravan and looting the contents (some sixty miles north of Aden). After confirming the identity of those responsible and having offered an alternative to being bombed (in the form of a fine and the surrender of the culprits or approved hostages) an ultimatum was issued proscribing the tribe's villages and fields until the terms were complied with.⁹⁰ When the ultimatum expired ten days later, the tribe's principle villages were bombed (largely employing 5lb bomblets) and an aerial blockade initiated. This involved an enormous effort, but it so disrupted the tribe's activities that after two months the Qutebis submitted and met the government's demands in full. There were no direct deaths or injuries during the air action although several casualties did occur as a result of tribesmen tampering with unexploded bombs.

Between the wars the RAF conducted 26 separate air operations within the Aden Protectorate. The majority were conducted in response to persistent banditry or to restore the Government's authority. Excluding operations against Yemeni forces – which had effectively ceased by 1934 – a total of twelve deaths were attributed to air attacks conducted between 1919 and 1939. Typical of these internal policing actions were the operations undertaken in December 1937 against the Mansuri tribe in the Eastern Aden Protectorate who had attempted to waylay a British expedition exploring the region.

The operations against the Mansuris were of the usual pattern. Due to the warning of impending attack, given to allow women and tribesmen to be conveyed to safety, no tribesman was hurt. The women were comfortably housed nearby and the tribesmen spent

the first two days among the rocks shooting hopefully at the aircraft and delighting in the noise and sight of falling bombs. As the main objective of the bombers was to blockade the valley, they did not try to destroy houses other than those of the guilty leaders. This puzzled tribesmen sometimes, and on one occasion led to the Quteibi tribe writing a stiff note to the Government after a week's sporadic bombardment of their territory, complaining of the inaccuracy of the bombing and saying that it was destroying public confidence in the ability of the British to protect them.⁹¹

As the Second World War approached, it would be no exaggeration to claim that air control in Aden had proved a remarkable success. After years of neglect, a degree of peace and stability had been brought to the Western Aden Protectorates while British influence had started to be felt in the Eastern Aden Protectorates, particularly the Hadhramaut. This had been achieved by constructing more than thirty landing grounds and exploiting the increased access they offered to engage directly with the more remote tribes. In turn, the number of political officers had risen from just two in 1934 to twelve in 1941.⁹² Air control had given the Government both credibility and substance. As the Resident noted, "the advent of the RAF has produced a considerable change in the relations of Aden to the Protectorate tribes. The shadowy protection whose obligations could often not be fulfilled has been converted into reality."⁹³

In Humanity's Name?

Despite the low casualties caused by air control, the policy attracted controversy beyond the Army's well rehearsed hostility. In 1937, Air Commodore Leslie Howard-Williams, writing under the pseudonym "HW," published a spirited defence of air control under the title "In Humanity's Name".⁹⁴ He argued that air action was essential in allowing Britain to discharge her responsibilities across the Middle East, adding that "Air control is humane because it pleads the cause of humanity more strongly than hand-to-hand fighting."

In the same year, Air Commodore Peter Portal, in describing the RAF's role in policing the Empire, was at some pains to correct what he saw as misunderstandings and ill-informed criticism.⁹⁵ Recently returned from command in Aden, he insisted that the aim of air control was about creating a change of heart on the part of the tribesmen while employing the minimum amount of force. It was not a case of "bomb and scuttle" which would have increased bitterness towards the Government rather than creating a lasting peace.

In truth, the RAF's operations in Aden and the Protectorates could not be separated from the wider political debate about British rule in the Middle East. A number of Labour

back-benchers had already levelled charges of excessive force and cruelty against the Air Ministry for its actions in Iraq. Although the Government held firm, questions about the morality of air control and its arbitrary nature – in view of the inherent inaccuracy of bombing from the air and the consequent civilian casualties – would not go away. These issues were widely aired at the Geneva Disarmament Conference of 1932 and 1933 and, although the proposal to outlaw aerial bombing eventually foundered, it did create a growing sense of unease in Whitehall. There were also the actions of Air Commodore Lionel Charlton (Chief Staff Officer Headquarters Iraq Command 1923-1924) to consider. Writing in the third person, in what must be one of the strangest autobiographies ever published (it veers repeatedly between the excruciatingly honest and the deeply vacuous), Charlton describes how:

[An] air bomb in Iraq was, more or less, the equivalent of a police truncheon at home. It was a horrible idea and, in his private opinion, work in which no one with a moral standard should be asked to engage. In declared war or in the case of open rebellion no objection could possibly be advanced, but the indiscriminate bombing of a populace without the power of selecting the real culprits and with the liability of killing women and children, was the nearest thing to wanton slaughter which he had come across – but he was careful not to express himself too forcefully on the subject.⁹⁶

Charlton's silence was not to last for long. The bombing of Suleimaniya in May 1924 caused him to write to Trenchard stating that, on the grounds of conscience, he could no longer subscribe to the bombing policy employed in Iraq and asking to be relieved of his duties. Trenchard duly obliged.

Despite the criticism at home and abroad, there was no evidence that air bombing had been brutal or caused significant casualties. As Sir John Salmond (the first RAF Commander in Iraq) wrote at the time "It is a commonplace here that aircraft achieve their results by the effect on morale, and by the material damage they do and by the interference they cause to the daily routine of life and not through the infliction of casualties. The casualties inflicted have been most remarkably small."⁹⁷

Some historians have taken the view that air control was pursued more for cultural or political reasons,⁹⁸ and that it was enthusiastically embraced by a RAF in desperate need of a role to justify its continued existence. This ignores the evident utility of air power in governing an area that would otherwise have demanded a substantial garrison to subdue. General Sir Aylmer Haldane, in describing the Arab Rising in Mesopotamia in 1920,⁹⁹

observed that if he had had sufficient aeroplanes at the outbreak of the revolt it might have been possible to stifle or at least localise it. By the end of the fighting over 8,000 rebels had been killed together with roughly 1,000 British and Indian troops.¹⁰⁰ Thus, while Trenchard may well have seen air control as an important bargaining tool in the battle for resources, and the continued existence of an independent air arm, he was pushing at an open door

The Second World War

The Second World War marked a turning point in the employment of air control within the Protectorates. In the early 1930s Italian actions in Africa were a cause of increasing concern and, during the Abyssinian Crisis of 1935, had led to substantial air reinforcements being sent to Aden. Italy's declaration of war in 1940 meant that air operations were primarily directed at the external threat rather than internal security. This included the substantial Italian ground and air forces based in Eritrea and Somaliland, as well as convoy protection and anti-submarine patrols.¹⁰¹ Air control continued but was relegated to the increasingly fragile Vickers Vincents of No 8 Sqn. Many of these operations were low-key and involved one or two over-flights to demonstrate intent. Bombing was not extensively employed, although this was as much to do with growing political sensitivity as it was a reflection of the tribes' willingness to submit. In 1942 the Colonial Office advised the Governor that:

Even in the midst of a world war, air bombing to discipline recalcitrant tribesmen in British territory would be considered regrettable. It is realized, however, that punitive action of this kind is traditional in the Aden Protectorate and it is the ultimate sanction that can be applied by the authorities. But, it is a remedy which should be used sparingly and only when no milder form of punishment is likely to be effective.¹⁰²

These concerns were sufficiently serious for the Secretary of State for the Colonies to write to the Governor in February 1943, setting out the basis on which air action could be taken.¹⁰³

Air action is a remedy which must be used sparingly and when no milder alternative form of punishment is likely to be effective.

It should not be used without giving the delinquents an option of avoiding it by making submission and giving adequate guarantees of future good behaviour.

There should be a clear and specific charge which the offenders should be required to answer before any penalties are imposed on them.

When the culprit is a Treaty Chief, it is important that action taken against him should, if possible, avoid a breach between the Government and his tribe as a whole.

These requirements had, in reality, underpinned the air control regime since 1928. What was new, however, was the willingness of the Colonial Office to formalise the process. It also presaged a determination by Whitehall to decide, not just how air control should function, but where and when air action should be taken. This perhaps more than anything marked a turning point in the history of air control in south-west Arabia.

The Aftermath of War

The immediate post-war period (1945-1951) has been described in the Official History as the “quiet years”.¹⁰⁴ In one sense this is true, particularly with an eye on what was the follow. In another sense it is misleading. Air attacks against rebellious tribesmen were carried out on at least sixteen occasions between 1946 and 1952. These involved higher-performance aircraft, in the form of Mosquitoes and Tempests, and new weapons such as rockets and cannon. There was also a determination to use air power more freely than before, driven partly by a belief that lawlessness in the Protectorates had prospered during the wartime years.

In 1947, for example, action was again taken against the Quteibis, who were again raiding caravans on the main trade routes, oblivious of their submission in 1934. The intention was to impose the maximum moral effect combined with the maximum material effect. After the traditional ultimatum had expired, and following both a 48-hour and 24-hour warning, bombing operations commenced on 27 November 1947 employing six Lincolns and the Tempests of No 8 Squadron. The latter attacked villages and armed forts with bombs and rockets while the Lincolns dropped single 1,000 lb bombs on specified targets in the adjacent Wadis. Over the next few days nearly seventy tons of bombs were dropped and some 250 60lb HE rockets fired. Although considerable damage was done to the tribe’s villages, and a number of forts were totally destroyed, no lives were lost and, after a pause for renewed negotiations, the Quteibis duly submitted. In comparison with the 1934 operations, the RAF had achieved success in just three days rather than 61 days, while dropping much the same tonnage of bombs (although admittedly this was achieved with fewer and much heavier bombs).

Aden Command commented that “the tribesmen in southern Arabia have respect for nothing but force. The threat of quick and decisive action by overwhelming forces is the only way of ensuring peace in the Protectorates.”¹⁰⁵

The growing willingness to take military action came just as the international community began to show an increasing desire to scrutinise the behaviour of the colonial power.

The attention of the UN was unwelcome and it undoubtedly had an influence on British policy. A telegram from the Governor to the Secretary of State for the Colonies in early 1947, describing action proposed to be taken against a tribal chief, ended by stating that “Independent air action of the traditional kind was not (repeat not) intended. Submission was to be achieved through the use of ground forces with tactical air cover”.¹⁰⁶

The apparent contradiction between the evident sensitivity to external criticism and the willingness to employ greater force is explained by wider political and economic factors. The importance of oil from the Persian Gulf, shifts in the regional balance of power and the emergence of south-west Arabia as a proxy battleground for the Cold War drove British strategy to the exclusion of other issues. In the process, the “traditional” methods of air control were increasingly replaced by large-scale air-land operations.

The Conflict with Yemen

The assassination of Imam Yahya in 1948 and the accession of his son Ahmed led to renewed instability along the border. The new Imam also encouraged, if not instigated, a series of tribal revolts in the Beihan and Dhala areas that severed communications and severely interrupted trade.

Persistent attacks against the Government fort at Robat in May and June 1954 were fought off with the help of bombs and cannon fire. The fighting died down by November but flared up again in May 1955 when a large force of Aden Protectorate Levies, supported by Vampires, Venoms and Lincolns, mounted a punitive operation. However, probably for the first time since the 1928, these tactics proved ineffective. Substantial damage was done to buildings and crops, and daily life was severely interrupted by proscription, but the hard core of rebels was not subdued. By the end of July the fort at Robat had been evacuated and all ground forces withdrawn. The Official History seeks to put a gloss on events: “Although, this might be regarded as a capitulation to lawlessness, the Government had shown the dissidents that it now possessed sufficiently powerful land and air forces to make life intolerable for them.”¹⁰⁷

The deteriorating internal situation and the difficulty of dealing with rebellious tribes in the more remote parts of the Protectorates caused a further change in strategy. A series of air and land operations, of increasing intensity, were to be directed at Yemeni forces – if necessary in Yemeni territory – in order to cut off the supply of arms and other support. The growth in the number of RAF squadrons reflected this new policy, rising from one in 1955 to nine by 1964. There was a commensurate increase in ground forces over the same period, starting with the arrival of a permanent battalion in 1956 and rising to three full battalions by 1965, including the presence of three RAF Regiment squadrons. A substantial investment in infrastructure and technical as well as domestic accommodation accompanied this expansion.

RAF Aircraft Based at Aden 1920-1964

Year	1924	1928	1939	1945	1956	1964
Operational Aircraft	6	12	32	24	20	54
Support Aircraft	-	-	2	9	14	30
Total Aircraft	6	12	34	33	34	84

According to one author, the authorities in Aden deliberately aimed to provoke the Yemenis into border incursions that could then be dealt with using superior ground and air forces. The intention was to create sufficient chaos within Yemen to divert the Imam from continuing to support the rebellious tribes.¹⁰⁸ The fighting reached a climax in 1959 with the bombing and occupation of the Yemeni village of Am Soma (near Al Beihan). This resulted in a much more cautious and defensive policy on the part of the Yemenis and a substantial reduction in support for the rebellious tribes of the Western Aden Protectorate, at least until the toppling of the Imam in 1962.

As a parallel strategy, it was also decided to create greater political stability by establishing a tribal federation. This came into being in 1959, originally with six states, later twelve, largely drawn from the Western Aden Protectorate (only one of the states from the Eastern Aden Protectorate joined). It was a worthy initiative that might have prospered ten years earlier. In reality, the Federation proved ineffective and did not outlast the British withdrawal.

The same year could also be regarded as marking the formal end of air control in Aden, at least in regard to the command arrangements. The increasing military presence and wider organisational changes led to the creation of a Unified Command, "Headquarters British Forces, Arabian Peninsula" in October 1959. No longer would the RAF have sole authority in Aden. The reality was that the "traditional" methods of air control had been on the wane since the early 1940s, superseded by ever larger air-land operations.

Insurgency

We have seen how British authority in Aden and the Protectorates was increasingly threatened by external factors, particularly the rise in Arab nationalism. The end of the Mandate in Palestine created a widespread suspicion of British intentions while the "Free Officers" movement, led by Nasser, provided a focus for Arab grievances. The subsequent debacle at Suez did nothing to improve British prestige or to dampen Nasser's enthusiasm for removing the residual colonial presence in the Middle East.

It would be wrong, however, to infer that British withdrawal was inevitable or that air control was incapable of countering a modern insurgency. Between 1957 and 1959 the RAF played a significant part in the defeat of rebel groups in Oman. Shackleton maritime patrol aircraft and Venom fighters based at Aden were deployed forward and, together with modest ground forces, allowed the Sultan's authority to be re-established. The final defeat of the rebels, based on the almost inaccessible Jebel Akhdar, was achieved through a combination of air action and an assault by Special Forces. Although much of the credit should be given to the role of the SAS, air proscription had greatly weakened the rebels and the prospect of an air assault – including parachutists – hastened the end.

Radfan Operations

Following the Yemen revolution of 1962, Egypt took every opportunity to support the Yemeni claim to southern Arabia and to ferment unrest in Aden and the Protectorates. The tribes of the Radfan (including the Quteibis) were particularly susceptible and, given the history of unrest under British rule, more than willing to rebel. This external subversion steadily grew as did terrorism within the colony itself. After an unsuccessful attempt on the life of the High Commissioner at Khormaksar, a state of emergency was declared in 1963.

The security problem was now so severe that it was regarded as beyond the scope of air control. Military action on a considerable scale, was required, using land and air forces, supplemented where suitable by naval forces. The irony is that the formal end of air control as a policy saw the RAF reach its greatest strength in Aden, with over eighty aircraft permanently based at Khormaksar.

Initial operations in January 1964 were aimed at compelling the rebels to withdraw and demonstrating the Government's ability to enter the Radfan at will. The RAF's contribution comprised close support to the advancing forces as well as lifting them to their start positions and subsequent re-supply. RN aircraft and helicopters from HMS Centaur were also involved. Operations were successfully concluded ten days later. Unfortunately, once the ground forces had been withdrawn, the area was immediately re-occupied by the rebels.

Insurgent activity continued to increase, to some extent buoyed by the rebels' "success" in the Radfan. For the first time, Yemeni aircraft and helicopters crossed the border to attack frontier posts. Retaliation took the form of a highly destructive rocket and bomb attack on the nearby Harib fort in Yemen territory. Further flights across the border ceased but Yemen used the incident to good effect in the United Nations. Embarrassed by continued international criticism, the employment of 1,000lb bombs was ended in favour of 25lb bombs known (for presentational reasons) as aerial grenades.

An even more substantial offensive in the Radfan was planned for April 1964; one that would end rebel activity in the area. The attack got off to a poor start when an advance party from the SAS was discovered by the rebels and needed very close air support until they could be safely withdrawn. The planned parachute action was cancelled and the ground forces advanced using the cover of darkness. The fighting, often intensive, continued for the next six weeks, supported by RAF fixed wing and helicopters from all three Services. Air control of the dissident areas continued after the ground fighting had continued until November when all the tribes involved had sued for peace. Radfan was a military success, but it proved a political failure that presaged eventual withdrawal.

At the beginning of 1966 the Government issued a White Paper stating its intention to withdraw British forces from South Arabia in 1968. This marked the beginning of the end. Confidence in the future of the Federation rapidly fell while the security situation quickly worsened. This included further cross-border incursions, involving fighter aircraft based in Yemen, and ever higher levels of terrorism. In the event, matters got so bad that departure was brought forward to November 1967. It is to the RAF's immense credit that the evacuation of families, equipment and personnel was completed on time and with the minimum of fuss. Yet it was an unhappy period and brought to an end not only 128 years of British rule but also nearly fifty years of RAF operations at Khormaksar.

Conclusions

Looking back at the history of air operations in South-west Arabia, it is clear that air control, as an instrument of governance, was only effective (and only intended) as an extension of colonial authority. This required the indigenous population, or at least its leaders, to recognise the legitimacy of British rule. Critics have made much of the failure of the RAF to control Palestine in the 1920s, noting that aircraft proved incapable of pacifying the towns and cities. This is to miss the point: air control could only be effective if there was a credible basis for governance. Where this existed, the RAF was able to extend the authorities' reach to those areas that were otherwise inaccessible or just too expensive to garrison. Air control created a permissive environment in which political officers could establish a climate of self-interest, allowing local rulers to benefit from their involvement with the British and, for those who refused to be engaged – or acted in a way that threatened those that were – to be punished. And, least this be regarded as a careful euphemism, “punishment” meant the destruction of property, whether it be buildings or livestock, or the disruption of daily life. It rarely involved death or even injury.

Air control's centre of gravity was the credibility of the colonial power. From the beginning of British rule in Aden and the Protectorates the main external threat was Yemen's claim of sovereignty over all of southern Arabia. As long as this took the form of border incursions

(and efforts to destabilise those local leaders who supported British rule) it proved a relatively straightforward task for air control. However, the direct involvement of other states, which saw the dispute with Yemen as an opportunity to pursue wider aims, made this an ever more difficult and complex challenge that required increasing force to resolve.

The second threat to air control came from within the colony itself. The rise of Arab nationalism encouraged many to question the legitimacy of British rule. In these circumstances, the decision to replace air control by robust military action merely served to emphasise the fragility of British governance. It also did little to encourage affection for continued British rule.

At its core, air control was about achieving political rather than physical effect. This focus was steadily lost through the late 1940s and early 1950s as the RAF's role turned from policing into war-fighting. Air control was not a flawed concept nor was it incapable of dealing with insurgencies. Yet it was no more than a tool to enhance and sustain the Government's authority. When that authority was discredited there was little that air power, and military operations in general, could do to retrieve the situation.

CHAPTER 4

Unnecessary or Unsung?
The Strategic Role of Air Power in Britain's Colonial
Counter-Insurgencies

Andrew Mumford and Caroline Kennedy-Pipe

Unnecessary or Unsung? The Strategic Role of Air Power in Britain's Colonial Counter-Insurgencies

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Popular convention holds that small wars and counter-insurgencies are won or lost by the troops on the ground, who utilise an ethos of “minimum force” and apply intelligence to quash insurgent cells whilst winning the “hearts and minds” of indigenous populations. It is to the infantry that we usually look to understand victory or defeat. We need only to observe the contemporary and very lively debates in both the US and UK over the current and apparent failure to see very familiar discussions about military command, military deployment and political strategies. We have been here before. Whether it is the US failure in Vietnam or British success in Ireland, much has been written about how to defeat the insurgent. British imperial history has yielded its own valuable lessons throughout the Twentieth Century but especially in the post-1945 period when the retreat from empire spelled an intense period of military activity.¹⁰⁹

The role of air power in such conflicts has been rather over-looked in favour of an army-based focus. We argue that, laudable though that concentration may have been, there is, especially in the light of the current wars in Afghanistan and Iraq, much to be said for revisiting colonial campaigns of the past and looking again at the role of air power and its undoubted importance in defeating the communist insurgents in Malaya and the Mau Mau in Kenya during the 1950s.

We are aware that even as we revisit the past, current controversy continues over the use of air power in Iraq and Afghanistan. Not least there is a very public perception that air power is a double-edged instrument.¹¹⁰ It may provide the initial “shock and awe” which might subdue enemy forces but it might also inflict the type of civilian casualties which may irrevocably inflame opinion towards the cause of the insurgents and public opinion against democratic governments. (We also note that the media has permanently changed the way some people think of air power since, say, the Kosovo conflict when “we” became used to the idea of casualty-free war waged entirely from the air without troops¹¹¹). The use of air power, therefore, as we go on to argue, requires subtlety, sophistication and strategic vision.¹¹² We are not experts on the RAF nor indeed on air power but we hope that by analysing military and government documents held in the National Archives we can look at the air lessons learnt by the British from these colonial campaigns and then extrapolate some lessons.

Background

The military and political nuances presented by insurgencies after World War II forced the RAF to radically rethink its doctrine of "air control". It had sought aerial primacy in containing uprisings after the Great War, thus negating the need for ground troop intervention. Imperial policing, especially in the new mandates in the wake of World War I, had stretched the financial costs of Empire. The comparatively cheap, relatively successful, yet concertedly controversial suppression of uprisings in Somaliland and Iraq in the early 1920s set a precedent for the effective and prevalent use of air power in a counter-insurgency strategy.¹¹³ Air Power had proved its worth in low-intensity conflict. However, the experiences of World War II were inevitably to dominate strategic thinking for the RAF. Close air support and long-range bombing missions were the tasks the RAF emerged from the war knowing it could achieve with success. Yet the RAF had to adapt to the fundamental change in the nature of conflict that was to come to the fore in the mid-to-late 1940s. Alongside the undoubted revolution in control of the air brought about by the post-1945 nuclear era, there was still for the British the challenge of imperial conflict. Isolated colonial uprisings by identifiable paramilitary tribal, ethnic or religious groups were transformed, after World War II, into "wars amongst the people" in which the "enemy" operated within society and where the exigencies of winning civilian "hearts and minds" provoked a reappraisal of the utilisation of air power. Air power could no longer be used as the primary offensive counter-insurgency weapon. Although military and political strategists on both sides of the Atlantic remained fixated on planning for a nuclear exchange with the Soviet Union and the need for air power to fulfil a nuclear weapon delivery role, there was for politicians in London the practical need to respond to Maoist guerrilla warfare.

Initially this rural asymmetric form of conflict shifted the operational emphasis away from the RAF and back towards the Army. Ground troops became essential not only for providing security to remote communities and economic resources (such as tin mines or rubber plantations) that were vulnerable to insurgent attack, but in engaging elusive jungle or forest-bound units of guerrillas. The British military were forced to adapt to these challenges, first during the Malayan Emergency (1948-60) and then during the Kenyan Emergency to quell the Mau Mau uprising (1952-60).

The two conflicts represented the first tests of the British military's adjustment to the changed nature of asymmetric warfare, stretching its ability to conduct operations in aid of the civil power. Political primacy (understood here as the subordination of military command to a politicised strategy and overseen by the political community) distinguished the conduct of these campaigns, whilst the ethos of "minimum force," essentially a commitment to the discriminate use of firepower and respectful treatment of the civilian

population, became enshrined in theory, if not always in practice. The Army was very clearly the predominant branch of the armed forces in undertaking counter-insurgency operations in what has been retrospectively labelled the "classical counter-insurgency era".¹¹⁴ What has remained relatively untouched by mainstream counter-insurgency research is the way the RAF was forced to acclimatise to both the constraints and demands of asymmetric warfare in a restricted theatre of operations.

"Little Evidence of Direct Success"? Air Power in Malaya

The British response to the 1948-1960 Malayan Emergency is widely considered to be the first modern counter-insurgency and is often regarded both by scholars and practitioners alike as archetypically successful.¹¹⁵ Humiliated by their defeat at the hands of the Japanese in the dense jungle of Malaya during World War II, the British attempted unsuccessfully to reorganise the political structure of the colony in 1946 with failed plans for a Malayan Union. In February 1948 a new constitutional arrangement, the Federation of Malaya was inaugurated, which safeguarded the position of the powerful regional sultans and restricted the citizenship rights of non-Malays. This restriction alienated the Chinese community not only from their Malay neighbours but from their British rulers. Some sought solace in the doctrine of communism, which after World War II was actively propagated by the Soviet Union throughout Asia. Established in 1930, the Malayan Communist Party (MCP) had endured a short and largely unsuccessful infancy in which their seven thousand strong war-time militant grouping, the Malayan People's Anti-Japanese Army (MPAJA), failed to hold back the invading Imperial army from controlling Malaya. Indeed, the MPAJA was to a large extent funded and armed by the British in an attempt to hold back the Japanese forces. The equipment provided by the British would eventually be used against them as the MCP turned its guerrilla tactics against the colonial rulers in 1948. The racial tension unleashed by the Federation Constitution curtailed the legitimate options open to the predominantly ethnic Chinese MCP. Of the 12,000 members in February 1947 all but 800 were Chinese.¹¹⁶ Combined with a crackdown on the wider leftist and trade union movement by the British authorities, the MCP's recourse to violence hardened. A violent flurry of attacks in 1948 on white settlers and rubber plantations – the symbols of perceived imperial control and exploitation – primed the conditions for a wider insurgent uprising. As unrest grew, the MCP's newly formed Malayan Races Liberation Army (MRLA) resorted to arson directed towards British economic interests and political assassinations. As the violence against British and settler targets spiralled, the colonial administration was forced to act, and on 19 June 1948 the High Commissioner, Sir Edward Gent, declared a Federation-wide State of Emergency in order to quell an insurgency that the military, political and intelligence communities had failed to foresee.¹¹⁷

Not only did the military have to deal with an unexpected insurgency, it had to do it with limited resources. Inevitable post-war cutbacks had severely hampered the RAF's

operational strength by the beginning of the Emergency. The Far East Air Force (FEAF) had been reduced from seventy squadrons in 1945 to just ten by 1948, totalling just over 100 aircraft.¹¹⁸ Of these ten squadrons based in the Far East, just one squadron, that of the RAF Regiment, Malaya, was in the colony at the outbreak of the Emergency.¹¹⁹ It was with these restricted resources that the RAF was asked to fulfil a broad strategic role by the Army command. As envisaged by the Director of Operations in Malaya, General Sir Harold Briggs, in May 1950, the RAF would “operate in conjunction with and in support of the ground forces. This support may include offensive air strikes (bombing and ground strafing attacks), air supply, visual and photographic air reconnaissance, survey photography and inter-communication.”¹²⁰ The RAF, aided by its Commonwealth allies in the Royal Malayan Air Force (RMAF), the Royal Australian Air Force (RAAF), and the Royal New Zealand Air Force (RNZAF), discharged these strategic imperatives with competence, but not before the utility of air power, as we shall see later, had been called into question by the political masters. By mid-1950 the total number of air squadrons stationed in Malaya had risen to six, totalling 113 aircraft.¹²¹ These squadrons contained a plethora of aeroplanes, ranging from World War II-era propeller-driven aircraft such as the Lincoln bomber and the Spitfire, to newly developed jet aircraft towards the end of the conflict, notably the de Havilland Vampire and the Canberra jet bomber. A further array of rotary-wing aircraft, and light and medium range transport aeroplanes were also called upon, not to mention the crucial role fulfilled by the introduction of helicopters in 1950. In total, 36 different types of aircraft operated during the Emergency.¹²² “Operation Firedog,” as the air mission in Malaya was known, flew out of six airfields in the country, yet operations centred on RAF Kuala Lumpur.

Overall, given General Briggs’s broad instructions, it can be seen that air power had two distinct strategic remits: one direct, the other indirect. Direct aerial action placed air power within the primary offensive sphere of military activity, undertaking bombing raids of known insurgent encampments in the jungle, of insurgent food cultivation sites, and by strafing areas of known insurgent activity in order to flush enemy units into the path of a waiting ground troop ambush. Indirect aerial action in Malaya required air power to fulfil a vital auxiliary role by transporting troops, evacuating injured soldiers, launching Special Forces parachute drops, undertaking propaganda and psychological operations over insurgent-controlled or vulnerable areas, dropping supplies to jungle-bound patrols, and conducting visual and photographic reconnaissance. The division of the RAF’s role into direct and indirect action not only differentiates between the limited offensive role required by the former and the wider yet largely supporting role necessitated by the latter, but also represents a demarcation in the qualitative analysis of the RAF’s multivariate mission in Malaya. Direct offensive action by aircraft was responsible for less than ten percent of all insurgent fatalities during the Emergency.¹²³ This places them responsible

for nearly 700 fatalities. Yet, considering that FEAF bomber and fighter aircraft flew nearly 4,000 strike missions and dropped over 70 million lbs of bombs¹²⁴, this works out at a particularly laboured ordnance-to-kill ratio of 100,000 lbs of bombs per insurgent killed. By FEAF’s own admission there was “very little evidence of direct success in air attack against the C.T (communist terrorist).”¹²⁵ Although the accuracy of the bombs was high, their lethality was relatively low, largely due to incomplete or outdated intelligence leading, for example, to an abandoned insurgent camp being targeted. Despite this lack of insurgent “kills,” direct air power did have an acknowledged impact on insurgent morale. The potency of an offensive aerial presence was noted, for instance, in a 1955 FEAF memo which observed that MRLA insurgents were “learning to make greater use of camouflage as a protection against air attack.”¹²⁶ Aerial reconnaissance was therefore able to deduce that guerrilla camps that could be seen from the air were either vacated or dilapidated, requiring up-to-date intelligence from the ground in order to pin-point camps underneath the thick jungle foliage. Insurgent counter-measures and patchy intelligence undermined the material damage able to be inflicted from the air. However, by-products of the offensive aerial presence were tangible. In one case, the sonic boom created by a low-flying Sabre fighter aircraft of the RAAF flushed out a harassed unit of insurgents from a known jungle hamlet into the path of a waiting security force ambush.¹²⁷

Unintended, yet ultimately positive, consequences of an offensive aerial presence in Malaya did actually appease a frustrated political community. This was particularly apparent during the early 1950s as the effects of the comprehensive civil-military strategy known as the Briggs Plan slowly came into fruition. At a meeting of the Cabinet Malaya Committee in the summer of 1950, the Secretary of War, John Strachey, stated that prior to a visit to Malaya he had been “somewhat sceptical about the effectiveness of air strikes in the jungle,” but had been convinced firsthand that aerial attack “had a genuine effect on the morale of the bandits.”¹²⁸ These comments highlight an interesting interplay between politicians and air power in counter-insurgency conflict, in as much as that air power seemed to provide a quick and visible fix for the political community frustrated by the inevitably gradual progress made by troops on the ground and enabled the politicians in London to appease local politicians and the media. This is a trend that seems still to exist.

Strachey also encapsulated the fundamentally ancillary role direct air power could play in Malaya. It was never, and never could have been, a central plank of the offensive counter-insurgency military strategy. The civil-military imperative, as enshrined in the thinking of the combined Director of Operations and Governor, General Sir Gerald Templer, after 1952, of winning civilian “hearts and minds,” ensured that an aggressive and highly visible aerial presence was not viable. Combined with the uncompromising Malayan topography and meteorology¹²⁹, air power was largely unnecessary in a direct offensive capacity. The

key to its successful utilisation, however, lay in its indirect function. Strachey quite rightly stated that the RAF fulfilled this role with "great perfection."¹³⁰

As James Corum and Wray Johnson have noted, "airborne insertion of troops and aerial re-supply were described almost universally as the most effective counter-insurgency use of air power in Malaya."¹³¹ These two crucial indirect action roles proved essential in aiding British, Malayan and other Commonwealth security forces to suppress and eventually to eradicate the communist insurgent threat by firstly negating the need for arduous and gruelling treks through thick jungle, and secondly by enabling those patrols to maximise their endurance by maintaining their medical and food requirements. Medium-range transport aircraft, who undertook the bulk of these duties, increased in number as the Emergency wore on, thus increasing the overall supply capacity from just 60,000 lbs between June and December 1948 to over 700,000 lbs per month by 1954.¹³² These supplies not only restocked jungle-bound security force units, but also were also used to supply the police-manned "jungle forts" that provided a key link between the authorities and the indigenous jungle tribes who were susceptible to insurgent influence. Throughout the Emergency, aircraft designated for transporting civil and military personnel and dropping supplies flew a total of 190,000 sorties, delivering some sixty million lbs of equipment and food and carrying over 125,000 troops and passengers.¹³³

One of the most important troop deployment operations the RAF carried out during the Emergency was the insertion of the newly reconstituted Special Air Service (SAS). Disbanded after World War II, the SAS remerged in Malaya out of the so-called Ferret Force of special operations troops who operated in the opening phase of the Emergency. By 1955 there were five SAS squadrons in Malaya, totalling 560 soldiers, who fulfilled a narrow yet crucial role in Malaya.¹³⁴ Elite SAS units were able to endure stealthy patrols for long periods in the deep jungle to hunt down and attack insurgent camps. These missions were critical to the overall strategic imperative of reducing the paramilitary capabilities of the enemy, and the necessary means of SAS deployment and re-supply on such missions was from the air. Parachuting became a common form of entry for SAS units, utilising primarily the Valleta transport aircraft, commonly known as the "flying pig," for practice runs and actual drops. The importance of the combination of air power and Special Force units in Malaya was highlighted with the commencement of Operation Helsby in early 1952. This operation, based on intelligence garnered from surrendered enemy personnel (SEP) interrogation aimed to over-run the alleged headquarters of an insurgent regiment who controlled a strategically important valley close to the Thai border. It was even suggested that the MRLA leader Chin Peng could be located in the area. Operation Helsby held significance not only for the potential benefits that could

be reaped should it be executed successfully, but also because it represented the first parachute deployment of British troops since the crossing of the Rhine in March 1945.¹³⁵ The SAS took the camp with little resistance, denying the insurgents a cross-border camp. The airborne deployment of the SAS raises two further points regarding the indirect role of air power in Malaya: that of the importance of aerial reconnaissance, and the introduction of the helicopter.

The SAS were able to locate the target camp during Operation Helsby by using maps that had been drafted from aerial reconnaissance photographs of the area. Navigation, either by area or on the ground, was hampered in the early stages of the Emergency by the absence of any previous extensive survey of the country. Photographic reconnaissance was therefore crucial in revising old maps in order to ascertain a clearer picture of the topography of the country as well as the specific location of insurgent bases. Aerial reconnaissance was also essential for fulfilling the military priority of destroying crops being cultivated by insurgents in jungle clearings in an attempt to constrict their ability to survive in hiding. Reconnaissance aircraft were used firstly to identify and monitor areas where crops were suspected to be growing, whilst light aircraft were then called in to spray chemicals from a low height onto the insurgents' crops. Between 1952 and 1953 RAF helicopters on crop-spraying sorties destroyed 88 suspected insurgent cultivation areas.¹³⁶ Given the high demand and prolific usage of reconnaissance aircraft it is little surprise that in the final Air Ministry analysis of the Emergency, it emerged that it was the Auster aircraft, used chiefly for reconnaissance purposes, which achieved the most flight time, highest number sorties, and the most air mileage.¹³⁷

The second issue highlighted by the importance of air power to Special Forces deployment in Malaya is that of the operational flexibility offered by the use of helicopters for both casualty-evacuation and troop-carrying purposes. The medical airlift capacity of the helicopter was fully harnessed with the introduction of the RAF Casualty Evacuation Flight in May 1950 in Kuala Lumpur, manned initially by just three Royal Navy Dragonflies. These Casualty Evacuation flights proved to be life-saving, particularly during rescue missions to collect Special Force troops on long jungle patrols struck down with disease, or troops severely injured after inherently unsafe parachute drops.¹³⁸ By the end of 1953 there were three primary helicopter squadrons operating in Malaya. The Evacuation Flight expanded and became 194 Squadron, where the Dragonflies were replaced with the better performing Sycamore. Troop and supply drops were largely fulfilled by 848 and 155 Squadrons in many areas of dense jungle where the vertical take-off capability of the helicopters ensured more accurate drops. Accumulatively, these three squadrons formed 303 Wing in 1953 with a total of forty helicopters.¹³⁹

In short, Malaya provided a successful demonstration of the flexible and multi-functional utility of helicopters in a small war environment. The troop-deployment and medical-evacuation role that 303 Wing Sycamore and Whirlwind helicopters fulfilled in Malaya would be seen on a much larger scale in future conflicts as other armed forces noted the advantages of helicopter air power, most obviously within the US military as the Vietnam War escalated from an insurgency to an all-out war.

One final indirect role air power executed with beneficial results was aiding the propaganda and psychological side of the conflict. A key tactic in this front of the counter-insurgency campaign was the use of "voice aircraft," which would fly over the jungle broadcasting messages to the insurgents from loud speakers, urging them to surrender. As the war began to turn against the MRLA after 1952 and morale severely dipped, the effectiveness of this method became obvious. In 1955, questioning revealed that 100 percent of surrendered enemy personnel stated that they had heard propaganda being broadcast from voice aircraft, many of whom agreed that what they heard played a large role in their decision to surrender.¹⁴⁰ "Voice aircraft" covered some 10,000 miles over the duration of the Emergency,¹⁴¹ whilst in 1956 alone they flew 2,246 sorties over the Malayan jungle, conducting "voice" missions as well as dropping over 100 million leaflets calling upon insurgents to surrender and offering financial inducements to give up arms. The effectiveness of this simple method was witnessed by the MCP's directive that made it an offence punishable by death for one of their members to so much as pick one of them up off the jungle floor.¹⁴² Again, here we see the contribution being made from the air reaping positive benefits for those fighting insurgents on the ground. The accumulative effect of air power's indirect role in Malaya truly was an accomplishment of General Briggs's vision of air power operating "in conjunction with and in support of the ground forces". Although there is reason to suspect the presence of any sizeable advantage stemming from the direct and offensive application of air power, the essence of the effective utility of air power – indeed, the unsung contribution to the whole counter-insurgency effort – lies in the multiple uses of indirect air power. From crop-spraying to propaganda distribution, from medical evacuation to deploying troops, the indirect role played by air power in the Malayan Emergency offered an "insight into the possible imaginative uses of a small but flexible air component to support the larger political-military effort in a small war."¹⁴³ Although clearly ancillary to the main military focus on ground operations, the wider counter-insurgency strategy was aided considerably by the indirect application of air power.

"Political Dynamite": Air Power in Kenya

Declared four years into operations in Malaya, the counter-insurgency campaign initiated in response to the Kenyan Emergency built upon the lessons learned in south-east Asia.

As Malaya was a work in progress, many tactics were transferred to Kenya as their benefits became evident against the MRLA. The application of air power was no exception.

A mysterious branch of the Kikuyu tribe, Mau Mau had its roots in the Kenyan land reform movement and in the early 1950s began to vent its frustrations at the colonial government. Its intentions, much like the movement as a whole, remained porous, ensuring that Mau Mau was concomitantly labelled reformist, nationalist, anti-colonial and Kikuyu supremacist. British propaganda managed to propound a common perception of Mau Mau as an atavistic and savage group with no regard for life. The early British response to increased Mau Mau violence at the outbreak of the Emergency was the mass arrest of Mau Mau sympathisers as well as of leaders of the trade unions and the nationalist movement. This left Mau Mau with an inexperienced and semi-educated leadership with no contact with the established hierarchy. Yet the British response was hindered by an inefficient intelligence network and the lack of a clear strategy, stemming largely from an arrogant perception that Mau Mau were tame in comparison to the MCP and would therefore be easy to defeat. Recent scholarship on the Mau Mau uprising has sought to expose institutional and widespread brutality that pervaded the treatment of Mau Mau suspects, although this contemporary literature retains the tendency of previous works to largely ignore the role, albeit a more limited one than in Malaya, played by air power.¹⁴⁴

Like the Malayan jungle, the dense forests around Mount Kenya, the centre of the Mau Mau's rural campaign, provided excellent shelter for insurgents. Their movement was also aided by existing, well-trodden animal tracks. This was to prove problematic for the small group of aircraft at the disposal of the British and Kenyan security forces. At the outbreak of the Emergency there was fourteen light aircraft belonging to the Kenya Police Air Wing, four Harvards seconded from the RAF based in Rhodesia, and a squadron of RAF Lincoln bombers. The Kenya Police Air Wing largely fulfilled a transportation function, whilst medical evacuation was only undertaken sporadically given both the geographically confined region of military operations allowing for easier removal from the conflict zone by foot patrols, and also by the late introduction of helicopters to Kenya in the closing stages of serious anti-Mau Mau operations by the mid-1950s.

The use of light aircraft (mainly for transportation reasons) over populated areas provided visible signs to the civilian community, both settler and native loyalist, that action was being taken without fright or alienation. The use of bombers over civilian areas was avoided, even after the RAF stepped up its bombing campaign of the Aberdare Mountains, a Mau Mau stronghold, in the summer of 1953. Up to ten Harvards and four Lincolns were used in the raids.¹⁴⁵ In light of this desire to find a fine balance between direct aerial counter-insurgent action and alienating the native loyalist community, there

was an acknowledgement on behalf of the Air Ministry of the political implications of air power if used wantonly. In December 1953 the Air Ministry warned the Headquarters of the Middle East Air Force that: "Use of medium bombers in Mau Mau operations is political dynamite".¹⁴⁶ Therefore the application of direct offensive air power in Kenya was minimised, not only for political reasons. We must consider that the area of operations in Kenya was much more constricted than in Malaya, given the geographically confined nature of the Mau Mau's strongholds, as opposed to the MRLA's nationwide presence. This ensured that any aerial bombardment would have to take place with the inevitable knowledge of the civilian community who lived close to the insurgent controlled areas, drastically undermining the strategic imperative of harnessing indigenous support for the counter-insurgency campaign.

This raises broader psychological aspects pertaining to the use of air power in counter-insurgency, mainly the satisfaction generated within the civilian population from merely seeing aeroplanes in the sky which fosters a feeling that something is being done, whether or not it is actually having a tangible result on the outcome of counter-insurgency operations. Furthermore, despite the use of aerial bombardment to herd forest-bound guerrillas towards awaiting security force patrols, it was estimated that during the Kenyan Emergency it took one tonne of bombs to kill just one insurgent.¹⁴⁷ Yet we must bear in mind that the strategic application of air power in Kenya was narrower than in Malaya. The stated purpose of air power was "to drive the terrorists out of the forests ... in conjunction with ground operations."¹⁴⁸ If we apply this strategic remit to air power, it can be seen as a relative success, especially given that analysis by the security forces in mid-1954 revealed that a significant proportion of surrendered Mau Mau gave fear of aerial attack as one of the prime factors motivating their capitulation.¹⁴⁹

In comparison to Malaya, very little secondary literature has actually been written on air operations in Kenya. Although this is partially understandable given the relative paucity of missions undertaken by the RAF in order to quell the Mau Mau in contrast to Malaya, it is surprising that wider analysis has not been forthcoming, especially given the logistical and strategic conundrum posed by the need to maintain supplies to ground troops in a confined area of operations without revealing their position to the enemy. In perhaps the only sustained evaluation of the Kenyan air campaign, written over thirty years ago, Alan Waters, a police officer during the Mau Mau uprising who later turned to academia, offers a scathing analysis of both the direct and indirect use of air power in Kenya. Waters provides a withering critique of aerial bombing of Mau Mau camps in the forests, arguing that it was a "futile and counter-productive exercise ... (that) gave the gangs a feeling that they were not only very important, but that they were winning every time they survived."¹⁵⁰ Yet it was not just direct air power that Waters felt was ineffective. He claims

that the "noisy and dangerous" nature of air support operations ran the risk of revealing the presence of security force incursion into Mau Mau territory.¹⁵¹ Admittedly, the RAF ran a greater chance of disclosing the presence of security force patrols than they did in Malaya by undertaking supply drops in audible and visible proximity of Mau Mau units, given both the smaller area of insurgent activity, and the position of insurgent camps across the Aberdare mountain range, affording Mau Mau advantageous positioning to site the location of incoming aerial supply drops. Furthermore, the accuracy of potential supplies was hindered by the lack of cleared forestry to aim for, whilst the entire supply function was undermined by a shortage of suitable airstrips to launch medium transport aircraft from. Waters also argues that there was poor communication between the security forces in the forest and the air crews for several reasons. There was a distinct lack of radio equipment, therefore curtailing the ability of patrols to call in immediate air support. In addition, the thick foliage made it difficult to accurately pinpoint a target even if a patrol did manage to find a way around the centralised decision-making structure regarding aerial deployment and call in an attack. As Waters states:¹⁵² "Control of air support was a distant thing and the police on the ground or the troops in the forest could only suggest tactical operations far in advance." Although many of Waters' criticisms are valid, his conclusion that the only way around such problems as described above is to pass control of air power in insurgencies from military to civilian hands, is misguided: "It is not enough for the aircraft to be available for the support of the local authorities; they must give the local people the feeling that they are part of the normal structure of society. To do this the aircraft must belong to the civil authority, that is, the police."¹⁵³ Not only would this provoke serious questions of accountability, but would require a significant reappraisal of civil-military relations. The inadequacies and frustrations of air power in Kenya were not down to RAF incompetence, but were a result of the confined area of counter-insurgent operations and a continued concentration of RAF resources elsewhere in the Middle and Far East. After all, the RAF could not be held responsible for the pervading belief among the civilian and military leaders that the atavistic Mau Mau would be easily defeated on the ground. As in Malaya, direct air power was unable to achieve any substantial success or alter the fundamental nature of the campaign. However, what is significant is that the nature of the conflict in Kenya, as opposed to Malaya, in terms of its size and urgency, ensured that even indirect air power was marginalised. Although an aerial presence comprises a component of most counter-insurgency operations, it is by no means assured that air power will play a fundamental supporting role, as in Malaya, or will be sidelined due to operational circumstance, as in Kenya. What is certain, though, is that air power, whether marginalised or not, still needs to be retained as an essential weapon in the counter-insurgency arsenal given its inherent tactical flexibility and ability to contribute to the fulfilment of the overarching strategic imperatives.

Reflections

Billy Mitchell defined air power as the ability to do something in the air,¹⁵⁴ and its history has shown that there is great debate about what that something should be. What our case studies demonstrate is that even at an early stage, air power could provide a variety of purposes which helped ground forces fight insurgents, in a direct offensive way as envisaged by Mitchell, but more tellingly in an indirect way that persuaded politicians and some segments of the public that air power provided important ways of operating.

We must offer a few caveats. Our case studies are imperial in context. Concern over the manner of killing insurgents and the targeting of civilian populations caused little real emotion amongst the political classes. This is not the case today. There is a more judicious appreciation of the body count on the other side. A second caveat is that the role of the media is incredibly different today. Even if atrocities were part and parcel of the air wars of the 1940s, there were few journalists to describe or sensationalise the accounts. Thus, politicians could ignore the human cost of air power. Although here we would like to note that one of the strange or particular features of our recent research is the absence of appreciation for a) airmen and b) those who have fought in colonial wars. A third caveat relates to race. As Mark Twain argued, we cannot judge men except against their own times as opposed to ours. What is striking in these campaigns was the desire to use air power to intimidate the opposition, not just in terms of potential fatalities although these were real enough, but in terms of the propaganda which played upon local ideas of tradition and faith. Also, the racism apparent in colonial campaigns was very real (arguably not the case today).

We have seemingly moved on in a couple of those categories. Yet let us assert a few constants. Air power is used by politicians to fulfil a variety of functions. Not least of these is to seize the initiative and act in support of ground troops, but there is always the publicity element for politicians. Let us take the bombing of the Tora Bora mountain range in Afghanistan which almost certainly did not kill bin Laden but may have made western politicians feel better. The second is that air power seems to offer the perfect way of war for politicians who might want to inflict casualties but take relatively few. The Vietnam Syndrome has taken on a new form via the Virtual Wars of the 1990s to ensure that air power now provides a means of achieving strategic objectives without so many damaging newspaper headlines. A third constant is that air power is a dual-edged sword – it might actually militate against hearts and minds given the prominent role granted it by politicians. “Collateral damage” is a now term indelibly associated to the wanton use of air power and is hung round the neck of western democracies by their enemies as proof of aggression against civilian populations, although admittedly this has more to do with the increasing influence and abundance of the media than it has to

do with increased aerial inaccuracy or deliberate targeting of civilians. However, as our case studies have highlighted, air power has always been treated in counter-insurgency conflicts as potentially politically controversial. Air power may be used today with more willingness by the military's political masters. However, the consequences of its direct use rises concomitantly. What the historical case studies, and an analysis of the applicability of air power in the current War on Terror, serves to demonstrate is that the political belief that air power possesses a “magic touch,” as it were, in counter-insurgency scenarios has not changed. Yet what Malaya and Kenya serve to highlight is that not only is it in the indirect capacity that air power serves its most effective function in such conflict, but that offensive aerial bombardment against insurgent units is either futile or detrimental. Such lessons are worth remembering if the War on Terror is to win not only military battles, but also the battle for “hearts and minds”.

CHAPTER 5

*"Looks Suspicious":
The US Marines Air Campaign against the Sandino Insurgents of
Nicaragua 1927-1933*

Richard Grossman

"Looks Suspicious": The US Marines Air Campaign against the Sandino Insurgents of Nicaragua 1927-1933

Richard Grossman

Almost immediately after its invention, warfighters began using the aeroplane for military purposes. Within a decade the French were using the aeroplane against insurgents in North Africa. The United States Marine Corps (USMC) also saw the aeroplane as a useful tool in its various Caribbean interventions in the second decade of the twentieth century. In the Nicaraguan campaign against the insurgency led by Augusto Sandino, Marine aviation became an integral component of US "small war," or counter-insurgency, strategy. Major Ross E Rowell, the Marine aviation commander in Nicaragua during 1927 and 1928, claimed that aircraft had rendered services to the campaign of "a relative importance unprecedented in military operations."¹⁵⁵ New tactics and techniques were developed and refined. The Marines aviators were getting so much experience that the Army Air Corps actually requested a chance to participate for training purposes.¹⁵⁶

Since the 1920s, numerous military authors have praised this campaign. The experiences learned in Nicaragua became the model for much of the Marine Corps' Small War Manual. In *Soldiers of the Sea*, an official history of the Marine Corps written in the 1960s, Colonel Robert Heintz claimed that the Nicaraguan campaign was "the first air-ground war in history."¹⁵⁷ In a recent article, Dr Wray Johnson called Nicaragua the "model for air power in small wars."¹⁵⁸

Despite this glowing praise, the Nicaraguan campaign must be seen as a failed counter-insurgency and that Marine aviation contributed to this failure. When the war finally ended in 1933, Sandino had not been defeated but instead was at the height of his military and political power. A ceasefire was signed after Sandino had achieved his prime objective: the withdrawal of all US military forces from Nicaragua. Many in Nicaragua, even beyond his base area of support in the northern region known as the Segovias, now considered him a national hero.

Since the Marines won almost every battle, it is worth asking why the campaign was a failure. The fundamental shortcoming was not military, but political. Success in an insurgency depends on winning the so-called "hearts and minds" of the civilian population. By the early 1920s, after the earlier small wars in Haiti and the Dominican Republic, some Marine strategists were beginning to realise the importance of winning civilian support. For example, in a 1921 article in *Marine Corps Gazette*, Lieutenant Colonel E H Ellis noted:

"That the friendship of the people of any occupied nation should be forfeited by the adoption of any unnecessary harsh measures, is avowedly contrary to the policy of the United States."¹⁵⁹

Despite these warning, Marine tactics were indeed "harsh" and alienated much of the peasant population of the Segovias. For six years Sandino engaged the US Marines and the Guardia Nacional de Nicaragua (National Guard of Nicaragua) in a bitter guerrilla war. The Guardia was a creation of the US, in which Nicaraguan soldiers were commanded by US Marines in the fight against Sandino. The rules of war did not apply against Sandino and his followers since they were classified as "bandits" by the US. By using this definition, US policy-makers and the Marines denied the political and social nature of the war or that there was any legitimacy to Sandino's cause. Despite some debate, American racial and political assumptions would accept no other definition of Sandino. Americans considered the Sandinistas as criminals out for loot. In their eyes this banditry had to be suppressed and law and order established. The tactics to be applied were not the generalised military tactics which the Marine officers were taught at Annapolis, but were specialised rural pacification or small wars tactics, which the Marines learned from their experiences in Haiti and the Dominican Republic.¹⁶⁰

Both on the ground and in the air, the Marines made few distinctions between the Sandinistas and the civilian population of the Segovias. As Marine General Dion Williams noted, "a large portion of the inhabitants of the mountain regions of the north were potential bandits."¹⁶¹ For Marine aviators, since the rural civilian population was indistinguishable from the insurgents, all the regular activities of the peasants "looked suspicious" and were likely to be attacked. In just one example from the daily Air Service reports, which were completed after each patrol, a pilot noted that one house had "about 30 pieces of mens [sic] laundry out. Shots were fired near the house but no one was seen. This area appeared suspicious because of the timidity of the people."¹⁶²

Thus, thousands of Nicaraguans died and many others saw their homes and farms destroyed. The brutality of the Marines and Guardia contributed to the support that developed for Sandino. The results were devastation for the Segovias, and the growth of the Sandinista resistance. Many joined with Sandino out of anger at the atrocities and also in the hope that they and their families would then be protected from further attacks.

Background to War

Nicaragua, a country of about 50,000 square miles, is very similar in size to England. It is the largest of the Central American countries. Yet in 1920 the total population was only 630,000 people. Nicaragua was primarily agricultural, with the production of coffee,

bananas, and cattle for export. There was no industry to speak of, and very few valuable natural resources. The northern region of the Segovias was especially isolated. Much of the area was mountainous and there were almost no roads. Travel was by horse and mule or on foot. The largest towns had only several thousand people. The vast majority were poor peasants who eked out a meagre livelihood while living in shacks that were scattered throughout the mountains.

Despite Nicaragua's poverty and underdevelopment, the US Marines would be ordered to intervene three separate times during the beginning of the twentieth century. Nicaragua stretched from the Caribbean to the Pacific and was seen as a potential site for an inter-oceanic canal. Thus, the US interest was strategic, not economic. Even after the building of the Panama Canal, the US was concerned about a competing canal through Nicaragua.

At the beginning of 1927, Robert Olds, the Assistant Secretary of State, wrote a telling memo describing the official US view of Nicaragua:

The Central American area down to and including the Isthmus of Panama constitutes a legitimate sphere of influence for the United States. ... That we can never be indifferent to what happens in this area is a principle of policy no less fully established than the Monroe Doctrine itself. The Panama canal is a vital asset, and the effective control of the only other potential water route between the Atlantic and the Pacific, through the Republic of Nicaragua, is equally vital to our national interests.¹⁶³

Olds continued: "Until now Central America has always understood that governments which we recognise and support stay in power, while those which we do not recognise and support fall. Nicaragua has become a test case. It is difficult to see how we can afford to be defeated." Thus, the interventions were also a demonstration of US power in the region.

Throughout Nicaragua's history discord between the Liberal and Conservative factions of the elite had led to several civil wars. While there was little political difference between the two, they constantly fought each other to control the country. By the beginning of the twentieth century the Liberals, led by Jose Santos Zelaya, governed the country. Zelaya, while a dictator, considered himself a moderniser and was trying to promote the building of a second canal through Nicaragua. In 1909, to help the Conservatives overthrow Zelaya, President William Taft ordered the Marines to land in Nicaragua. A pro-American Conservative, Adolfo Diaz, became president. In 1912 the Liberals rebelled and thousands

of Marines returned to defeat the uprising. Under Conservative rule, Nicaragua and the US signed the Bryan-Chamorro Treaty. This treaty gave the US the exclusive right to build a Nicaraguan canal, a right the US never planned to exercise.

In 1926 the Liberals rebelled again. When Olds wrote this memo in 1927, the Marines had just been ordered to return to Nicaragua, once again in support of Conservatives. As thousand of Marines landed and occupied most of Nicaragua, a US-sponsored peace accord was reached in May 1927. Now most Liberal leaders accepted US dominance. Both sides agreed to disarm, to divide the political offices, to hold new national election, and for the construction of a new military force, the Guardia Nacional de Nicaragua. All this was to happen under US oversight and supervision.

Augusto Sandino, one of the minor Liberal generals, decided to reject what he felt was the US domination of his country. Establishing himself in the northern Segovia region, Sandino began to organise a peasant-based force which he called the Ejército Defensor de la Soberanía Nacional de Nicaragua (EDSN: Army in Defence of the National Sovereignty of Nicaragua). Sandino declared himself the true defender of Nicaragua and vowed to fight both the Marines and the Nicaraguans who had betrayed the country and allied themselves with the Americans. Thus, the Sandinista resistance was never criminal in nature but a nationalist response against what they felt was a foreign occupation of their country.

The War and Air Power

On 16 July 1927, Sandino attacked Ocotol, the capital of Nueva Segovia province. He had a core force of about 60, augmented by several hundred local peasants armed with machetes. Facing him were 41 Marines and 50 members of the Guardia Nacional (including its two Marine officers).¹⁶⁴ After hours of fighting, Sandino controlled most of the town. Two Marine aeroplanes on regular patrol flew over the city. Seeing the battle underway, one aeroplane returned to the capital Managua for reinforcements while the second began to attack the Sandinistas. Informed of the battle a re-enforcement force of five DeHaviland biplanes flew to Ocotol. For forty-five minutes they bombed and fired their machine guns on the Sandinistas. Historian Neill Macaulay claims this was the "first organized dive-bombing in history".¹⁶⁵ Marine air power turned the tide of the battle and Sandino fled from the city.

As Sandino retreated into the mountains and forests of northern Nicaragua, Marine patrols, both ground and air, soon followed. The war had started. From the first battle Marine aviation was an essential component of their counter-insurgency strategy. This became the first co-ordinated ground/air war in US history. One historian noted that "never

before had combat and logistic air support been woven into the fabric of a campaign".¹⁶⁶ Thus, aeroplanes were critical in all aspects of the campaign: communication, logistics, intelligence, as well as combat.

Since two-way radio communication was new and not yet practical in the mountains, the ground patrols in the rugged wilderness of the Segovias had no easy way to communicate with their command positions or with each other. The aeroplane made it possible for the first time for these patrols to stay in regular contact and to co-ordinate their activities. Aeroplanes tried to fly at least once a day over each patrol. Messages would be dropped. The ground patrol had two ways of communicating with the aeroplanes. It could place large cloth panels on the ground. These had different colours and symbols which would convey information to the pilots. Or it could suspend a message on a line ten to twelve feet off the ground. The aeroplane would fly close to the ground and the observer would use a long grapple line to retrieve the message. Major Rowell described the importance of this communication when he noted: "It fell to the lot of the aeroplanes to bind the organization together, to make it a whole, and to make it possible to function as an organization."¹⁶⁷

Re-supplying the isolated posts and patrols was very difficult. Ground transportation was slow, if at all possible, and dangerous. Again aeroplanes filled the void. Millions of pounds of freight were flown into the Segovias. In just one week in August 1928 aeroplanes delivered 68,614 pounds.¹⁶⁸ This cargo included food, munitions, clothing and medicine. Occasionally medicines that needed to be kept refrigerated would be airlifted to help the wounded in very isolated patrols. Money was delivered for pay and local purchasing of goods. Troops were also transported by air and many wounded were airlifted to medical facilities.

Intelligence was another task assigned to Marine aviators. Aeroplanes made regular reconnaissance flights over the Segovias in an attempt to discern Sandinista movements. They also undertook aerial mapping and photography. Major Rowell also noted that they were involved in propaganda campaigns by dropping thousands of leaflets over the region. While he claims this was "really effective," one can question its usefulness since over ninety percent of the population was illiterate.¹⁶⁹

Marine aviation also performed an essential combat function. In the first year of the war the Marine aviators were involved in 86 combat missions, during which they dropped 514 bombs and fired 150,000 rounds of ammunition.¹⁷⁰ Learning a lesson from the battle of Ocotol, Sandino dispersed his followers into small guerrilla columns. Thus, there were only a few opportunities to attack large Sandinista troop concentrations. In January 1928

both Marine ground and air forces concentrated to attack Sandino's headquarters on the top of the isolated mountain known as El Chipote. After a vigorous bombing campaign, Sandino abandoned this base before the final Marine assault. Later in 1930, Marine aviation attacked another suspected Sandinista camp on Yuca Puca mountain. One report described the effects of this bombing campaign: "All patches of wooded land was raked with fire from the ship's guns and bombs dropped until the mountain top took on appearance of a field in Flanders".¹⁷¹

Air power occasionally supported ground patrols under attack. Even with the limited communication, patrols could signal they were under fire and point to the position of the enemy. Several times planes rescued the ground patrols from perilous situations. Major Rowell described one of these incidents near the beginning of the war. He stated that a ground patrol was surrounded on an isolated jungle hill. The pilot dropped a message asking where the enemy was and the ground patrol signalled "north, south, east and west". The pilots then asked "how far" and the patrol was able to give the estimated range. The aeroplanes then bombed the indicated area and the patrol was able to escape. After this incidence the Marines developed for the first time a "prescribed" system of bombing directed by ground panels. Rowell later called this incidence "a rather interesting occurrence," since it would never "occur to one that such a situation would ever arise."¹⁷²

Another example occurred in the small town of Quilali. The ground Marines were surrounded and had taken casualties. Under fire, aircraft were able to land and airlift out eighteen of the most seriously wounded. The aeroplanes then accompanied the column until they were able to reach safety.

We marched them under continuous air escort throughout the flying hours of the day, then we halted them for the night and repeated the process the next day. We marched them for two days. As soon as one patrol had reached the limit of its fuel, it would be replaced by another patrol, so there was continuous support. We drove off three or four ambushed during the march.¹⁷³

The most common form of combat were the attacks made on the small villages, isolated houses and individuals which were scattered throughout the Segovias. These were not in support of ground patrols. Using the daily "Air Service Reports," which were written after each patrol, one can see how frequent these were. Ten separate incidents were noted in the month of April 1928 alone. Murra was a typical Segovian town with a population of about 200 and about fifty houses.¹⁷⁴ It was attacked several times during this period. One example is from 12 April 1928 in which the report described the regular patrol activities

such as picking up messages and dropping mail to various posts. It also mentioned an air attack near the town of Murra: "Six horses were observed around a group of three houses and three men were seen to run into the brush. Four bombs were dropped, two making direct hits on the houses."¹⁷⁵ On 20 April 1928, aircraft bombed the area again. A Marine pilot noted: "The area North and North East of Murra were reconnoitred and no outlaw activities were observed. The town of Murra was evidently inhabited as cattle dogs and chickens were present but no people were in sight. Two bombs were dropped and a few shots fired from the rear machine gun".¹⁷⁶

The Marine aviators thus made new and important contributions to both the actual campaign and military aviation history. Novel techniques and tactics were developed during real combat situations. Air power became an integral component of the US Marine small war strategy. The experiences learned in Nicaragua were directly incorporated into the Marines' Small War Manual.

Problems of Counter-Insurgency

Yet, despite the contributions of aviation, the overall campaign must be classified as a failure. Marine tactics, both air and ground, alienated much of the peasant population of the Segovias and contributed to an expanding base of support for Sandino. By 1933, when the ceasefire was signed, the Sandinista forces were at the pinnacle of their strength and controlled most of the Segovias. The war ended in a military stalemate and with a political victory for Sandino, who achieved his goal of forcing all US military forces from Nicaragua.

Marine commanders emphasised that they were in Nicaragua to protect the civilian population. Their rules of engagement ordered that only enemy soldiers, the "bandits," be engaged in combat. Numerous orders were issued to ensure that these rules were obeyed. For example, at the beginning of the war, Colonel R H Dunlap, ordered: "When bandits are found in a house, make sure it is their house before destroying it. ... In general, do not destroy property, stores, or houses except known to belong to bandits – to be a bandit hangout."¹⁷⁷ In another memo he added "Of course, every precaution must be taken to insure that no innocent person is made to suffer."¹⁷⁸

Marine aviators also insisted that they carried out an "ultra-humane" air attack policy.¹⁷⁹ Major Rowell noted that:

Distinguishing hostile outlaws from innocent citizens is a most difficult problem. Many outlaw groups doubtless are permitted to escape attack because of doubtful identification. Exceptional skill and continued experience is relied upon to identify hostile groups.

The following are some of the signs that are depended upon: Hostile fire, visible arms, number of persons present compared to normal population, proportion of men to women, number of horses and pack animals present, number of cattle seen, actions of individuals in presence of aeroplanes, amount of washing observed in area, occasionally earth works for defense or prepared ambushes are found, condition of trails, general appearance of villages and farms, actions of people known to be innocent, ground intelligence reports, character of citizens in the area, etc., etc.¹⁸⁰

A number of historians have read these orders and assumed, therefore, that these humane and restrained policies were actually followed. For example, Wray Johnson's recent article, "Airpower and Restraint in Small Wars," emphasised that the Marine aviators showed considerable constraint. However, while the rules of engagement might appear to guarantee a limited war, their effects were just the opposite. The reality on the ground did not match the orders.

Without any formal military training, Sandino created a classic guerrilla army. The Sandinista soldiers had no uniforms and generally were indistinguishable from the civilian population from which they emanated. Most of the male peasants carried machetes and many also had pistols and shotguns for protection and hunting. Even seeing someone armed did not mean that he was a Sandinista soldier. Thus, the emblematic dilemma of fighting an insurgency: how to know exactly who your enemy is. The Marines remained vexed by this problem through the entire war.

Since they could not differentiate civilians from combatants, the target of the Marines became almost the entire population of the Segovias. By the end of the war, most of the peasants were indeed Sandinista supporters and collaborators. Colonel Robert Denig gave an accurate description of the support that existed for Sandino in the countryside, and therefore the problem the Marines faced:

The natives living in the hills throughout this area are actively engaged in banditry, but, unless actually killed or captured in a combat, proof of this is very difficult. These natives join with various Jefes for an ambush or attack some town, and then after the combat, conceal their arms and go to their huts, where, to all intent and purposes, they are peacefully farming. These scattered farms furnish the main source of food supply to bandit groups, and even though proof of their having supplied bandits with food and shelter is at

hand, and their huts are destroyed, they build another hut which remained hidden a short time until a repetition of the above takes place.¹⁸¹

Only the "enemy" was to be attacked. However, since everyone was suspect, everyone and everything were legitimate targets. Marine reports reflected this reality. For example, almost every house that was burned down or bombed was listed as a house of a "known bandit". Thus, one Guardia ground patrol report stated that twelve "bandit" houses were burnt, and then added: "Not all houses were burnt on the account of my shortage of matches".¹⁸² Another report was brutally frank when it stated: "This column accomplished its mission in destroying bandit supplies and rendered Remongon ... uninhabitable. The bandits in that area, if they remain there, will have to live in the woods."¹⁸³ The "bandit" families, who were probably the civilian population of the area, were also left homeless.

Marine aviators were also involved in this destruction. In the months of February to May 1928 there were 37 documented air attacks against civilian targets. In none of these cases was fire returned. When trying to determine what to attack, pilots hit anything that looked "suspicious". This included people, houses, crops and animals. An Air Service report noted: "The area surrounding Remongon is very suspicious. Every indication of inhabitants in the area, such as smoke from the houses, washing out to dry and extensively cultivated corn fields, yet no people were observed in the area."¹⁸⁴ Thus, an area was suspicious if the aviators could not see the people, who were obviously hiding since the aeroplanes attacked anything suspicious, like daily activities such as laundry.

However, remaining in the open might also make you appear "suspicious". A second Air Service Report noted that there was no sign of "outlaw" activity in the town of Concordia. Instead:

Twelve or fifteen women, nine children and eight men were seen in the town. Two women were sweeping in the interior of the church. After looking the town over closely, one bomb was dropped in a field just outside the town. The plane immediately circled low over the town to note the effect. The women ran for their houses and stood in the doorways looking in the direction of the explosion and toward the plane.¹⁸⁵

Many times the Marine aviators bombed or fired their machine guns at targets to "see what developed". This tactic was an attempt to draw fire from potential "bandits" that might be in the area. In one example, the report noted that the pilot saw a man "running for cover"

near some isolated houses. The report then continued: "Both shacks were bombed and ground strafed. Nothing was developed. Otherwise the area appeared normal."¹⁸⁶

The Marine reports are filled with example after example of these types of attacks. Since all the Segovians were "potential" bandits, all their actions were "suspicious". Everyone and everything was "suspicious". All Marine activities were therefore justified since no "civilians" were targeted. Historian Michael Schroeder suggests that the Marines' definitions of suspicious activity "would be laughable were the results not so tragic."¹⁸⁷

Yet the Marines sometimes expressed frustrations even with these limitations. They felt that these restrictions were imposed by outside political pressures. Major Rowell complained of the restraints forced on them so as not to potentially upset public opinion back in the US since, as he noted, Americans are "sensitive to bloodshed". He explained:

we may not bomb towns because it would not be consistent with a policy advocated at some international convention. The result is that all jungle villages become safety zones for the enemy. The safety of non-combatants becomes a matter of prime importance. The bandits then employ screens of women to obtain immunity against air attacks. The use of chemicals, even tear gas, is prohibited for the reason that it might cause our international viewpoint on this subject to be misunderstood ... We are required to conform to all the rules of civilized warfare, while the enemy will torture prisoners, murder the wounded and mutilate the dead.¹⁸⁸

Still, despite the limitations, the Marines officers were aware of the extent of the destruction. At times they even joked about it. Within the Guardia newsletter for the Northern zone, *The Great Northern News*, there is a poem that, tongue-in-cheek, described their activities. The names were all officers in the area. The poem has a number of other stanzas along similar lines:

Croka and Perfley, Carlson and Good
Slashing and cutting and searching for blood
Levonski and Livermore, Salley behind
Touching off shacks til they were half blind.¹⁸⁹

Air Power as Air Terror

Clearly civilians were attacked. In the standard history of the war, Neill Macaulay called

the Marine campaign "aerial terrorism".¹⁸⁰ There are some other historians, such as Wray Johnson, who vigorously disagree with this allegation. However, those who suggest that this campaign was humane and constrained, especially when compared to similar European wars, are looking from the wrong perspective. The peasants living in the Segovias felt that they suffered an unprecedented wave of death and devastation. While Marines, as Colonel Dening in the quote above, felt that the destruction of the peasants' huts was not serious, as they could easily be rebuilt, for the individuals involved their homes and all their meagre possessions were destroyed. They were left homeless and hungry. While dropping a bomb near a house or individual to "see what might develop" may seem restrained, for those on the ground it was terrifying. Most horrific to the Segovians were their relatives, friends and neighbours who had been killed or wounded by the Marines.

To some the attacks might seem "restrained" since only one or two houses were strafed at a time. However, it is important to emphasise the relatively small number of people that actually lived in the Segovias. For example, in the towns discussed above, Murra had about fifty houses and Concordia was a little larger. Most of the communities were much smaller than these two. The destruction of even one or two houses was a significant percentage of the total. Thus, most Segovians were direct victims or witnesses to this devastation.

The Air Service reports described the bombings and attacks but not the effects on the civilian population. Sometimes ground patrols reported on the aftermath an air attack. One patrol visited a house that had been bombed. There it "found that three persons had been wounded by the bomb fragments. ... The wounded in this shack were Lorenzo Mendoza, his wife and a small child named Toribia Bravo. The old man was slightly scratched on the back. The old woman had a couple of small chunks of flesh torn from her left leg near the knee. The child, which in my opinion was the worse wounded of the three, had a piece of shrapnel in her right arm. ... It is possible that the people were not aware of the presence of a group of bandits in their vicinity, but I doubt it!"¹⁹¹

The victims gained first aid, but there is no mention of how this family was supposed to survive. Their house was destroyed and they were left in the mountains with no medicine or access to doctors. No evidence is presented of their support for the "bandits". Instead the report blamed the victims for their plight since they must have known of the supposed Sandinista presence. Thus, they were guilty for being who they were and living where they lived.

However, the policy of suspecting everyone was utterly counterproductive. Instead of defeating the Sandinistas, these attacks helped convince many to join the fight and

guaranteed a growing support base for Sandino. This can be documented through the interviews of the surviving Sandinista soldiers made during the 1980s and 1990s. While these were taken decades after the war ended, many still had very vivid memories of the period. A number specifically remembered the aerial attacks. For example, Eulogio Espinales López described how his family home had been bombed and his fleeing family shot at. He noted: "This then was the motive why people joined the army. They didn't want to die defenseless."¹⁹² In another example, Ascensión Iglesias Rivera also described how the houses had been bombed and even their animals killed. He added that therefore they had to fight the foreigners, the "gringo invaders," to defend the land that their "fathers had left them".¹⁹³

This concept is key to understanding the growth of the Sandinista resistance. When the war started Sandino had few followers. Initially his nationalist rhetoric made little sense to the illiterate, isolated Segovian peasants. Many had moved into the mountains to escape the reach of the Nicaraguan state. Many felt that they should not risk their lives for a country of which they barely felt part. However, by chasing Sandino into the mountains the ensuing Marine actions alienated the local population. Sandino now gave voice to their growing frustrations and grievances. Many Segovian peasants asked why these foreigners were committing what they perceived to be atrocities against themselves, their families and their livelihoods. Thus, they joined to get revenge and protect themselves from what they felt were invaders. They became nationalist soldiers not because of Sandino but because of the Marines.¹⁹⁴

Conclusions

The US did not win the war against Sandino. It ended in a stalemate.¹⁹⁵ Sandino's success was not military, but political. While the Marines won almost every battle, they lost the "hearts and minds" of the local population. The Marines also had political problems within the US where the long war was very controversial. By 1932, in the midst of the Great Depression, Washington announced that the last of the Marines would be withdrawn from Nicaragua by the end of that year. In February 1933, Sandino signed a ceasefire agreement with the Nicaraguan government and then disbanded his army. The war ended with the Sandinistas undefeated on the battlefield and in almost total political and military control of the rural Segovias. Many Nicaraguans throughout the country now saw Sandino as a nationalist hero.¹⁹⁶

Marine strategists had clearly seen the need to win popular support within Nicaragua. Restraint to protect civilians was emphasised over and over and became an important component of the Marines' small war doctrine as it was being developed. The Marine Small Wars Manual, based mainly on the Nicaraguan campaign, underscored that "the

political mission ... dictates the military strategy".¹⁹⁷ The Manual then stated: "Every endeavor should be made to assure the civilian population of the friendliness of our forces."¹⁹⁸ Following this line of reasoning, as Wray Johnson notes, "it is not surprising that the Marine Corps would acquiesce to the need for restraint – including the application of airpower."¹⁹⁹

However, in the Nicaraguan campaign military doctrine did not match the reality of the war. All the orders, reports and studies could not resolve the basic dilemma for the Marines actually in combat, which was identifying the enemy. As soldiers had done before and after, the Marines decided that, since they could not distinguish friends from foes, all were potential enemies. Thus, despite the orders for restraint, almost everyone and everything were open to attack. The written reports described all their actions against "known bandits".

For the Marine aviators this identification problem was especially difficult. Even with the best intentions, unless they were under fire, they had no way of differentiating the peasants from the Sandinista combatants. They relied on the very faulty ground intelligence to determine who the enemy was. To make the situation more complicated, as previously noted, the peaceful-looking peasants of the day might themselves be the guerrillas of the night.

By the very nature of the technology, an air war physically distances the attacker from the attacked. While by today's standards the Marines' aeroplanes were slow and low-flying, they still separated the aviators from their targets on the ground. Marine pilots were based in the towns where the airfields were constructed and had almost no contact with the rural population except while on air patrol. Almost every activity on the ground might be defined as "suspicious" to the aviators.

Beyond the identification problems, US policy-makers made another essential error. They had defined Sandino as a bandit and thus denied the fundamental political nature of the insurgency. The Marines faced a conundrum of their own making: that their very presence was the cause of the uprising which they were trying to defeat. Sandino was never a bandit, but was always a nationalist. Sandino wanted nothing less than the total withdrawal of US forces. Thus, unless he could be defeated on the battlefield there was no way for the US to win the war.

While Sandino might be considered the victor of the war, he did lose the peace. When the Marines departed Nicaragua they left in place the Guardia Nacional, now under Nicaraguan command. In the negotiations that continued after the ceasefire, Sandino demanded that

the Guardia be disbanded. The new Nicaraguan commander of the Guardia, Anastasio Somoza García, decided to act. In 1934, after another negotiating session and dinner with the Nicaraguan president, Guardia soldiers abducted and executed Sandino. Somoza then seized power and his family ruled Nicaragua for 45 years. Yet Sandino's vision was ultimately achieved. The Somoza dynasty was finally overthrown in 1979 in a popular insurrection led by the Frente Sandinista de Liberación Nacional (FSLN: Sandinista Front for National Liberation), a modern guerrilla organization inspired by and named after Sandino.

What lessons can be learned from the Nicaraguan experience? This campaign demonstrates that winning support from the local population is key to victory. However, the tactics used by the Marines in their attempt to achieve a military victory contributed to a political defeat. Their very presence in the Segovias caused growing support for Sandino. Major R Scott Moore, USMC, in his study of the war, emphasised that: "American intrusion into the internal politics of another state eventually alienated the people it was intended to help. ... trying to impose American social and political standards on top of a developing country's own political and cultural institutions merely aggravated nationalism".²⁰⁰

Air power has become an important component of any modern counter-insurgency. Yet, if winning "hearts and minds" is essential, then attacking civilians from the air is clearly problematic. As James Corum and Wray Johnson note in *Airpower in Small Wars*, doing so is "ineffective and counterproductive".²⁰¹ However, despite all the orders, reports and manuals calling for "restraint," identifying and accurately targeting enemy combatants continue to be very difficult, despite the best attempts of modern aviators.

CHAPTER 6

The RAF in Counter-Insurgency Warfare:
British Intervention in Greece, 1944-45

Christina J M Goulter

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In the autumn of 1944, British forces became involved in what was ostensibly a peace enforcement and stabilisation operation in Greece, only to find themselves in the midst of a full-blown Communist insurgency. Communist forces had secured most of the Greek countryside, and their attention was now focused on the urban centres, especially Athens, in a bid to take power. The fledgling Greek government, which had just returned from exile after the withdrawal of German forces, had no hope of reconstituting armed forces to meet the Communist challenge, and a request was made to the British government for assistance. At the time, only a small land force could be spared from the Italian campaign, and it became apparent very quickly that this was not sufficient. The British land force, amounting to two brigades, was surrounded in the centre of Athens, and air power was called upon first to interdict Communist lines of communication and to reinforce and re-supply the besieged troops, and later to provide close air support. In today's parlance, the Royal Air Force proved to be remarkably "agile, adaptable and capable". It was highly responsive, extremely flexible, and did its job with minimal collateral damage, in what was a complex and ambiguous urban environment. British forces generally had a very steep learning curve throughout the campaign, but, in the end, they achieved a textbook piece of joint counter-insurgency warfare in which air power proved to be the key enabler.

The origins of British involvement in what is generally considered to be the "second round" of the Greek Civil War are a very complex subject.²⁰² However, a brief outline of the main features of the period between 1941 and 1944 is required in order to understand how the Communists gained such a stranglehold over Greece and came so close to victory, and why Britain became involved. After the end of the disastrous Greek campaign of 1941, Britain maintained a presence in Greece, in the form of SIS and SOE operatives. Greece was important to British grand strategy and foreign policy for a number of reasons. The immediate wartime imperative was to keep German forces tied down in the eastern Mediterranean to prevent reinforcement of North Africa. There was also a longer-term concern over Soviet domination of the Balkans and Greece, so keeping a covert presence in the area was an important insurance policy.

By the time of the first SOE missions in late 1941, a number of different resistance movements were already in existence, but two movements dominated the picture: one Republican, called EDES²⁰³, and one Communist, called ELAS²⁰⁴. With hindsight, one of the biggest mistakes made by SOE, both in Greece and elsewhere, was to support

Communist resistance movements. Because the Communists tended to be the most vociferous, Britain thought that they would provide the most credible guerrilla forces. By the time SOE realised that ELAS was hard-line Communist and had a longer term political agenda, it was too late. In the spring of 1943, during what is considered by many to be the “first round” of the Greek civil war, ELAS set about eliminating all other resistance movements in Greece, and by mid-1944, only EDES remained in any numbers. There are a number of lessons to be taken away from this experience. It was felt that SOE operatives going into Greece, and other countries under occupation, did not need political briefings before they deployed. The Foreign Office did not want the “military types” to interfere with what they saw as their preserve. This turned out to be a very serious mistake. Any involvement in Greece was always going to be highly politicised, because that was just the nature of the beast. Since the 1920s and early 1930s, the political scene in Greece had been dominated by Royalist and Liberal agendas, with the Royalists looking to Germany for foreign policy guidance and the Liberals following British and French leads. During this period, both the Liberal and Royalist camps regarded the Greek Communist Party as a threat to national security and sought to undermine the Communists’ political base, which they both achieved in some measure. During the late 1930s, the Greek Communist Party was forced underground by the far right dictatorship of General Metaxas. This provided an ideal basis for the subsequent insurgency because the Communists were already adept at operating within small cells by the time of the German invasion in 1941. Under the German occupation, many Communist agitators were released from prison and were not monitored. In short, SOE unwittingly made a Communist insurgency more likely by channelling most of its early support to ELAS and not to the Republican resistance group, EDES. It took SOE some time to see through ELAS’s political agenda. However, the political intelligence gathered by SOE from 1942 onwards at least provided British forces with some understanding of the Communist insurgency a few years later.²⁰⁵

In the first half of 1944, there were increasing fears over Soviet domination of the eastern Mediterranean, especially when SOE reported that the Soviets had parachuted in advisory teams to work alongside ELAS. As early as May 1944, Churchill advocated diverting 5,000 British troops from the Italian campaign at the time of the German withdrawal from Greece so as to prevent a Communist takeover. This operation, code-named Operation Manna, was referred to at the time as “reinforced diplomacy,” and was to be supported by three RAF squadrons and an RAF Regiment unit. The RAF’s official role was: “Air Defence of Athens, assistance to the Army in the field of law and order, disarming German forces, attacks on hostile shipping in the Aegean, and any German evacuations”.²⁰⁶

The Germans duly withdrew from Greece between August and November 1944. Not surprisingly, there was very little resistance activity against the Germans, except by SOE

and the American equivalent, OSS, which also had a presence in Greece by this time. ELAS used the opportunity to consolidate their position and terrorise Greek communities which they claimed were either associated with EDES or which seemed to be Royalist in persuasion. In early September, as ELAS tried to take control of the Peloponnese, a massacre of innocent civilians occurred in the north-west of the peninsula in a town called Pyrgos. This prompted the first landing of British troops. The massacre lasted for 48 hours, and there were very few male survivors. Accounts from British War Diaries are very graphic and very affecting; they refer to the Greek survivors kissing the boots of Special Boat Service (SBS) personnel and Royal Marines who secured the area.²⁰⁷

As the SBS and Marines proceeded towards Athens, they found that Greek hospitality slowed them down more than the Germans. The Greek population had been terrorised and starved for most of the German occupation, but they gave everything they had. This was a civilian population existing right on the edge, and was, therefore, extremely susceptible to the rhetoric of ELAS and its political wing, EAM. Many Greeks still did not understand the connection between ELAS/EAM and the Communist Party, as EAM had been very careful to hide the Communist agenda.²⁰⁸ But there were also widespread rumours of a Communist plan to massacre 60,000 civilians in the capital, and this led to an increasing climate of fear among the populace and a rapid deployment of two brigades (drawn from 2nd Parachute Regiment and 23rd Armoured Division) on 13 October.²⁰⁹ This massed slaughter did not occur, but the British troops, commanded by Lieutenant General Ronald Scobie, found the Communists well entrenched in Athens. ELAS forces had secured most of the countryside and now their urban strategy was unfolding. The Communists had developed a two-phase strategy for controlling cities. Phase 1 involved increased political indoctrination of the populace (performed by the Greek Communist party and ELAS’s political wing, referred to as EAM)²¹⁰, anti-government demonstrations, and assassination of key government officials, collaborators, and royalists. Phase 2 was the coup. Communications would be cut, police stations and other government buildings would be occupied, and the media controlled.

In December, events moved rapidly. On 3 December, militant demonstrations occurred in Athens and the police force had difficulty containing ELAS violence. Shots were fired during the main demonstration, and although it is still unclear as to who fired the first rounds, the Communists blamed the police for the escalation in violence. The RAF Regiment stepped in and played a crucial role in containing the violence, using armoured cars, but when a number of civilian protesters were killed, the signal was given by ELAS for a coup. The next day, General Scobie ordered ELAS to leave Athens and the surrounding countryside. Yet that night an ELAS force of over 5,000 personnel advanced on the city, taking over most police stations and other key government buildings. When dawn broke next morning, the Athenians began to get a flavour of the Communists’ ruthlessness.

Naked bodies were found dumped on the side of the road and most had been ritually mutilated (the cutting out of hearts was a common political statement). Faced with this situation, General Scobie had no alternative but to order British troops into action. The stated objective was to drive all insurgents out of Athens and to restore law and order.²¹¹

Five December saw the first role for the RAF squadrons: reconnaissance and air interdiction of ELAS lines of communication in and out of Athens. Although ELAS had control of most of the countryside by this point, they were extremely vulnerable to air attack, and were, therefore, compelled to do most of their moves under cover of darkness. They were also very short of motorised transport, so only their most important logistics travelled by this means, while general stores and food were transported by horse or mule and sometimes by ELAS fighters themselves. There was a conscious effort by the RAF to interdict ELAS Lines of Communication out to a distance of 70 miles in order to isolate the battlefield and make the insurgency “wither on the vine”. This was feasible because the Royal Navy had a number of vessels exercising sea control, including HMS *Ajax*, and the RAF was also performing anti-shipping operations in the eastern Mediterranean. As a consequence, ELAS vessels had difficulty circumventing this blockade. Long-range aerial reconnaissance occurred at least once a day from 5 December, with a particular focus on the approaches to Athens from the north and also from the Peloponnese, and a picture of ELAS supply routes and supply dumps became apparent. This was comparatively easy in relation to ELAS motorised and horse-drawn transport because the road infrastructure was limited to a handful of main arterial roads feeding into Athens. The same can be said of the Greek rail network, which was limited to one principal north-south rail line. Because most rolling stock had been plundered by the German occupying forces, very little remained intact by 1944 and movement by rail was comparatively rare.²¹²

By 6 December, not only had the Communists secured the countryside around Athens, but British forces found themselves surrounded by what were described as “very thorough and determined” ELAS forces in the centre of Athens, inside, in effect, a “Green Zone” which measured two miles by 1.5 miles.²¹³ The only means of re-supply was via tank and armoured car convoys back and forth to the Hassani airfield, five miles to the south-east (which subsequently became Athens airport), down a single roadway. This roadway was subjected to mortar and artillery fire, improvised explosive devices (IEDs), and captured German mines were laid under the cover of darkness. By 11 December, the besieged British and friendly forces had less than three days’ supply of ammunition left. It was increasingly obvious that an alternative had to be found. The RAF was called upon to perform a massive re-supply and airdrop, beginning on 12 December, enabling troops to secure ground around Athens, especially crucial lines of communication to the sea, at Phaleron Bay. At this stage, ELAS forces were in complete control of the main port

of Piraeus, so any friendly shipping had to offload over the beaches in this adjacent bay. The successful airdrop over a seventeen day period increased troop numbers by 2,719 personnel, provided 831 tons of ammunition, and 291 tons of stores. This allowed the first offensive action from inside Athens, which was supported by an increased air presence. The number of squadrons increased from three to eight (including two Spitfire units, and two Beaufighter squadrons, one of which was armed with rockets). This reinforcement enabled friendly land forces to take the initiative in a number of zones in the centre of the city, and, perhaps most crucially for the long-term success of the campaign, the air re-supply operation also brought in much-needed food supplies. British forces were compelled to feed the local civilians who were caught inside the “green zone,” and after the insurgents cut off electricity and water supplies to the centre of Athens, the plight of these civilians became very serious, especially as the winter of 1944 was particularly harsh. The provision of soup kitchens throughout the city centre proved to be a major “hearts and minds” coup for the British forces, and the RAF, in particular, came to be identified with this humanitarian relief. The RAF was referred to, generically, as the “winged saviour” and this positive view of the RAF grew as the campaign developed, because the RAF was also seen increasingly to provide day-to-day security. These two factors, in tandem, did much to turn local opinion against the Communist insurgency and consolidated the average Athenian’s view of the British presence, namely, that British forces were there to support the legitimate Greek government and to preserve democracy. It is an important early example of air power’s ability to have a positive influence; it is usually assumed that only “boots on the ground” can achieve “hearts and minds” successes.²¹⁴

However, the military situation was still finely balanced and between 18 and 20 December ELAS attempted a counter-offensive. Although this was beaten back in most quarters, the significance of the Communist action was that the Air HQ, which was located in the north-eastern suburb of Athens called Kiffissia, was overrun by ELAS.²¹⁵ This appeared to spell disaster for the British effort. However, in the longer term, it sowed the seeds of success. The capture of the Air HQ compelled a complete conceptual rethinking of Air Support in the campaign. A temporary Air HQ was located initially near the coast, but then a combined Advanced and Rear Air HQ was co-located inside the principal British HQ within the “green zone,” and this took over the burden of air planning and tasking. This new Air HQ was connected to the main airfield five miles to the south-east via secure VHF radio. A Joint Air-Land planning team began to think about the urban context in three dimensions. Air Liaison Officers got inside the heads of their Land opposite numbers, and *vice versa*. Together, they developed a Joint plan for clearing the centre of Athens. It was a “hot house” environment in the Joint HQ, largely the result of a besieged HQ setting, but the planning product proved just how much could be achieved by Staffs under pressure. Whereas the RAF had been largely reactive to Army requests for

assistance up to this point, the Air Force Liaison Officers were increasingly at the forefront of discussions over the “art of the possible,” given the air support on offer. In fact, the best work on effect was performed by the RAF from the third week of December onwards. Not only were the subtleties of the effect of attacks analysed, but the other effects of persistent air power over the city were also investigated.²¹⁶

This work was done against a backdrop of overriding concern for the safety of Greek civilians and fears over “blue on blue”. Until mid-December, the conflict was largely guerrilla in nature, with hand-to-hand fighting being the norm, very often within close proximity to Greek civilians, and the fluidity of the battlespace precluded most close air support. However, from this point, ELAS forces coalesced in reasonably well defined areas of the city, and the firepower advantages of air power could be brought to bear. Nevertheless, the boundary between ELAS fighters and innocent civilians was typically measured in terms of the boundary between one house and another and, therefore, the RAF crews had extremely rigorous Rules of Engagement. They were not permitted to attack buildings unless there was absolute certainty that they contained insurgents, and targets had to be verified by friendly troops on the ground. Physical damage was to be kept to a bare minimum. So High Explosive ordnance, especially bombs, was used sparingly. If bombs had to be used, approval had first to be sought from General Scobie, who was extremely sensitive to Communist accusations of indiscriminate aerial attack. In most cases, 25lb armour piercing rockets and cannon were used in preference to bombs or high explosive 60lb Rockets (which also proved more difficult to aim). Aircrews also found that in areas which required attention to detail, cannon and machine gun fire were preferable to rockets or bombs. Aircrews increasingly showed a preference for getting in “close and personal,” using visual confirmation of targets, in order to ensure hits. It is important to emphasise here that this was by no means a low-threat operating environment. The insurgents made good use of former German and Italian AAA, which they positioned on the tops of buildings, and they also used snipers. In response, Spitfires and Beaufighters adopted oblique attack angles and flew at rooftop height. Although no aircraft were lost to AAA or sniper fire, direct hits were scored on aircraft and AAA fire was often reported to be very accurate.²¹⁷

The period from 17 December 1944 to 1 January 1945 saw a major offensive by British forces to clear ELAS from the centre of Athens and secure the port at Piraeus. The offensive was characterised by human intelligence-led²¹⁸ close air support, the third new major role for the RAF. Local knowledge was used to pin-point insurgent positions. This was crucial because, just like any classic insurgency, many ELAS adopted the ruse of wearing civilian clothing. This was particularly the case with those insurgents recruited locally in Athens, who formed part of the Auxiliary ELAS. Meanwhile, other ELAS wore battledress

which was difficult to differentiate from British khaki uniforms so there was a premium on specific guidance from the ground, either from British forces, so as to avoid “blue on blue,” or from the local Athenians. Only the local Greeks could differentiate between insurgents and innocent civilians, and such intelligence was almost one hundred percent reliable. By December, most Greeks were sickened by the extent of Communist atrocities, and were only too happy to help British forces. Conservative estimates from the period suggest that upwards of 10,000 Athenians had been killed by the Communists in the space of three months. Some died directly at the hands of ELAS. Later in the campaign, other Greeks were kidnapped and, during the harsh winter of 1944-45, the treatment meted out to the captives, who were regarded as the “class enemy,” amounted to “death marches” across Greece. Most captives were never seen again. Precise and timely guidance from the ground, via locals, was also crucial in the urban environment because it was difficult for the aircrews to differentiate between buildings.

This is where the RAF’s performance is particularly impressive. Aircrews performing urban close air support had no prior experience in this role, but were able to achieve great precision and timely effect, with very little collateral damage. Aircraft held in “cab rank” above the city could respond within three minutes of call up by British troops on the ground via radio links, and some squadrons were performing upwards of 25 sorties per day. This meant that some aircrews were flying at least twice a day, sometimes more often. Some aircrews, especially in the Beaufighter squadrons, were flying almost continually throughout the daylight hours because of the aircraft’s endurance. Rest periods were a rarity during December and the first week of January 1945. The assault on some Communist positions was relentless because of the persistence of air power on offer. Some buildings, such as the Communist (KKE) HQ and various ELAS HQ, were subjected to round-the-clock attacks by air and ground forces acting in concert. Although aircrews reported hits and damage done to these and other buildings, it became increasingly difficult to assess the exact contribution made by aircraft, as air effect tended to be erased as time went on because of the damage done by tank and artillery fire. However, it is known that a persistent air attack on an ELAS HQ on 17 December resulted in forty insurgents being killed and another forty being seriously injured due to the blast and fragmentation effect of rockets penetrating the outer walls of the building. Thereafter, the armour-piercing rocket projectile became a weapon of choice when insurgent strongholds had to be attacked, because it was seen as an effective weapon but one which minimised collateral damage.²¹⁹

By late-December, the insurgents found to their cost the extent to which the RAF could provide persistent air power. One of the most remarkable innovations was the use of Leigh Light-equipped Wellingtons to provide illumination for operations at night in concert with troops on the ground. The Leigh Light was used more commonly in Coastal Command for

hunting submarines at night, but crews on the Wellington squadron deployed to Athens thought through the problem of night illumination over the city. Flares had been used, but failed to provide the consistency of illumination required. ELAS insurgents came to realise that they could not operate by day or night without interference, and the constant harassment, especially from the air, led to psychological pressure on the insurgents. Like most insurgents, ELAS preferred to operate under the cover of darkness, but relentless attacks by day and night denied them any respite. ELAS fighters taken prisoner and captured documentation confirmed that the Communists' morale took a steep dive in the last week of December. Whereas morale had generally been high in most sectors in the middle of the month, with some fighting in Piraeus being described as "fanatical, to German proportions," morale among insurgents recruited locally fell away sharply. These were Auxiliary ELAS, and their lack of training and general experience began to show. The same sources also confirmed that the Communist hierarchy was also extremely concerned about recruitment and their ability to sustain operations. Logistics were intermittent by the end of December, thanks in large part to the ongoing air interdiction, but the chief concern was the casualty rate among the insurgents. Although precise figures for ELAS losses are not known, an estimate done at the time by the British HQ was that the insurgents were losing ten people to every one British casualty. At the time, 212 British personnel were listed as killed, including two RAF personnel, with forty-two officers and 415 other ranks missing. One post-war estimate suggests that final British casualties amounted to 237 killed, and 2,100 wounded, so it is reasonable to propose that ELAS lost in the region of 2,500-3,000 killed during the main fighting of December 1944 to January 1945, out of a maximum total force of 35,000. ELAS had an estimated 11,000 casualties in total, and 13,278 were taken prisoner (although the latter figure was felt to be inflated by civilian suspects who may not have been involved with ELAS).²²⁰

Persistent air power over Athens also had the benefit of picking up vital pattern-of-behaviour intelligence. Like almost all other Communist insurgencies, ELAS lapsed into routines, and what was of particular benefit to British Military Intelligence was the fact that the Communists also recorded their activity, tactical and operational objectives, and lessons on paper. Captured documentation was, thus, used to corroborate what aerial reconnaissance had established. These two sources of intelligence were then merged with human intelligence. This was all-source intelligence analysis at its finest, and, by the end of December 1944, British forces often had an hour by hour understanding of insurgent movements, and, most importantly, could predict the insurgents' next moves. Standing reconnaissance by Spitfires and Beaufighters over the centre of Athens was considered to be "invaluable" in building up a real-time picture of the battlespace, however, and was thus regarded by the British HQ as the most important source of intelligence. It was noted that aerial reconnaissance could obtain information on any part of the battle area within

two to five minutes, and that the almost continuous reporting done by civilians could be confirmed immediately. Although civilian reports were almost always well intentioned, they were sometimes inaccurate and often late, so aerial reconnaissance proved to be an important means for the Army of economising on effort. The Army was also of the opinion that aerial reconnaissance, by maintaining a continuous watch for enemy guns and mortars, kept insurgent activity to a minimum, and aircraft such as the Beaufighter, which could stay on station for a number of hours if required, was a particularly valuable asset in this respect.²²¹

The persistence of this air reconnaissance over Athens had another important impact. The insurgents came to associate reconnaissance aircraft with attacks, as the two effects of reconnaissance and attack were usually close in space and time. This was increasingly the case during December, as reconnaissance aircraft were often armed and performed their own attacks. Unless insurgent groups were particularly conversant with aircraft types and their potential weapon loads, they could never be absolutely certain whether an aircraft overhead was purely benign or not. Therefore, by the end of the month, any type of aircraft tended to have a coercive impact.²²²

By the last week of December 1944, the levels of precision attack achieved by aircrews were such that insurgents would often flee from buildings, abandoning their weapons, if they knew that an aircraft was in the vicinity. Local civilians reported that ELAS fighters would run down a street, banging on doors, begging for shelter until the danger of aircraft attack had passed. A week later, "shows of force" by aircraft were, on many occasions, sufficient to compel insurgents to give up without a fight. A number of important observations may be made here. First, "shows of force" worked because the insurgents came to understand the violence of air power that could be brought to bear against them. Second, the way in which "shows of force" ultimately had the same effect as physical attack (causing insurgents to disperse or give up) meant that the British forces could reduce the amount of destructive effect as the campaign progressed. This was an important information operations coup because it reinforced the stated policy of General Scobie, namely, that British forces intervened to preserve democracy, and to provide security and humanitarian relief for the local populace. General Scobie repeatedly emphasised the importance of the British forces keeping their word, namely that they were in Athens to deal with the insurgency and that every care would be taken to minimise collateral damage.²²³

During the last week of December, the main fighting was occurring in the port area, Piraeus, and around the northern approaches to Athens city centre. Some of this fighting was still characterised by fanatical defence of positions. On 24 December, for example, three Spitfires were compelled to make thirty attacks on a building in the Lykabettus area

of the city before they could dislodge the insurgents. In the port area, because insurgent positions were by then well defined, British forces were able to apply Joint fires. For the first time, on 21 December, Spitfires were used to perform gun-ranging for HMS *Ajax*, which was called upon to shell insurgent strongholds. Mopping up attacks were then performed by the same aircraft. In other air attacks, rocket-equipped Beaufighters hit insurgent positions in close proximity to friendly forces, which allowed the army to capitalise on the shock effect of the air attacks by immediately following up with tank or artillery fire. Both air and ground reports testified to the "high degree" of precision achieved by aircraft in these attacks on insurgent strong-points, and how the morale of British troops increased as a result. The boost in morale came about, in large part, because this was the first time British land forces had the initiative and established an offensive tempo. Important observations were made, especially about the psychological benefit of aerial attack for the morale of one's own land forces.²²⁴

The limited offensive operations which became feasible during the last days of 1944 produced important results. A large part of south-west Athens had been cleared of insurgents, and the retaking of the port area was within sight. All Source intelligence analysis was also showing that some insurgent units were retreating from the city, and that ELAS was trying to decide whether to make a final stand in Athens, in the hope of forcing a decision, or to withdraw all ELAS units to the surrounding countryside. General Scobie's staff believed that the latter course of action was the most probable, and this proved to be a correct judgement. Human intelligence and IMINT derived reports showed that most of ELAS began to withdraw to the outskirts of Athens between 26 and 27 December. Armed with this intelligence, General Scobie decided to increase the tempo of operations, with the aim of clearing the south-east of Athens. The British push began on the night of 27/28 December, driving eastwards from the centre of the city. In the district of Kaisariani, referred to by the Communists as "Little Stalingrad" and where they resolved to fight to the death, ELAS suffered heavy casualties and scattered units retreated into the hills.²²⁵

By 31 December, combined British and Greek forces (including the Greek 3rd Mountain Brigade and other Greek security forces) had established a continuous front in the northern suburbs of Athens and down to the sea. Pockets of determined resistance remained in areas such as Piraeus, but, in general, the insurgents had been forced out into the open. Whereas the insurgents' tactics in the urban setting had previously denied the full application of air power, artillery and tank support, firepower was increasingly brought to bear. General Scobie's stated aim now was to "establish law and order and protect the population against further incursions by ELAS."²²⁶ It was emphasised that all operations had to be governed by the necessity of "giving full protection and good

feeding to any portion of the population as soon as it was liberated". This was another highly successful information operations coup for British forces because this principle was adhered to over successive weeks. However, it was observed that land forces had difficulty maintaining offensive operations while simultaneously undertaking humanitarian relief and "hearts and minds" activity, as troop levels were not sufficiently large. General Scobie felt that he required another Division and a half to be able to perform both activities and he called for the establishment of a Greek National Guard. This is when the "force multiplier" effects of air power became apparent again. The tempo of operations could be sustained through the use of aircraft, and during the first week of January 1945, Spitfires and Beaufighters were used for Armed Reconnaissance and attacks on ELAS motorised transport and troop concentrations. Conservative estimates done at the time suggest that 118 motor vehicles were destroyed in these attacks, and ELAS forces were compelled to move on foot. Meanwhile, Wellingtons, which had been employed for night illumination over the city, were now tasked with leaflet dropping, both to reassure the local populace that the insurgents were in retreat and to put psychological pressure on ELAS forces. By 5 January, the insurgency was broken and ELAS withdrew wholesale to the hills north and west of Athens.

As the most bitter fighting occurred in and around Athens, the fact that the ELAS uprising was widespread throughout Greece is often overlooked. ELAS forces had either captured or threatened to capture a number of other urban centres, including Patras and Salonika. After it was deemed safe, some land forces were diverted from Athens to these other centres. Aircraft continued to support these land forces by performing armed reconnaissance and cover to armoured units. Most aircraft were connected to the land forces via VHF radio, and aircrews provided valuable advanced warning of ELAS ambushes and dispositions. By 12 January, British land forces were still engaging with ELAS units as far south as the Peloponnese and as far north as Lamia. However, the fighting fell off rapidly during successive days, and on 15 January, a general ceasefire was declared. Under the terms of a truce signed at Varkiza, ELAS was to withdraw completely from Attica, the northern part of the Peloponnese and out to thirty miles beyond Salonika. There was to be an exchange of prisoners, and ELAS was to hand in all its weaponry and disband. Meanwhile, Britain agreed to maintain a garrison force in Greece, sufficient to guarantee law and order, until such time as the Greek National Army, the Royal Hellenic Air Force and the Gendarmerie could be brought up to strength.²²⁷

The Army's verdict on Air Support and the RAF, generally, was effusive. General Scobie wrote to the AOC in theatre, Air Commodore Tuttle, in the following terms:

The rebels in Attica have now been completely routed. The success the Army has achieved in these operations is due very largely to

the magnificent work of all branches of the RAF, work which has perhaps been more vital to the Army than in most other operations our two Services have undertaken together.

When the rebellion broke out, III Corps was not only very weak in troops but had hardly any ammunition with which to fight, since it had come to Greece almost on a peace footing. Without the continuous support given from the air, our troops would have had difficulty in holding out until reinforcements arrived. It was air transport which saved a dangerous situation in the first few days by bringing in an Infantry Brigade, ammunition and other much needed stores....

Will you convey to all ranks under your command the thanks of myself and my troops. Our thanks are due not only to those who fought in the air but also to the RAF Regiment, to the ground staffs of whom so few had to do so much and to many others ... The RAF have certainly helped the Army on a greater scale in other operations, but the help they have given here has never been bettered.²²⁸

The success of air power in this counter-insurgency campaign is best encapsulated by the RAF's latest motif: "agile, adaptable and capable". The RAF was able to adapt quickly to operational imperatives, by switching from its original role (supporting the Army in "law and order") to a variety of roles, some of which were performed simultaneously: air interdiction, aerial reconnaissance, air transport and urban close air support. The latter was a completely new role for most of the aircrews, especially as they were required to perform urban close air support in accordance with unique Rules of Engagement and concerns over collateral damage. The rapid change from one role to another attests to the capability, resolve and courage of the aircrews concerned. Yet perhaps the most impressive facet of this campaign was the new thinking which underpinned these operations. The experience was unique, and required innovative tactics and processes. Many important lessons were learned, lessons which the RAF and USAF feel they have "discovered" in recent operations in Iraq and Afghanistan.²²⁹ The most significant lessons were these:

- Air power is the key enabler and force multiplier in counter-insurgency warfare because of its flexibility, speed of response and ability to deliver weapons with precision.
- Air mobility provided by air transport is crucial to defeating an

insurgency because of its ability to position manpower where it is required, in a timely fashion.

- Success in counter-insurgency warfare, especially in the complex and ambiguous urban environment, is dependent on reliable and timely intelligence. An insurgency must be defeated in detail, so there is a requirement for intelligence of a sufficient granularity which allows for an understanding of networks and unit strengths. In contrast to some other counter-insurgency experiences, especially the Americans in Vietnam, the British HQ staff understood the importance of ORBAT analysis, even when dealing with "guerrilla forces".
- Air power can have a decisive impact through other means than attack. Although some physical attacks were required first, it was appreciated that "shows of force" could be used as the campaign developed. This permitted an important reduction in the number of weapons employed and, therefore, destructive effect, which it was realised always looks disproportionate in the urban setting.
- Because of concerns over collateral damage, it was felt important to use weapons which had sufficient but not excessive destructive force. Machine-gun, cannon and armour-piercing rockets were favoured over high explosive bombs and other explosive ordnance.
- The provision of humanitarian relief, coupled with day-to-day security, was identified as an important information operations coup in counter-insurgency warfare. The Greek example demonstrates that air power can have a potent "hearts and minds" impact, which runs contrary to the current accepted wisdom that only "boots on the ground" can have such influence.
- Persistent air power over the battlespace had a number of benefits, including suppressing insurgent activity, providing imagery intelligence, including picking up insurgent patterns of behaviour, and raising the morale of friendly forces.
- Measurement of effect must be thought through extremely carefully. In this campaign, success was ultimately measured by the ability of local Greeks to go about their daily business and lives without fear of being killed or captured by insurgent forces. Although attrition inflicted on ELAS forces was used as

numerical yardstick of campaign success and identified as an important measurement, General Scobie placed most emphasis on the local population's freedom from fear and want, combined with consent of the Greek government and wider population.

- The shortage of land forces in this campaign demanded the use of different strategies to compensate for the shortfall, and the air instrument was able to deliver many of the results normally associated with land forces. Therefore, it can be argued that air power can often be used as a substitute for land power and the use of air power early in a campaign may radically reduce the requirement for land forces in some scenarios.
- The campaign fulcrum, which turned the tide in favour of the British-led effort, was the creation of the Joint HQ and the co-location of air and land planning staffs.

The British involvement in Greece had been a success. One of the many delegations sent to Greece by Churchill concluded that had British forces not intervened, there would have been a "wholesale massacre in Athens".²³⁰ However, some writers believe that this victory was only a "victory of a sort" because the Communists were not finished off and made a third bid for power between 1946 and 1949.²³¹ But what such criticism overlooks is the fact that British intervention compelled the Communists to reassess their strategy. During 1945, the Communist Party underwent an internal struggle, between two factions, one advocating the resumption of guerrilla warfare and the other favouring the creation of a regular army. The latter faction won, and this sowed the seeds of the Communists' ultimate defeat. By reconfiguring itself into a regular fighting force, ELAS's successor, known as the Democratic Army (DSE), played into the hands of the new Greek Army and Greek Air Force.²³² It is interesting to note that the Greek counter-insurgency doctrine entitled "Anti-Bandit Warfare," which was published first in 1946, gave primacy to air power as the key force multiplier. It also emphasised the value of air transport and all-source intelligence. These important doctrinal tenets underpinned subsequent Greek campaigns, especially the large scale "clear and hold" operations undertaken by the Greek Army in 1948 and 1949. Thus, the British experience of 1944 and 1945 not only served to change the nature of the enemy into something which could be defeated by conventional forces, but it also provided the doctrinal foundations for the new Greek armed services and allowed them to develop their own operational solutions to the challenges that lay ahead.²³³

Credit for the British success in 1944-45 must also be given to a number of key personalities. Both the Supreme Allied Commander, Mediterranean, General Alexander, and the GOC in Athens, General Scobie, made some important judgements on the nature of the conflict at an early point.²³⁴ Yet, in particular, General Scobie's insistence on protecting the local populace while dealing decisively with the hard-line insurgents proved to be a textbook piece of counter-insurgency warfare. Few commanders since have managed to balance so well the classic conundrum of "hearts and minds" activity having to sit alongside attacks. His was the original "3 Block War".²³⁵ His commander's intent was always clearly articulated, simply because he was very concerned about getting this balance absolutely right. Finally, the British effort had the benefit of clear political direction and support throughout the campaign. Churchill had taken a robust stance from as early as May 1944, warning of a Communist takeover in Greece and calling for the diversion of forces from the Italian campaign at the point of a German withdrawal from Greece. When General Scobie asked for reinforcements, Churchill met those requests, and when the truce was signed between British forces and ELAS in January 1945, Churchill provided guarantees to Greece in the form of a garrison until such time as the Greek government felt that the newly created Hellenic armed forces and gendarmerie could meet any subsequent Communist challenge. Clear political direction and support throughout a campaign are vital for victory in any conflict, and where they have been lacking in counter-insurgency scenarios of the past, failure has invariably followed. This was certainly true in the French Indochina war and the American period in Vietnam. In wars of choice, as many counter-insurgency scenarios have been for the west, clear political direction and support become even more important. In the absence of that clear direction and support, crafting the appropriate strategy or strategies becomes difficult, and the military instrument can become overly focused on operational and tactical level campaign success. In Greece, during 1944 and 1945, the political objective was very clear and the military instrument crafted the appropriate strategy to achieve that objective. That strategy was clearly articulated to all of General Scobie's subordinate commanders, including the AOC, Air Commodore Tuttle. In many respects, this campaign has a very modern feel because a variety of instruments were used to achieve the objective and, most importantly, all these instruments worked together according to a unified strategic plan.

CHAPTER 7

Techniques and Gadgets, Hearts and Minds:
An Analysis of Operation Ranch Hand

Evelyn Krache Morris

Techniques and Gadgets, Hearts and Minds: An Analysis of Operation Ranch Hand

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Operation Ranch Hand, one of the Vietnam war's longest air campaigns, has received much less attention than either Operation Rolling Thunder or Operation Linebacker. Unlike those campaigns, Ranch Hand involved the use of unconventional weapons, including defoliants, in South Vietnam from 1961 until 1971. What scholarship there is on Ranch Hand generally falls within studies of the legal and moral implications of the United States' use of defoliants, napalm and gases.²³⁶ Relatively little has been written on the campaign's strategic effectiveness.

President John F Kennedy's administration began the campaign in late 1961 as part of an effort to thwart National Liberation Front (NLF) movements in South Vietnam. Ranch Hand proved ultimately ineffective and, by some measures, actually harmful to US efforts in Vietnam. Not only were the NLF not deterred in their infiltration and their food supply not materially affected, but the public relations damage, both within the United States and internationally, was enormous. More importantly, Ranch Hand helped to alienate many South Vietnamese from their government and from the US, undermining critical support for a successful counter-insurgency campaign.

Ranch Hand is a useful case study of the efficacy of coercion by denial in counter-insurgency. Based on the theories of Robert Pape and Thomas Schelling, coercion by denial through the use of air power, as the Kennedy administration attempted with Ranch Hand, was extremely unlikely to induce the North Vietnamese to abandon their fight for the unification of a free Vietnam.²³⁷ Defoliation to deny ground cover did not stop North Vietnamese infiltration. As economist Jonathan Kirshner outlines in "The Microfoundations of Economic Sanctions," food interdiction was probably equally ineffective as a counter-insurgency strategy.²³⁸ In addition, trying to coerce the NLF through defoliation and crop destruction resulted in the unintended, although anticipated, consequence of reducing support from South Vietnamese themselves.

The failure of Ranch Hand teaches important lessons about the challenges inherent in fighting an air campaign against an insurgency. Targeting the infrastructure of insurgencies is logistically much more difficult than targeting that of conventional forces, since insurgents require less infrastructure and that infrastructure is generally less accessible. In addition, the support of the local population is key for successful counter-insurgency; campaigns that adversely affect civilians, even inadvertently, can actually hinder the counter-insurgency effort.

In 1961 the Kennedy Administration decided to increase direct United States involvement in Vietnam. Given the tensions between the United States and the Soviet Union, the crisis in Berlin, and the turmoil in Laos, many in the administration believed a strong stance against Communism in Vietnam to be critical. Robert Komer, a staff member of the National Security Council, wrote a 20 July 1961 memorandum to Walter Rostow, "Are We Pushing Hard Enough in South Vietnam?" Komer advised the president's Deputy Special Assistant for National Security Affairs that:

There are some strong political reasons for stepping up the momentum in South Vietnam. I believe it very important that this government have a major anti-Communist victory to its credit in the six months before the Berlin crisis is likely to get really hot. Few things would be better calculated to show Moscow and Peiping that we mean business....After Laos, and with Berlin on the horizon, we cannot afford to go less than all-out in cleaning up South Vietnam.²³⁹

At that point, the North Vietnam problem seemed serious, but manageable, "a problem that could be pretty confidently handled, given a little more muscle for the army and some shaping up by the Vietnamese administration."²⁴⁰

Ranch Hand developed as part of this larger effort by the US to increase its involvement and influence in Vietnam without committing troops or significant funds. Rostow himself sent a memorandum to Kennedy on 12 April 1961, advocating "gearing up" US efforts in Vietnam using an assortment of "techniques and gadgets."²⁴¹ American officers had already begun thinking conceptually about defoliants and their use in Southeast Asia. The land area of Vietnam was eighty percent covered in vegetation, of which more than half was jungle.²⁴² Defoliants were one of the main areas of development at the joint US – South Vietnam combat development and test centre, which started in June 1961.²⁴³ By July, drums of defoliant were on their way to Vietnam.²⁴⁴

The administration intended Ranch Hand to serve several purposes. The first goal of Ranch Hand was to prevent or at least to disrupt the NLF's movement and activity through the Southern forests by reducing the amount of cover the forests provided. Defoliants would, the administration believed, expose hidden NLF infiltration routes and positions by denuding the forests and jungles of South Vietnam. Ambitions for Ranch Hand included "defoliating a portion of the Mekong Delta ... Destroying mangrove swamps" in order to deprive NLF insurgents of "protective cover."²⁴⁵

The second goal of the operation was to impose sanctions on the NLF by denying them the local food supplies they had been using to carry on the war in the South. Even before

12 April 1961, advocating "gearing up" US efforts in Vietnam using an assortment of "techniques and gadgets."²⁴¹ American officers had already begun thinking conceptually about defoliants and their use in Southeast Asia. The land area of Vietnam was eighty percent covered in vegetation, of which more than half was jungle.²⁴² Defoliants were one of the main areas of development at the joint US – South Vietnam combat development and test centre, which started in June 1961.²⁴³ By July, drums of defoliant were on their way to Vietnam.²⁴⁴

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The second goal of the operation was to impose sanctions on the NLF by denying them the local food supplies they had been using to carry on the war in the South. Even before Kennedy had officially approved the programme, the State Department was explicitly calling for "manioc (tapioca) killer" to be delivered to the South Vietnamese Air Force.²⁴⁶ South Vietnamese President Ngô-Dinh Diệm advocated striking NLF "manioc, corn, sweet potato, rice, and other crops."²⁴⁷ The administration viewed crop destruction as a type of sanction against NLF forces in the South; "an effective [crop destruction] program might be able to cut down food supplies enough to prevent the Viet Cong from stockpiling, thus making it difficult for them to concentrate large forces and sustain them in combat."²⁴⁸ An embassy telegram to Rusk outlined goals for crop destruction in the fall of 1962. "Crops of course VC grown and VC consumed and, depending on amount of acreage destroyed, their denial would have important adverse effect on VC in area."²⁴⁹

Chemicals were also attractive because their use would allow both the US and the South Vietnamese to conserve manpower. Secretary of State Dean Rusk said Vietnam "can be critical and we would like to throw in resources rather than people if we can," noted the Director of the Bureau of the Budget.²⁵⁰ With so many potential foreign policy crises, the administration could ill afford to spend profligately on any one of them. Defoliation could be a relatively cost-effective way to cut off the insurgents' movement and supplies without tying down troops or American advisors.

Not everyone in the administration was so sanguine about the usefulness of defoliants. Some saw the ineptitude and corruption of the Diệm regime as the biggest obstacle to US

success. Ambassador to India John Kenneth Galbraith sent the President an acerbic, and prescient, cable on 20 November 1961:

We have just proposed to help Diem in various ways in return for a promise of administrative and political reforms. Since the administrative (and possibly) political ineffectuality are the strategic factors for success the ability to get reforms is decisive. With them the new aid and gadgetry will be useful. Without them, the helicopters, planes, and advisers [sic] won't make appreciable difference.²⁵¹

Despite this, Kennedy made the decision to proceed. On 29 November 1961 the first C-123 outfitted for Operation Ranch Hand with spray nozzles and tanks landed in Vietnam.²⁵²

On 30 November 1961, Kennedy issued NASM 115, approving the use of defoliants on the recommendation of Secretary of Defense Robert McNamara and Deputy Defense Secretary Roswell Gilpatric. The memorandum called for:

a selective and carefully controlled joint program of defoliant operations in Viet Nam starting with the clearance of key routes and proceeding thereafter to food denial only if the most careful basis of resettlement and alternative food supply has been created.²⁵³

NASM 115 required a level of precision that was not possible. The logistics of chemical spraying were daunting for several reasons, including a lack of equipment and imprecise target selection. Although the USAF used C-123s, the South Vietnamese conducted their spraying missions with helicopters. As late as April 1963, the US Embassy in Saigon was suggesting that the South Vietnamese did not have enough helicopters allocated for a particular sortie. Furthermore, the few they did have could not be defended from NLF attacks. This meant that the South Vietnamese Air Force could not spray the targeted rice, corn, and manioc before the fall harvest. The telegram proposed that the US use its C-123s, disguised with South Vietnamese markings to obscure US involvement.²⁵⁴ To further complicate the operation, Ranch Hand required that the MC-1 Hourglass spray unit installed in some C-123s operate with flow rates in excess of its design capability.²⁵⁵

Target selection remained particularly puzzling. An agenda prepared for the Taylor Mission only a few weeks before Ranch Hand started had, as one of its action items: "What are the hard facts with regard to the VC insurgency? Tactics? Location? Routes of infiltration? Sources of supply?"²⁵⁶ A month later, details about the existing levels of infiltration, such as the number of North Vietnamese troops in South Vietnam and the rate at which they entered the south, were still vague.²⁵⁷

Despite these obstacles, Ranch Hand missions continued. However, while it did tremendous damage to the jungles and forests of South Vietnam, Ranch Hand did not achieve the two primary goals the Kennedy administration had identified. The defoliation, while extensive, did not have the anticipated effect on the NLF. Troops continued to come into South Vietnam from North Vietnam and, once there, their ability to strike at South Vietnamese forces remained.²⁵⁸ Many attacks occurred at night; it is not clear how much a lack of cover hampered the NLF under those circumstances. Furthermore, one Australian military observer in Saigon suggested that defoliation of areas along roads actually helped the insurgents. If a swath of vegetation were removed, any guerrillas in the surroundings would have a clear field of fire to the road.²⁵⁹

Ranch Hand was also ineffective at denying the NLF the food required to carry on their operations in the South. This goal was likely unrealistic. The primary reason is that historically military forces have had first call on whatever food was available to a population. "Soldiers can generally forage for themselves at the expense of the civilian population."²⁶⁰ Even before Ranch Hand began, it was apparent that the civilian population might counteract the effectiveness of any food interdiction in South Vietnam. In July 1961, Rostow pointed to "the continued insecurity of the population and their unwillingness to take the risks of denying food and intelligence to the Viet Cong, and of supplying it to the Viet-Nam cities and Diem's government, respectively."²⁶¹ Some South Vietnamese were actively against their government and may well have willingly supplied the northern forces.

Since Ranch Hand neither appreciably slowed the influx of NLF troops nor sufficiently reduced the NLF food supply, it is unlikely that, in the long run, the operation saved the US a significant amount of money or manpower. However, Ranch Hand was very effective at generating antipathy toward the US from the South Vietnamese themselves, from US citizens, and from other countries. The administration, to its credit, recognised the potential for this. From the start of the operation, the administration anticipated an outcry. "It is already clear," wrote Gilpatric in November 1961,

that any such program will be subject to charges of chemical/biological warfare. [United States Ambassador to Vietnam Frederick] Nolting reported on November 6 that Radio Hanoi announced that the GVN has used 'poison gas' on the rice crop in the Tay Ninh vicinity and that people had been made ill.²⁶²

Debate occurred within the administration over the potential magnitude of this problem. Roger Hilsman, who served as Director of the State Department's Bureau of Intelligence

and Research, wrote in his memoir that the Defense Department overrode the State Department's concerns about unintended consequences.

The State Department view ... was that the political repercussions would outweigh any possible gains. Defoliation was just too reminiscent of gas warfare. It would cost us international support and the Viet Cong would use it to good propaganda advantage as an example of the Americans making war on the peasants.²⁶³

Kennedy made the decision that the strategic benefits of defoliation would outweigh any political and symbolic problems.

The White House counted on Diệm to inoculate them from adverse publicity by aiding those civilians affected by chemical spraying. What the administration did not fully appreciate was the divergence between the interests of the Diệm government and those of the South Vietnamese themselves. Some senior officials suspected even before the food interdiction campaign that Diệm would not do his part to ensure the safety of South Vietnamese citizens, insofar as that was possible. "[Food denial] should begin only after development of a careful program of resettling the innocent populations of the areas and assurance that they have adequate replacement food supplies. So far as we can tell, Diem has no such plans now developed".²⁶⁴ The State Department, however, suggested that the South Vietnamese government take the lead in resettlement and food distribution.²⁶⁵

Relying on Diệm to protect the South Vietnamese from Ranch Hand proved a mistake. As late as April 1963, the State Department feared that "our use of defoliant chemicals may have been premature," because the South Vietnamese themselves were likely bearing the impact.²⁶⁶ The Diệm government's plans for resettlement and food distribution, such as they were, did not prevent the crop destruction efforts from alienating the very people the US needed as allies. A 1967 study by the RAND Corporation estimated that 325,000 South Vietnamese experienced crop damage as a result of chemical sprayings. Through interviews, RAND determined that 88 percent of villagers interviewed "blamed the US/GVN for the destruction of their crops and 74 percent expressed outright hatred."²⁶⁷

Opposition to the use of defoliants and herbicides was not limited to South Vietnam. Religious leaders in the US took out ads in the *New York Times* to protest the administration's "immoral spraying."²⁶⁸ Organized US protests against the use of chemicals in Vietnam were widespread by 1966, when a group of 29 scientists signed a statement directed to President Lyndon Johnson. The statement condemned the use of chemicals in Vietnam as barbarous, calling them "an attack on the entire population."²⁶⁹ With that statement,

the scientists pointed to one of the major strategic flaws in Ranch Hand as well as a key moral issue.

Predictably, the Communist bloc media loudly and frequently denounced the US use of unconventional weapons in South Vietnam. Gerhard Grümmer, an East German journalist, wrote an account of his travels in South Vietnam, featuring descriptions of badly damaged rice paddies and forests and severely injured South Vietnamese. "By employing a wide range of chemical agents the US aggressors are systematically committing the most monstrous crime the world has seen since atomic bombs were dropped on Hiroshima and Nagasaki."²⁷⁰ The Hanoi-published collection, *American Use of Gases and World Opinion* used excerpts from newspapers, predominantly but not exclusively Communist, to make its case against the US. The passages were shrewdly chosen to highlight the racial implications of US policy. The West German *Frankfurter Allgemeine* asked: "Who could forget, be it for a moment, that 'gas' was the best means under the Third Reich to exterminate the Jews and the gypsies. The US cannot ignore that besides physical effects, the use of gases has also a moral effect which does not limit itself on battlefields."²⁷¹ The Japanese *Economic Weekly* was more direct. "In Japan there seems to be some racial feeling connected with the Vietnam issue, since many Japanese recall that the atomic bombs which were used against Japan were aimed at Asians and that, similarly, the chemicals now being used in Vietnam are aimed at Asians."²⁷²

Those protesting the use of defoliants in Vietnam had more convincing data than the US government did. Pictures of desiccated forests or counts of starving peasants can be extremely persuasive. The challenge for the US was particularly difficult because quantifying the effectiveness of Ranch Hand with any precision was nearly impossible. The US did not have firm baseline measurements of infiltration, so any progress at stopping it would have to be determined qualitatively. Denial of food to opposing forces was equally hard to measure.

Air power remains difficult to incorporate into an effective counter-insurgency strategy. Theorists of conventional air power have addressed air operations in counter-insurgencies with limited success. Robert Pape, in *Bombing to Win: Air Power and Coercion in War*, proposes four questions that must be asked when determining if a coercive campaign was successful. "First, what were the goals of the air offensive? Was it pursued for coercive purposes alone, or were other goals also important? Were they pursued in their most ambitious form, or truncated to conform to political and organizational constraints? Third, how was the campaign conducted? How fully were the requirements of each proposed strategy achieved in practice? Finally, what ultimately explains the failure or success of each strategy?"²⁷³

Counter-insurgency efforts demand a fifth question: will the campaign undermine the efforts to win the allegiance of the local population? Although Pape generalises from the failed bombing campaigns in Vietnam to make assertions about air power in counter-insurgency, he does not specifically address the role of civilians in counter-insurgency. Since the campaigns he discusses targeted North Vietnam, this omission is understandable. However, it weakens his analysis of air power in counter-insurgency efforts. Pape's idea of using air power for "perfect interdiction" was not possible in Vietnam; "steady pressure at the highest sustainable level to grind down the enemy's military capacity" would adversely affect the local populace as well, a grave error in counter-insurgency.²⁷⁴ Coercion of the populace in counter-insurgency may lead to the creation of more insurgents, or at the very least a population reluctant to take sides at all. Should either of these happen, a counter-insurgency effort is at an enormous disadvantage.

The planning for Ranch Hand was congruent with Pape's discussion of mechanisms, "by which the destruction of a target set is supposed to translate into changed enemy behaviors." The administration's theory was that if the NLF's ground cover and food supplies were sufficiently reduced, then the result would be operational paralysis, leading to the desired outcome: that the North Vietnamese leave South Vietnam.²⁷⁵

This confidence proved to be unwarranted. Only after the NLF changed their strategy from guerrilla fighting to conventional warfare did strategic bombing significantly help the US war effort.²⁷⁶ That operation, Linebacker, attacked targets in North Vietnam, which Ranch Hand did not. Furthermore, Linebacker's targets (for example, power plants and shipyards) were much more closely matched with what the NLF needed to wage a conventional campaign. Pape's analysis is more relevant to these circumstances. "The critical leverage in conventional coercion comes from exploiting the vulnerabilities in the opponent's military strategy, not from threats or costs to civilians."²⁷⁷

Schelling places more importance on the local population than does Pape. He describes the differences between Vietnam and conventional war bluntly. "Vietnam in the early 1960s was less like a war between two avowed opponents than like gang warfare with two competing gangs selling 'protection' to the population."²⁷⁸ In Schelling's analysis of blockades, he observes that:

It has never been quite clear whether blockade...was expected to make war unendurable for the people or just to weaken the enemy forces by denying economic support.... there was no need to be clear about the purpose as long as either purpose was regarded as legitimate and either might be served.²⁷⁹

The distinction is, however, an important one given the dynamics of counter-insurgency. For the US in Vietnam, this distinction proved crucial. Making the war unendurable for the South Vietnamese people was something the administration very much hoped very much to avoid. According to Schelling, "corresponding resistance" to coercion "cannot always be avoided, and if it cannot, the compelling threat defeats itself."²⁸⁰ In the case of Ranch Hand, the resistance came not only from the NLF but also from the South Vietnamese. What was designed to be a campaign of denial targeting NLF forces devolved into what the South Vietnamese experienced as a punitive strategy. Although he does not offer analysis as detailed as Pape's, Schelling's focus on the local populace provides a dimension that Pape's account does not.

According to Kirshner, Ranch Hand was unlikely to have succeeded. For Kirshner, one measure of a sanction's strength is its robustness. He defines this as "how the power of sanctions is affected by actions taken by third parties, as well as the defenses of the target state."²⁸¹ The US' de facto sanction against the NLF was not robust, according to Kirshner's criteria; the NLF was still able to move freely and could commandeer food from the local people.

More importantly, Ranch Hand did not meet a key criterion of successful sanction. "Identifying and targeting the right groups is the key to maximizing the chances that sanctions will be successful." The South Vietnamese themselves suffered under Ranch Hand and thus were a target, albeit unintended. Targeting civilians as part of a counter-insurgency effort virtually ensures its failure. Operation Ranch Hand contributed to the US' loss of the battle for "hearts and minds".

Ranch Hand provides cautionary lessons for the use of air power in counter-insurgency. First, the logistical challenges alone, from the selection of appropriate targets to accurate spraying, made Ranch Hand a poor choice for retaining the allegiance of the South Vietnamese. The US' reliance on the sclerotic Diêm government for such complicated tasks as resettlement and re-supply made the problem even worse.

Secondly, as a number of authors observe, insurgencies require relatively little infrastructure or supplies.²⁸³ Insurgent forces thus find their requirements easily met, even during coercion by denial. Ranch Hand did not cut off enough of the food supply to coerce the NLF; to do so would likely have required a great deal more spraying and destruction of the food supplies in North Vietnam as well as in the south.

Perhaps the most important lesson of Ranch Hand is that the support of the local population is critical for counter-insurgency, and that losing support can be an

unacceptably high price for any counter-insurgency effort. A central problem for the Kennedy Administration, and one that they did not successfully address, was that the military forces and the civilian populations affected by Ranch Hand were not all part of the enemy apparatus. Furthermore, enemy forces and civilians were so closely interwoven that the US was ultimately unsuccessful in disentangling them. Hilsman quotes one unnamed counter-insurgency expert: “the best weapon for fighting guerrillas is a knife, and the worst was a bomber.”²⁸⁴ James Corum and Wray Johnson agree; they stress that “The final political goal is always paramount. ... The heavy-handed application of military force might lead to a short-term military advantage yet prove to be counterproductive in the long run if military action turns popular support against the government.”²⁸⁵ Decimating the forests and croplands of South Vietnam may have hampered the capabilities of the NLF, but the hostility the operation generated likely offset any short-term gains the US may have received.

Air power doctrine must not be limited to conventional wars between industrialised states.²⁸⁶ The US will be required to choose again whether or not to use herbicides as part of a given counter-insurgency effort. Future counter-insurgency campaigns using weapons such as defoliant should be undertaken with great care. Spraying Afghan poppy fields and inadvertently damaging or destroying a wheat field, for example, might on the whole do more harm than good to US efforts at drug interdiction.²⁸⁷ Allying with local residents to destroy the fields on the ground might be more time-consuming and dangerous but would greatly reduce the chances of coercion actually creating more enemies. The potential side effects, and the limited effectiveness of Operation Ranch Hand when used to coerce the NLF, should be central to the discussion when policymakers debate this decision.

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CHAPTER 8

Night of the Flying Hooligans:
Soviet Army Aviation and Air Force Operations during the
War in Afghanistan 1979-1989

Thomas Withington

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The reasons for President Leonid Ilyich Brezhnev's invasion of the USSR's rugged neighbour are long and complex. In December 1978, the Afghan government of President Noor Mohammed Taraki had signed a Treaty of Friendship, Good Neighbourliness and Co-operation with the Soviet Union. Each country provided positive security assurances to the other – agreeing to send military assistance should the need arise. Hafizullah Amin had been joint Prime Minister of Afghanistan alongside Babrak Kamal, seen as less of a People's Democratic Party of Afghanistan firebrand than Amin, and leader of the moderate "Parcham" PDPA faction. Yet Amin controlled the powerful Marxist PDPA "Khalq" faction and used this power to become sole Prime Minister by sending Kamal into exile in the USSR and eventually performing a Palace Coup against Taraki, killing him and allowing Amin to declare himself President of Afghanistan. On his assumption of power, he continued with the ill-advised and haphazard attempts at agricultural land reform commenced by Taraki. What particularly irked farmers were his plans to rein-in the feudal power that landowners enjoyed in the countryside. Meanwhile, in the cities, the urban middle class grumbled about social reforms which were increasingly slow to materialise. It did not take long for those in the countryside to dust off their Lee Enfield rifles and begin open rebellion against the Kabul government and its representatives, notably the DRA armed forces.

Amin's behaviour sent a chill through the Kremlin's corridors. The last thing that Brezhnev wanted was a restive Afghanistan on Soviet southern borders. Moscow had always lost sleep over Afghanistan, seeing its internal difficulties as a cause of potential unrest among the USSR's own southern Muslim populations. Amin was not following the script. He was performing radical reforms too quickly. The result was not only causing domestic disquiet but jeopardising the loyalty of the Afghan armed forces. As the rebellion in the countryside intensified and the chattering classes expressed their dissatisfaction, Amin responded with a harsh crackdown, jailing, torturing and killing thousands. Moscow watched in horror as its new southern ally came off the rails, but Brezhnev did not have a simple choice; the invasions of Hungary and Czechoslovakia in 1956 and 1958 respectively had bought his predecessors widespread international condemnation. Invading Afghanistan would certainly earn him similar treatment.

Preparations

Armeiskaya Aviatsiya (AA – Soviet Army Aviation) was able to see Afghanistan's

rural disquiet close up. Helicopters had been deployed to the country after a request from Taraki via the Treaty. In the spring of 1978, twenty army helicopters were sent to the country to assist the government with stemming the rising armed opposition to PDPA rule.

As Soviet intervention in Afghanistan seemed increasingly likely, the AA performed reconnaissance of border areas between Afghanistan and the USSR in early December 1979. During the same month, the Soviet Minister of Defence Marshall DF Ustinov began planning the invasion of Afghanistan to assist the DRA armed forces in restoring order. Soviet aircraft operating in Afghanistan were painted in DRA Air Force (DRAAF) colours and flown by Soviet ethnic Tajik and Uzbek crews. Afghanistan's population had a 25 percent and eight percent composition of Tajiks and Uzbeks and it was thought that these crews with their ersatz DRAAF aircraft would not raise much suspicion if they had to crash land in Afghanistan.²⁸⁸

Seeing that Afghanistan's internal situation was unravelling day by day, Brezhnev decided to act. The so-called Limited Contingent of Soviet Forces (LCOSF) would be commanded by the 40th Army under General-Lieutenant YV Tukharinov. Preparations for the intervention had begun on 13 October 1979 after the first deputy to the chief of the General Staff, Army General SF Akhromeyev, had formed an operational group to co-ordinate the activities of the government and the armed forces in raising the necessary military units for the invasion. The invasion plan was handed over to and approved by Colonel-General YP Maksimov, commander of the Turkestan Military District, on 13 December and was transmitted to Tukharinov for its execution. The time for the 108th Motorised Rifle Division (MRD) to cross the international border was set at 1630 hours Kabul time on 25 December. On 24 December, First Deputy Defence Minister Marshal SD Sokolov had arrived from Moscow to observe the operation at 40th Army headquarters. Operations got underway as a motorised rifle battalion from the 108th MRD moved across the Amu Darya river, the international border between the two countries. Once over the border, the division concentrated in the eastern part of the country in the area around Baghlan, Kunduz and Puli-Kumri. On 27 December, the unit received orders to march on Kabul, to reach the city by 1700 the following day after the seizure of the capital. As the 108th MRD got underway from Termez, so did the 5th MRD from Kushka, moving through western Afghanistan with the two forces eventually linking up at the southern city of Kandahar.²⁸⁹

In two days, when the western world was primarily distracted by Christmas, the Soviet Union had performed its first foreign invasion since Czechoslovakia. What was supposed to be a short, limited intervention to assist the Afghan government in regaining control

of the country would turn into a near decade-long conflict which would help to bleed dry the Soviet Union. In this war Soviet air power would have its counter-insurgency baptism of fire.

Airlift

In addition to reconnaissance operations, air power played a major role before and during the invasion with the overt and covert airlift of troops and equipment into Kabul International Airport and Bagram Air Base (AB). Aircraft from the *Voennno-Transportnaya Aviatsiya* (VTA)²⁹⁰ including An-22 (NATO reporting name "Cock"), An-12 ("Cub") and Il-76M/MDs ("Candid") were pressed into service, with 38 percent of the total military-civil airlifter fleet being used.²⁹¹ In fact, airlifters greatly outnumbered attack aircraft during and immediately after the invasion. For example, AA was thought to have sent only 20 Mi-24V ("Hind") attack helicopters to support the invasion. However, it was not long before the Soviets experienced the Mujahideen's welcome and realised that a much larger force of offensive fixed-wing and attack helicopters would be necessary to assist the DRA in curtailing the rebellion.²⁹²

Airlift would play a vital role throughout the conflict. It was the bridge between the USSR and Afghanistan and was increasingly burdened as the Mujahideen refined their techniques for attacking Soviet road supply convoys moving from the USSR and troop convoys moving around Afghanistan. Soviet transports operated from Termez, Kushka and Mary airfields in the southern USSR, taking troops and equipment into the country and the dead and wounded back home. However, the Mujahideen realised the reliance that the Soviets placed on airlift and soon turned their attention to attacking freighters with Man-Portable Air Defence Systems (MANPADS) as they landed and departed from airfields. In country, airlifters also re-supplied isolated Soviet garrisons such as Khost and Gardez.²⁹³

Hip helicopters

Key to the in-country re-supply efforts were the hardy Mil Mi-8MT ("Hip-H") transport helicopters. In many ways, these aircraft were the "flying Swiss Army knives" of the war and performed several diverse tasks. In 1983 and 1987 they carried the burden of supplying the Soviet garrison at Khost which had been besieged by Mujahideen. The Hips could supply Soviet forces in areas inaccessible by road or where road supply had simply become too dangerous due to Mujahideen ambushes.²⁹⁴ The demand on these aircraft was heavy. One airframe notched-up 963 flying hours in one year, while the average flying hours per year per airframe were around 426. The way that these aircraft were flown was testament to their robust construction; the aircraft could withstand punishment from Mujahideen ground fire and could stay operational for long periods without maintenance.

Furthermore, the aircraft were regularly overloaded when flying in Afghanistan's hot, high and rarefied atmosphere.²⁹⁵

Transport was but one string to their bow. The Hips were used for route reconnaissance, target identification, marking, and the carriage of forward air controllers, border patrols for monitoring Mujahideen infiltration from neighbouring Pakistan and Iran, and casualty evacuation.²⁹⁶ The latter was especially important during the war. Dr Mark Galeotti, an expert on the Soviet and Russian armed forces at Keele University, United Kingdom, states that "most Soviet soldiers would point to casualty evacuation as being the most important element in the air operations. It had a major effect on morale".

The aircraft could also be used as an offensive platform for dropping air-delivered landmines²⁹⁷, as a command and control platform or radio-relay between command posts on the ground, or command posts and other aircraft.²⁹⁸ In their offensive role, the Hips were an integral part of the *desant* concept. This was a force of Hips carrying airborne troops and escorted by Mi-24V ("Hinds") which would land near their objective and off-load airborne troops which would march to contact with the enemy and then withdraw by helicopter after the engagement. The *desant* gave the Soviet Army the ability to rapidly react to Mujahideen actions on the ground. *Desant* packages could sometime number up to sixty aircraft, along with accompanying fixed-wing fighter-bomber and helicopter gunship units depending on the size of the force being airlifted.

Hind helicopters

The Mi-24Vs which escorted the *desants* became the signature aircraft of the conflict. With its insect-like shape and tweeting main rotor, the aircraft became a regular star on the world's television screens as the UH-1 Huey had been during the Vietnam War. At the start of the conflict, Hind crews took their machines down into the valleys to press home attacks on the Mujahideen, but as the rebel's air defences improved with the addition of MANPADS and captured ZSU-23-4 *Shikla* self-propelled air-defence guns the Hind crews took their aircraft higher to avoid the danger below. This was no easy task. The atmosphere, or lack of, in Afghanistan and the high summer temperatures limited the quantity of armament that the Hinds could carry.²⁹⁹

Missions for the gunships included the notorious "Mandatory Matsurov". Matsurov was a hero of the Great Patriotic War, a young soldier who threw himself across a German machinegun emplacement so that his comrades could advance. The Hinds' heroic contribution saw them escorting transport aircraft into and out of Afghan airfields to act as bait for MANPADS and to deploy Infra-Red Counter Measures (IRCMs) and gunfire to suppress and destroy the rebels' attack. If all else failed, the Hind crews were to fly their machines towards the missile to sacrifice themselves for the larger aircraft. Tellingly, for

much of the conflict, Soviet transport aircraft lacked countermeasures, and Aeroflot civil aircraft, which were also used for the transport role, had none whatsoever.³⁰⁰ A similar mission was performed by the Hinds in conjunction with the Hips with the latter playing the Matsurov role drawing Mujahideen fire to expose the rebel position which would then be pulverised by the Mi-24s.³⁰¹

In battle, the Hind flyers did everything they could to maximise their effect. Helicopters would fly over the targets singularly in quick succession, pulling up after an attack with their wingman's rockets and machinegun bullets zooming past their aircraft.³⁰² Avenues of approach were changed to keep the rebels off balance as to the direction of the next attack; a tactic also used by fighter-bombers. The aircraft would operate in flights of four, or in groups of eight, over areas where the Mujahideen enjoyed good cover from the terrain and foliage.³⁰³

During the *desant*, the Hinds would fly to the landing area first, bludgeoning any opposition encountered on the way to and around the Landing Zones (LZs), flying up to 1,312-ft. (400-m.) above the transport helicopter force to keep a good watch on the terrain below. In addition to the Hinds escorting the *desant*, another flight of up to four helicopters would remain at a nearby airfield or a makeshift strip ready to take flight should the call come in for more air support or should the primary Hind force run out of ammunition.³⁰⁴

However, despite their impressive arms and armour, the Mi-24V was not invincible. Some bright spark had decided to position the large Red Star insignia carried by the aircraft directly over the oil tank, giving the rebels a nice target to aim for. Exposed air intakes were another good aim-point. Yet the Hind crews were clever. They painted over the Red Star before combat and simply replaced the insignia during official inspections.³⁰⁵ Another weak point of the aircraft was its lack of rear defence. This caused problems as the Mujahideen would often fire at the aircraft after it had made a strafing pass or rocket run over their position. One proposal had been to install a rear-facing machine gun at the back of the helicopter's troop compartment which could be fired by the aircraft's third crew member from a small gangway. It is noteworthy that the aircraft did not carry troops in Afghanistan because of weight considerations. Flight testing of the concept revealed that this area was awash with exhaust fumes and thus very uncomfortable for the operator. It was even more uncomfortable for one overweight Soviet general who got stuck in the gangway when inspecting the machinegun installation. The idea was quietly abandoned.³⁰⁶

In terms of MANPADS, the aircraft were vulnerable to the Chinese and Egyptian 9K32 Strela-2 (SA-7A "Grail") systems which were covertly supplied to the Mujahideen by its

Pakistani, Saudi Arabian and American sponsors. However, low-altitude quick manoeuvres could outfox the missile.³⁰⁷ This did, however, increase wear and tear on the airframe and could on occasions cause the main rotor blades to collide with the tail boom with disastrous consequences.³⁰⁸

The danger of the missions that they performed, coupled with their inventive flying skills, gave the *Krocodil* pilots a heroic reputation throughout the Soviet armed forces, leading to their “Flying Hooligans” nickname. The Mi-24s were amongst the most heavily tasked aircraft in the conflict, and AA performed around 75 percent of all close air support missions while performing 33 percent of the planned strike sorties during the war. No surprise then that the Hind’s crew slogan became “Let the rotor be turning and the machine gun firing”.³⁰⁹

Fighter-bombers

The conduct of the desants saw the area being prepared by the gunners in true Soviet tradition. After “the God of War,” as Stalin had termed artillery, had done its work, fighter-bombers would hit identified Mujahideen targets before the engagement. The air and artillery bombardment was designed to sow as much confusion into the Mujahideen as possible, and would be followed by further attacks from the Hinds before the Hips arrived to deliver the troops.³¹⁰ As they were flying to the LZs, the Hips would often fake landings to draw out Mujahideen fire to allow them to then be attacked by the Mi-24Vs.³¹¹

Fighter-bombers began their war with high-level bomb drops from around 5,000-ft. (1,524-m.) above ground level, although this did not give the required accuracy, and soon pilots were joining their Hind-flying cousins down in the grass. As well as using the “star” pattern of unpredictable attack discussed above, another favourite tactic was to hit a Mujahideen target from opposing axes to confuse the rebels regarding the direction of the attack.³¹² Generally speaking, fixed-wing aviation would hit targets up to 4.3 miles (seven kilometres) behind the expected line of contact with the Mujahideen.³¹³

The Soviets struggled to find an adequate aircraft for strike missions in Afghanistan at the start of the war. Both the MiG-21F (“Fishbed-B”) and Sukhoi Su-17M (“Fitter-C”) operated in Afghanistan, but neither liked the mountainous, arid environment. MiG-21s fared particularly badly manoeuvring in narrow canyons and valleys. Things improved once the MiG-23BNs (“Flogger-F”) and the Su-24s (“Fencer-B”) arrived on the scene from 1980 and 1982.³¹⁴ By 1984, the 40th Air Army, subordinate to the 40th Army, which was in command of the air war, had the 143rd *Bombardirovch’nyi Aviatsion’nyi Polk* (BAP) bomber regiment at its disposal with 26 Fencers at Karshi-Khanabad AFB, in what is now Uzbekistan.³¹⁵ These aircraft flew long-range strike missions from the southern Soviet

Union against pre-planned targets in Afghanistan, such as the Panjshir Valley redoubt of legendary Mujahideen leader Ahmed Shah Massoud.³¹⁶ However, the Fencer was still an aircraft designed for combat over the Inner German Border and the aircraft’s Shryck MR-1 radar had trouble picking out targets from the rocks and boulders littering the Afghan terrain. Nap-of-earth flying was also nigh-on impossible because of the aircraft’s manoeuvrability.

Yet Sukhoi had a solution up their collective sleeve: a close air support aircraft in the tradition of the famous Il-2 *Shturmovik*. The aircraft was the Su-25 (“Frogfoot”). If the Hind was the signature helicopter, the Frogfoot was the signature aeroplane. Like the Hind, the Frogfoot was at the back of the aesthetic queue, but the testing of two aircraft in theatre in 1980 gave good results and by 1982, two squadrons of the aircraft were located at Shindand and Bagram bringing their 8,818-lb (4,000-kilogram) payload to bear on the terrified Mujahideen. Eventually, up to 50 Su-25s were deployed inside Afghanistan, they would perform on average 360 sorties per year per aircraft amassing a collective total of 60,000 sorties with a loss of 21 aircraft in combat.³¹⁷ The rebels soon developed a deep hatred of these aircraft and they were prized targets for Mujahideen air defenders, yet destroying a Frogfoot was no easy matter as the aircraft were designed to absorb a fair degree of punishment.

Such aircraft were pressed into service for so-called “air-strike diplomacy” initiatives. For example, if Soviet prisoners of war were known to be held in a particularly village. Fighter bombers would perform a strong bombardment of an area within sight of the village. This was followed by a leaflet drop leaving the villagers in no doubt that they would soon receive a similar visit unless the prisoners were released.³¹⁸

Air-land Battle Co-ordination

Co-ordination of the air-land battle was something that the Soviets excelled in during the war. Avianovodchiki (forward air controllers) either mounted in helicopters or vehicles would co-ordinate the landing of airborne troops and the fire support from attack helicopters.³¹⁹ Fighter bombers and helicopters would drop their bombs a minimum of 4,921 ft. (1,500. m) from friendly troops, with rockets falling a minimum of 1,640 ft. (500 m.) and 984 ft. (300 m.) for machinegun fire. In practice helicopters would often have their bullets falling just yards in front of their comrades on the ground when in close contact with the Mujahideen.³²⁰

However, the rebels did protect themselves during air attacks. Networks of communications trenches were chiselled into mountainsides in which the Mujahideen could shelter during air strikes, before emerging to engage Soviet and DRA troops. They also had elaborate

networks of mountain caves which provided shelters and the Soviets had a great deal of difficulty using air power to attack such targets.³²¹

Bombers

While the Frogfoots, Fencers and Fishbeds were pressing home their attacks on battlefield targets, Badgers and Backfires traversed the Afghan skies. The Soviets bought their *Dalnaya Aviatsiya* (long range aviation) heavy bombers to the war. The bread and butter bomber for the conflict was the Tupolev Tu-16 ("Badger-A") although later in the war, these were joined from 1987 by Tu-22M3 ("Backfire-c") bombers from the 185th BAP which flew from Mary AFB and saw particularly high use during the attempts to relieve the siege at Khost.

The Badgers formed a key part of the Soviet political leadership's strategy of smashing the support structure which the Mujahideen were able to draw on from Afghanistan's rural population, in terms of food supply and shelter. Bombers were used for area attacks to wipe swathes of farmland off the map and to render them unusable by dropping landmines. Lester Grau, a Military Analyst at Fort Leavenworth Foreign Military Studies Office and an expert on the Afghan War, argues that: "the Soviets believed in Mao's assertion that the guerrilla is the fish that swims in the sea of the population. The Soviets intended to drain the ocean."³²² The aircraft were also tasked with hitting Mujahideen redoubts. For example, on 21 April 1984, during the Panjshir-7 offensive against Massoud's *Jamiat-i-Islami* rebel group, 36 Badgers flew up to forty missions performing area attacks on the valley.³²³ The frequency of bomber attacks and the damage they inflicted, in addition to other offensives performed in the valley, was sufficient to kill and displace large parts of the Tajik population living there and destroyed their homes and farms. They did not succeed in destroying Massoud's rebel force and the Soviets eventually made a tacit truce with the Lion of Panjshir, as Massoud was known, from 1986.

The VVS had contemplated using Su-24M ("Fencer-D") aircraft to escort the bomber force to perform "Wild Weasel" defence suppression missions using their Kh-58 anti-radiation missiles in the event of the bomber force being painted by Pakistani air search radar. However, the idea was dropped when it became clear that the chance of the Kh-58 homing in on the air traffic control radar at either Khost airfield or Kandahar airport was too great a risk. Moreover, hitting a Pakistani radar installation with a Soviet missile was seen as politically unacceptable given the international outcry which it would certainly bring. That said, bomber crews were told that in the event of damage by a missile, they should try to bail out over Pakistan rather than Afghanistan given that their chances of survival at the hands of the vengeful Mujahideen were reckoned to be slim. Head for

"the other side because in Afghanistan, you have little chance of survival but in Pakistan we can always bail you out" they were told.³²⁴ Soviet Combat Search And Rescue (CSAR) evidently found the prospect of operating in Pakistan more appealing than getting their aircrews out of danger in Afghanistan, although CSAR was one area that the Soviets refined and excelled at during the Afghan war.

The introduction of the more modern Backfire was apparently out of concern that the Badgers might be vulnerable to attack from the Pakistan Air Force (PAF). These aircraft had a maximum altitude of 42,000 ft. (12,800 m.) compared with the 43,635 ft. (13,300 m.) of the Tu-22. Anecdotal evidence claims that because of the proximity of Khost to the Pakistan border, the aircraft would have to make a turn just over the border after dropping their ordnance, before returning to Mary. When the Tu-22s attacked targets around Khost, they were joined by Tu-22PD ("Blinder-E") aircraft carrying electronic warfare equipment to jam Pakistani radar.³²⁵

The bomber offensive was largely a failure. In much the same way that the Luftwaffe had failed to demoralise London's population during World War II, the efforts of the DA had not degraded public support for the Mujahideen and instead had merely strengthened it as the rebels took the war to the Red Army. What it did achieve was large numbers of civilian casualties and destroyed areas of once-lush farmland and orchards. Meanwhile, the anti-personnel mines which were dropped by tactical aircraft have left a legacy in the country which causes up to 100 casualties per week.³²⁶ Soviet "hearts-and-minds" efforts were absent-minded and half-hearted at best during this war, but the bomber offensive did nothing to ender the Afghan public to Moscow.

Intelligence and Surveillance

The Soviet Army and Air Force had to be delicate in their employment of airborne reconnaissance to monitor the Mujahideen. The rebels were, after all, quick learners and flying observation aircraft over their location could be seen as a harbinger of things to come by the rebels. The border areas between Pakistan and Afghanistan, which contained the favourite infiltration routes for the Mujahideen who were able to organise, recruit and equip in the massive refugee camps established in Pakistan and also Iran, were watched by photo-reconnaissance aircraft. When such flights were performed, on some occasions, these aeroplanes were accompanied by A-50 ("Mainstay") Airborne Warning and Control System aircraft which watched the skies for any PAF activity.³²⁷ Meanwhile, An-26RR ("Cub") signals intelligence aircraft would eavesdrop on the various radio nets used by the Mujahideen and this information would be fused with photo-recce pictures and human intelligence from Afghan and Soviet agents to build a picture of Mujahideen strengths, weaknesses and intent.³²⁸

Training

If the Mujahideen were quick learners so were Soviet aircrews, but often in violation of Soviet doctrine which, broadly speaking, discouraged individual initiative and focused on strict control of air assets from the ground. It is not clear whether such close control of Soviet aircraft was performed during the Afghan war, but it is possible as anecdotal evidence reports of Soviet fighter bomber crews ignoring lucrative and obvious targets of opportunity on their way to pre-planned strikes. That said, air crews did adapt as they gained experience. This was just as well as their training was said to be left wanting prior to the aircrews experiencing combat. One pilot noted that: “in normal training we are used to acting *shablomo* (by textbook) ... when the situation becomes complicated as in battle, we are not able to cope with the task before us. That is the cost of oversimplification and the lack of initiative.”³²⁹ An anonymous poll was performed on Soviet aircrew operating in Afghanistan between 1987 and 1989. The results were startling: 98 percent of fighter-bomber and 50 percent of bomber pilots returning from service said that they were dissatisfied with the training that they had received prior to going south.³³⁰ Figures are unavailable for helicopter or transport pilots, although the former were noteworthy in adapting to their environment. For the helicopter crews, mission planning presented its own challenges as time pressure often caused the crews to be committed to battle before this was complete. Having to “play things by ear” in Afghanistan’s broken and unforgiving landscape became the order of the day.³³¹

Command, Control and Basing

Military operations in Afghanistan were parcelled into four distinct areas: the northern region included Kunduz, Faizabad, Puli-Kumri, and Mazir-i-Sharif; the eastern region encompassed Khost, Asadabad, Jalalabad, Gardez and Kabul; while the southern and western regions included Kandahar and Lashkargah, along with Farah, Shindand and Herat respectively.³³² All operations were performed under the auspices of the 40th Air Army, headquartered at Termez, under the command of the 40th Army.

The main air force logistics and maintenance facilities were based at Termez.³³³ The Soviets did take time and effort to construct and upgrade several Afghan airfields and airports, notably Bagram which had originally been constructed as a refuelling and dispersal base for Soviet nuclear-armed bombers to perform attacks on US and Allied shipping and targets in the Indian Ocean and Persian Gulf maritime and littoral areas. In addition Kabul, Shindand, Kandahar, Farah, Jalalabad and Mazir-i-Sharif all received extensions and improvements to facilities, runways and infrastructure. That said, deep maintenance of aircraft was performed back in the USSR because the Afghan operating bases were vulnerable to attack from Mujahideen machineguns, mortars and artillery.³³⁴

Violations of Pakistan’s airspace

Not only did the VVS and AA have to guard themselves against Mujahideen attacks on their aircraft, they also had to keep an eye out when operating around and over the border areas with Pakistan. As mentioned above, Pakistan provided a bolt-hole from which the rebels could operate. The VVS performed attacks on Mujahideen targets over the border such as infiltration routes. Soviet and DRAAF incursions of Pakistan air space began in 1981 and continued throughout the war, with over 200 violations conducted per year between 1981 and 1984.³³⁵

The patience of President Mohammed Zia-ul-Haq’s government in Pakistan was wearing thin and the PAF was ordered to perform air patrols from Peshawar with the rules of engagement stressing that all wreckage from any PAF shoot-downs must fall inside Pakistani territory. However, the PAF would have to wait until 1986 to shoot down an intruder.³³⁶ F-16As from nine and fourteen Squadrons downed seven aircraft and scored a probable hit on a single aircraft. A single Su-22 fell to Squadron Leader Qadri’s AIM-9L Sidewinder on 17 May 1986, with another Frogfoot suffering damage. Wing Commander Razzaq claimed an An-26 on 30 March 1987 while seventeen days later Squadron Leader Badar bagged a Frogfoot. However, on 29 April an F-16A was lost during an engagement with six DRAAF aircraft. The following year Squadron Leader Bokhari downed the Su-22 of Colonel Alexander Vladimirovich Rutskey, a future Russian Vice President, on 4 August. Just over a month later, Flight Lieutenant Mahmoud destroyed two MiG-23s on 12 September, following with a Su-22 on 3 November, while his intercept of an An-24 on 31 January 1989 caused the Antonov to crash as it tried to land. A MiG-23MLD may have also crashed on the night of 20/21 November 1988, but this has never been verified.

Mujahideen Air Defences

The Mujahideen certainly claimed their fair share of Soviet aircraft, although by what means and how many has been notoriously difficult to verify. At the start of the conflict, jets flew too fast and Hinds proved to be fairly resilient to Mujahideen machinegun fire.³³⁷ The rebels got their first MANPADS system in 1982, an SA-7 but the weapon, according to arms trade expert James Adam, could “be easily distracted by reflections hitting snow or heading for the sun instead of the aircraft’s engine”.³³⁸ The Grail did force Soviet pilots to fly higher to avoid the missile, thus degrading the accuracy of their air-to-ground attacks. Moreover, the Soviets soon learnt to spoof the weapon with countermeasures. The missile also did not work too well if fired from altitude downwards at an aircraft flying at low-level along a valley floor.³³⁹ Things improved slightly from 1986 when President Ronald Reagan’s administration began to covertly supply weapons to the Mujahideen including the Oerlikon 0.8-inch (20-mm.) cannon and British Blowpipe MANPADS; the latter of which was particularly difficult to operate. The famous FIM-92A Stinger arrived

in September 1986. "There are only two things Afghans must have: the Koran and the Stinger," Massoud once said, but the jury is still deliberating on the level of losses that the Stinger and other MANPADS inflicted on the Soviets and DRAAF. However, the weapons did cause the VVS, AA and DRAAF to change some tactics; fighter bombers flew higher still, helicopters got closer to the ground and the close air support burden was increasingly absorbed by the gunners. The Soviets also fitted ASO-2V chaff/flare dispensers and L-166V-1E IR countermeasures to the Hinds which somewhat degraded the Stingers' effectiveness.³⁴⁰

The role of the Stinger has reached almost legendary proportions with claims that the missiles exacted such a high toll on Soviet aircraft that it became almost impossible to provide the ground forces with close air support. It is difficult to confirm this lethality. The nature of Afghan terrain and the hazards of war hardly made it feasible to conduct a field study on the missile's effectiveness. We will probably never know exactly how many Soviet and DRAAF aircraft the missile was responsible for destroying.

Where the Mujahideen would excel was in establishing ambushes, opening fire on an aircraft with one, visible weapon, causing the aircraft to fly away, usually into the mouth of other hidden air defences.³⁴¹ Ground ambushes would be mounted on Soviet troops and their vehicles, the troops would call for air support, and the rebels would open fire with MANPADS or Anti-Aircraft Artillery (AAA) when the aircraft arrived. "SAM-bushes" were another favourite technique. A MANPADS-armed Mujahideen unit would attack aircraft taking off and landing at an airbase before making their fast escape on a motorcycle.³⁴² As Coalition aircrews are finding in present day Afghanistan and Iraq, Rocket Propelled Grenades could also bring down a helicopter.

Losses

In the final analysis, the total losses from all causes to the VVS, AA and DRAAF have been reported as up to 2,675 aircraft, other estimates put the total losses at 451 VVS and AA aircraft and an unknown number for the DRAAF. After Blowpipe and Stinger arrived, reports circulated that up to 450 aircraft per year were claimed by the missiles. Almost certainly an exaggeration, possibly for propaganda purposes to inflate the success of the missiles and thus secure additional systems from Washington.³⁴³ One thing seems certain, the VVS and AA did not lose this war. It was instead lost on the home front as the dead and wounded returned and conscript soldiers became increasingly demoralised against a well-motivated opposition fighting in their own backyard to eject an unpopular foreign invader. The Soviet leadership under Mikhail Sergeyevich Gorbachev had decided in 1986 to seek a withdrawal from the country signing the Geneva Accords in 1988 with Afghanistan, Pakistan and the US to pave the way for the Soviet withdrawal the following

year. At the geopolitical level, the final stage of the conflict coincided with the beginning of the end of the Warsaw Pact and Soviet Union.

Conclusions

Soviet air power had shown that it could project itself far beyond its borders in a short space of time.³⁴⁴ Moreover, the AA had accumulated impressive experience in operating helicopters in the COIN role, along with using close air support platforms against a fleeting but deadly enemy, nicknamed the "ghosts" by the Soviet troops. They also learned lessons about the limitations and possibilities of operating in a hot and high environment. The Army learned that air power offered an attractive alternative to ground manoeuvre with a Bronegrupa (a mixed group of tanks and armoured personnel carriers) in some cases, with vehicles being relatively slow on Afghanistan's moribund road network and unable to operate in some of the harsh terrain. Helicopters also gave an obvious speed and firepower advantage, being able to press attacks close to the Mujahideen, when conscripts were often reluctant to close contact with the rebels.³⁴⁵ "The most significant development in air support for Soviet ground operations in Afghanistan was their use of armed helicopters," noted one US Army report on the war.³⁴⁶

Fighter-bomber and bomber units were not, however, deployed with imagination. The former were seldom used in a "cab-rank" fashion to respond to sudden targets of opportunity. Instead, they were used in a predictable fashion; softening up objectives prior to a ground engagement, with the close air support task falling to the helicopters instead. The use of bombers to win the battle against popular Mujahideen support can be was an abject failure.

Despite the presence of robust Mujahideen air defences, both the VVS and AA did modify their tactics to safeguard their aircraft and added countermeasures, while also actively interdicting supply routes for such weapons across international borders.³⁴⁷ However, the Soviet's inability to secure their airbases in Afghanistan reduced the quantity of aircraft that they were willing to deploy in theatre at facilities which were often bereft of hardened revetments for protecting aircraft; both reducing the quantity of air power available and increased the response times for aircraft beginning their sorties from the southern USSR.³⁴⁸

Another significant failure was in terms of training. Training, where it was available, failed to both learn lessons from the war and pass them down to the pilots and crews earmarked for the Afghan theatre. Pilots who did show initiative were not rewarded for their efforts. Dr Galeotti notes that "groups of pilots which did show initiative were dispersed across the VVS infrastructure" upon their return from Afghanistan rather than being ensconced in the Staff Colleges and Academies to disseminate their wisdom. The military became

prisoners of their own doctrine, Galeotti believes that they followed a “chess mentality, where the last thing you wanted was your pawns doing their own thinking”.³⁴⁹ The break-up of the Soviet Union two years after the Soviet withdrawal from Afghanistan saw Russia inheriting much of the VVS infrastructure, manpower and *materiel*. However, many of the pilots who flew combat missions over Afghanistan left the service, preventing the lessons learnt being passed to a new generation of pilots. The net effect, according to Galeotti, is that in some ways the present-day Russian Air Force “is in an even worse position” to fight these kind of guerrilla wars than it was in the Soviet days.³⁵⁰

Ironically, it was Soviet air power which left a lasting impression of the war at home as the “Black Tulip” Antonovs which departed Kabul International Airport brought the bodies of over 14,000 soldiers back to their families in the USSR. Air power had helped take the war to Afghanistan, and was helping to bring it back home.

CHAPTER 9

Air Power’s Role in Asymmetric Operations:
The Case of the Second Lebanon War

Sarah E Kreps

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Israel's 2006 war in Lebanon has been widely criticised as a strategic and tactical failure, and arguably for good reason. The Israeli Defense Force (IDF) achieved neither of its strategic objectives – Hezbollah remained armed and Israel failed to get back alive its two captured soldiers – and was unable to destroy many of its targets at the tactical level.³⁵¹ That Hezbollah did not lose and in fact did better than several of Israel's historical Arab state adversaries prompted its leadership to claim success and cult status.³⁵² That Israel sacked its military leadership and commissioned an investigation into the government's handling of the Second Lebanon War implied some self-censure and an interest in improving its wartime deficiencies.

What seemed to emerge as one of the most significant deficiencies and indeed casualties of the war was air power. Critics almost invariably linked the IDF's operational challenges with its over-reliance on air power. In one representative post-mortem, a member of the Knesset questioned: "why hadn't we internalized the limitations of air power?"³⁵³ Systematic analysis of air power's limitations was sparse, whether it is limited specifically against short-range rockets or in asymmetric operations more generally. This led to the possibility that any "lessons learned" would cast air power as a categorical failure for asymmetric operations rather than give it a more careful parsing as to what air power activities proved successful and under what specific conditions.

This chapter seeks to address those analytical shortcomings by doing the following. First, it specifically addresses the motivations behind the use of air power in the Second Lebanon War, arguing that air power seemed to provide an antiseptic, low-casualty answer for modern warfare and clouded the possibility of other strategies, including a more balanced combination of air and ground strategies that may have been more effective in achieving its objectives. Second, it evaluates why reliance on air power was ultimately counterproductive against an asymmetric adversary such as Hezbollah and suggests that the intermingling of civilians and combatants virtually ensured that the Israel would inflict civilian casualties. Through its strategic use of the media, Hezbollah used the inevitable collateral damage to intensify support for its ideology and recruitment, providing an almost unlimited supply of combatants willing to fight against the IDF. Third, the chapter broadens its analysis, evaluating the effectiveness of air power in asymmetric operations more generally. Does the Second Lebanon War mean that militaries should demote air power as an instrument for other asymmetric environments or are there

enduring roles for air power in counter-insurgencies or counter-terrorism operations? While insurgents or terrorists may be less vulnerable to classic air campaigns, this chapter concludes that it would be unwise to dispense with air power altogether in the context of asymmetric operations.

The Allure of Air Power

One reason why air power became the easy scapegoat is that it was the main military instrument the IDF employed during the war, and it correlated with a disappointing outcome. At no time during the 2006 Lebanon war did Israel signal that it was interested in introducing large numbers of ground forces. Rather, ground forces were last resorts that were never actually seriously considered. Only during the last weekend in the 34-day war did Israel mobilise enough reserves and promise a ground invasion, just two days before the international community intervened and imposed a cease-fire under UN Resolution 1701.³⁵⁴ Why was Israel's leadership so persuaded by air power that it was used to the exclusion of ground forces?

Some critics have attributed the IDF's reliance on air power to the influence of the Chief of Staff, General Daniel Halutz. A career Air Force officer and commander of the Israeli Air Force (IAF) between 2000 and 2004, General Halutz had been overwhelmingly supportive of air-based campaign plans and had sought cuts in ground forces. He had argued: "Many air operations were generally implemented without a land force, based on a worldview of western society's sensitivity to losses. A land force is not sent into action as long as there is an effective alternative ... This obliges us to part with a number of anachronistic assumptions," including that land forces are a requirement for victory.³⁵⁵ In the context of the Second Lebanon War, Halutz's preference for air power translated into an unwillingness to consider seriously any ground forces other than pinpoint ground incursions into Lebanon.³⁵⁶

While Halutz was certainly of the view that air power might obviate the need for large numbers of ground forces, his aversion to ground forces was somewhat reflective of the prevailing caution that had emerged in the two decades since Israel's incursion into Lebanon during the 1980s with the First Lebanon War. Fear of becoming mired in the "Lebanese mud" and experiencing numerous casualties on the ground gradually produced a "victory from the air" thesis, replacing what one air power critic has referred to as the "Ben Gurion" model of definitive victory through fierce and bold manoeuvring. Israel's experiences with a costly eighteen-year occupation of Lebanon after the first Lebanon war had given Israel pause in terms of deploying ground troops back to the same region.³⁵⁷ The intrinsic risk associated with land operations, a risk reinforced by the historical experiences of using ground forces two decades earlier in Lebanon, created operational

aversions to their employment. In contrast, however, air strikes had been "almost risk-free." The IAF had not lost an aircrew member since a Phantom was lost over Lebanon in 1986. The use of ground forces became a defensive-only kind of employment, a mentality reflected in the planned decommissioning of several brigades, decreases in the number and quality of tanks – the IDF had stopped producing its top-line Merkava tank – and increased investment in long-range bombers.³⁵⁸ When the goal was to retrieve two Army personnel, why risk getting more captured?

Reinforcing the attractiveness of air power was that campaign after campaign seemed to validate it as a decisive instrument. Conflicts such as the Gulf War and Kosovo seemed to provide sweeping evidence in support of the argument that air power and high-precision stand-off weapons alone could coerce an adversary and bring about victory. For example, without the use of any ground forces and with seventy-eight days of air strikes, the allied coalition had successfully forced the Serbian President, Slobodan Milosevic to fold, leave Kosovo, and accept G8 terms, seemingly providing an overwhelming success story for air power. Competing explanations have suggested that air power only in conjunction with the threat of ground forces, Russian withdrawal of support for Serbia, and the role of the Kosovo Liberation Army, helped bring about an end to the Kosovo war.³⁵⁹ But these operations nonetheless helped reinforce the IDF's growing attachment to air power as an antiseptic way to win wars at low cost. Reflecting the IDF's strategic thinking on the utility of air power in the particular case of Lebanon, Israeli leaders had "referred to Lebanon as an updated edition of the successful NATO aerial operation in Kosovo in 1999."³⁶⁰ Lastly, domestic level factors had grown increasingly favourable towards economic stability over state security, making high-risk strategies, such as those that might involve high casualties, less attractive. As one analyst who visited the area noted: "Israeli governments in recent years have been so preoccupied with stoking the economy that they have been reluctant to take the steps necessary to ensure long-term security for fear of spooking the markets."³⁶¹ In its place was a mindset in which success and failure were measured by the number of fallen soldiers, which was likely to be higher through the use of ground forces than through air power. Yet this measure inevitably constrained options available to achieve the state's objectives. As one Israeli critic noted: "if counting the fallen causes vacillation and indecisiveness, and annihilates ambition to deliver a strategic victory, how could gains become anything but losses, in terms of strategic objectives or loss of life?"³⁶²

The combination of these factors – individual level preferences, strategic cultural changes after the First Lebanon War, the apparent lessons of conflicts of the 1990s, and aversion to casualties and instability – led Israeli military and civilian leaders to be convinced that air power generally and strategic bombing specifically could antiseptically win wars and make land warfare "anachronistic." Air power was thought to provide a low-cost

– primarily in terms of casualties – way to defeat the adversary. Israel maintained that it could use stand-off weaponry and inflict a sufficient amount of pain on the civilian population to the extent that it would turn its support against Hezbollah and create a “local political reaction to Hezbollah’s adventurism.”³⁶³ According to this vision, air power could achieve those strategic objectives while exposing the IDF to a much lower risk of casualties than they if they were to strive to win with a ground attack, since “there is no ground battle without casualties.”³⁶⁴

Operational imperatives and preferences for low casualties, however, operated in different directions. Achieving the two strategic objectives “stop(ping) the firing of Katyusha rockets against Israeli communities and return(ing) the two abducted soldiers to Israel”³⁶⁵ likely called for an approach that integrated more ground forces with the use of air power, an argument the chapter turns to with greater detail in the next section.

Instead, however, the military and civilian leadership opted for the lower cost strategy of air power. In one incisive after-action analysis, a prominent Israeli columnist sought to identify the cause of the IDF’s challenges: “Usually, the accusation of folly is directed at battle-hungry generals and warmongering politicians. However, at the end of this war, the accusation of folly will be directed at an entire cadre of Israeli opinion-makers and social leaders who lived in a bubble and caused Israel to live in a bubble.”³⁶⁶ That bubble, Ari Shavit writes, is set off from a reality in which Israel’s survival should have been predicated on its willingness to defend its interests through all necessary means; by fighting through means thought to limit casualties, that is, through an emphasis on stand-off air power, they constrained the options and compromised their ability to defend themselves. Shavit concludes that for the Israeli leadership, “its caution is a recipe for disaster. Its attempt to prevent bloodshed is costing a great deal of bloodshed.”³⁶⁷

The words sound dramatically similar to those of Clausewitz, who offered sage advice on the potential consequences of strategic restraint:

Kind-hearted people might of course think there was some ingenious way to disarm or defeat an enemy without too much bloodshed, and might imagine this the true goal of the art of war. Pleasant as it sounds, it is a fallacy that must be exposed: war is such a dangerous business that the mistakes which come from kindness are the very worst ... It would be futile – even wrong – to try and shut one’s eyes to what war really is from sheer distress at its brutality.³⁶⁸

The ineffectiveness of such restraint – air power in the case of Lebanon – presented Israeli military planners with a conundrum. If using the stand-off, lower-risk strategy of air power were ineffective in degrading the enemy’s capabilities, but ground forces were likely to sustain heavy losses and therefore not domestically nor internationally palatable in response to a small-scale terrorist attack or in this case troop capture, what was the optimal course of action?

Unfortunately, this was the corner into which the Israeli leadership had painted itself. Once it decided to launch a retaliatory strike against Hezbollah in exchange for the capture of two Israeli soldiers, its strategic options became limited. While it was incumbent upon the leadership to develop a strategy that would achieve the objectives of retrieving the soldiers and disarming Hezbollah, the leadership and domestic audience were unprepared for a land-based strategy that was likely to yield higher casualties. Ari Shavit laments that Israel had become “a country for which not many are willing to kill and be killed.”

The interim report of the Winograd Commission confirms this perspective. The Commission found that:

Some of the political and military elites in Israel have reached the conclusion that Israel is beyond the era of wars. Given these assumptions, the IDF did not need to be prepared for ‘real’ war. There was also no urgent need to update in a systematic and sophisticated way Israel’s overall security strategy and to consider how to mobilize and combine all its resources and sources of strength – political, economic, social, military, spiritual, cultural and scientific – to address the totality of the challenges it faces.

The very nature of a war makes bloodshed likely. While acting within the bounds of proportionality, the state leadership’s business is to provide for the state’s security and win wars, identifying strategic objectives and matching those with appropriate instruments even if those instruments involve casualties. In the case of Lebanon, mentalities favoured economic and social stability and preferences for low civilian casualties constrained options; leaders either needed to adjust that mentality to accord with reality or perhaps not launch a war unless it was willing to use the means necessary to win.

Air Power in Lebanon: Successes and Failures

Though the efficacy of air power has been challenged in the wake of Lebanon, it should be defended against accusations that it was a categorical failure. The IDF, operating primarily through its air assets, is thought to have eliminated about 500 of Hezbollah’s

most advanced fighters and forced many of the others to evacuate the areas south of the Litani River. Use of air power did destroy about half of the unused longer-range rockets, and much of Lebanon's infrastructure, which was used to re-supply Hezbollah. After the war, Hezbollah leader Hassan Nasrallah indicated that had he understood the degree to which Israel would retaliate, he may have been more cautious about the capture of two Israeli soldiers in the first place, which perhaps suggests that his experiences with the August 2006 conflict will make him more reluctant to push Israel too far in the future.³⁷⁰ In other words, the IDF may have encountered challenges, but may also have fought defiantly enough to create a deterrent for future Hezbollah aggression, although this claim will only be confirmed or refuted over time. While the IDF may not have been correct with its air-land-sea mix, it did demonstrate credible commitment to retaliation, which could also be seen as an advantage.³⁷¹

That said, the IDF's performance and the after-action analysis were far from auspicious. As the Winograd Report makes clear, the aftermath of the war was characterised by "a strong sense of a crisis and deep disappointment with the consequences of the campaign and the way it was conducted" and an interest in understanding the past in order to improve security matters for the future. To the extent that air power achieved neither of Israel's strategic objectives – the two soldiers were not returned alive³⁷² and Hezbollah was still launching one hundred rockets a day into Israel up until the tenuous UN-sponsored cease-fire³⁷³ – that sense of crisis was justified. As such, it bears serious consideration why the campaign fell short and led to the disappointment that followed.

The Winograd Report again offers several clues. As the report notes in the interim findings, "there was not another effective military response to such missile attacks than an extensive and prolonged ground operation to capture the areas from which the missiles were fired – which would have a high 'cost' ... these difficulties were not explicitly raised with the political leaders before the decision to strike was taken."³⁷⁴

The fundamental reason is that Hezbollah engaged Israel in irregular warfare (IW),³⁷⁵ or what doctrine refers to as the "violent struggle among state and non-state actors for legitimacy and influence over the relevant populations."³⁷⁶ According to the US military doctrine on irregular warfare, irregular warfare includes:

protraction, intertwining military and non-military methods, participation by violent individuals and groups that do not belong to the regular armed forces or police of any state and a struggle for control or influence over, and the support of the host population ... IW extends beyond the military domain

and incorporates political, psychological, informational and economic methods.³⁷⁷

The approach of irregular warfare is to attrite and exhaust the adversary through non-conventional methods rather than through direct confrontation. As the US Joint Staff (J-3) writes, "tactical and operational competence in conventional warfighting does not necessarily guarantee tactical, operational, or strategic success in operations and activities associated with IW." Israel's experience in the Second Lebanon War demonstrates why this may be the case.

Unlike some of the Arab state militaries that operated in conventional, force-on-force settings against Israel and had high value targets and "centres of gravity" worth striking, Hezbollah lacked such capabilities and targets. Lacking high-value targets, such as industrial facilities and robust command and control nodes, Hezbollah's main targets became its leadership, fielded forces, and weapons, hidden among civilians and extremely difficult to target. These targets were largely decentralised and diffuse, lacking a clearly defined structure that Hezbollah used to its advantage. By relying heavily on numerous, elusive katyusha rockets and asymmetric tactics, operating from high density civilian areas, and moving their offensive capabilities frequently, Hezbollah was able to avoid being destroyed. Against these targets, the IDF's attempt to use long-range bombs and artillery to disarm and defeat Hezbollah was intractable, the operational equivalent of finding needles in haystacks.

With this strategy, the IDF may have been able to suppress and disperse the Hezbollah fighters and rockets but could not have caused decisive defeat. Israel's "uncontested superiority in the realm of conventional warfare"³⁷⁹ and material and technological advantages did not translate into success on the battlefield, as Hezbollah "managed to reverse decades of Arab military humiliation, surviving the Israeli onslaught" of the 2006 war in Lebanon.³⁸⁰

Against Hezbollah's asymmetric tactics,³⁸¹ the IDF had limited success in killing Hezbollah's leadership and destroying the mobile rocket launchers with stand-off capabilities. Not only did it have limited success in hitting its targets, the IDF also inevitably contributed to a number of Lebanese civilian casualties. From standoff positions, there was no way to distinguish between un-uniformed Hezbollah fighters and Lebanese civilians. The result was about 1,100 civilian casualties.³⁸² Tellingly, in its accounting of casualties, the Lebanese government did not differentiate between civilian and Hezbollah combatants, in part reflecting the difficulty of distinguishing between the two even up close and by extension, the impossibility of doing so from fighters or bombers operating from much further.³⁸³ Although the tactic of operating un-uniformed and from civilian areas was of

dubious moral standing, the collateral damage it elicited had the advantageous effect of rallying and recruiting sympathisers to its side in the fight against Israel.

The Media as a Multiplier Effect

Hezbollah's strategy of using mosques or day care centres as weapons caches or hide-outs for leaders meant that targeting those facilities would lead to casualties that looked egregious and disproportional when portrayed in the media. Hezbollah's savvy use of the media acted as a multiplier effect for its asymmetric advantages. By showcasing the damage in Lebanon and portraying the Israeli attacks against civilians as inhumane, Hezbollah was able to generate sympathy for its actions among the Lebanese domestic audience but also internationally. Photographs and video images, sometimes even those that had apparently been manipulated for anti-Israeli effect,³⁸⁴ became a rallying cry for Hezbollah individuals in the region and beyond. In addition to the Arabs in the immediate region who were thought to have been fighting alongside Hezbollah, the United Nations found evidence that at least 700 Somali Islamic militants travelled to Lebanon during the summer of 2006 to fight against Israel during the war.³⁸⁵ Hezbollah played the public relations campaign expertly and was able to use its media successes to recruit hundreds or thousands of foreign fighters. Hezbollah clearly understood, as al-Qaeda's number two leader has observed, that "more than half of the Islamists' battle 'is taking place in the battlefield of the media.'" ³⁸⁶

In addition to the individual level support that Hezbollah's media campaign generated, it also worked to build support from key states in the region. First, it helped to mute opposition from the more moderate Saudi, Jordanian, and Egyptian governments which had initially been critical of Hezbollah's actions but ultimately "shifted their position in the wake of public protests in their countries about the Israeli bombing."³⁸⁷ Second, by portraying the conflict as a pan-Islamic fight against Israel, Hezbollah was able to galvanise support from the Shi'a Iranians and Sunni Syrians. While Iran and Syria have serious religious differences, they were unified in their antagonism towards Israel, and the battle that played out in Lebanon served to consolidate these countries' support for Hezbollah. The support translated into a continuing supply of weapons, fighters, and funding so that Hezbollah could continue its armed opposition against Israel.³⁸⁸

In terms of strategic calculations, the amount of effort needed to overcome the adversary is the combination of the total means at his disposal and the strength of his will.³⁸⁹ By vilifying Israeli tactics in the media, Hezbollah was able to recruit outside assistance and thus increase the *means* at its disposal. Moreover, its use of the media consolidated the will of its supporters. By merely demonstrating some ability to resist Israel and by making theatrical public speeches at Hezbollah rallies, Hassan Nasrallah developed a cult of

personality behind which a much augmented population base followed.³⁹⁰ The combined effect of the increased means of disposal, plus the increased strength of will, served to raise the cost of victory to Israel.

Where the media also came into play was in eroding the strength of the will on the part of Israelis and its close ally, the US. Most of the international community agreed that in principle, retaliation against Hezbollah for capturing two Israeli soldiers was justified.³⁹¹ Yet as the conflict continued and Hezbollah members began positioning themselves so they could document footage of Israel destroying civilian assets – which often contained weapons that Hezbollah could use against Israel, such as katyusha rockets – questions of proportionality began to arise. This assertion does not weigh in on whether Israel's approach was entirely proportional, but does make the claim that Hezbollah used the ambiguity of the proportionality doctrine to their advantage, largely through projections in the media. The Israeli government later acknowledged that the images of IDF raids in Beirut and the resulting civilian damage eroded its international support over the course of the conflict.³⁹²

Gradually, members of the international community began to question the proportionality, a trend that peaked with the ill-fated attack on the Lebanese town of Qana. The collateral damage inflicted on Qana – almost inevitable given that Hezbollah was fighting from within densely-populated civilian areas– prompted widespread criticism of Israel's approach to the conflict. International reactions to the attack caused Israel to suspend air strikes for 48-hours, but the implications of the attack went beyond Israeli foreign policy. The attacks "illustrated in heart-breaking images the enormous risks for the United States in the current Middle East crisis."³⁹³ The US was already in a difficult position of on the one hand seeking to support its ally, but on the other trying to mitigate anti-Americanism in a region with high strategic importance. Negotiating that balance became more difficult "with each new scene of carnage in southern Lebanon,"³⁹⁴ particularly Qana. While the US formally maintained its support for Israel, these incidents and the images that followed no doubt shortened the timeline that it would support Israel's prosecution of the war, which in turn further constrained Israel's strategic options.

Air Power in Asymmetric Operations

Notwithstanding the difficulties experienced in the Second Lebanon War, air power has important contributions to make in a variety of settings. Air power may be useful for strategic attack, counter-air – achieving air superiority – counter-space, counter-land in a large-scale ground operations (air interdiction or close air support), counter-sea, and counter-information.³⁹⁵ But the traditional doctrine on air power makes the assumption

that the adversary is operating in a conventional, force-on-force setting with clear centres of gravity, and clearly-marked, organised, and identified individuals. Just as ground forces must change their strategies and tactics when fighting against asymmetric adversaries – shifting, for example, from conventional, Cold War-style conflict to counter-insurgency operations – so must air forces. In these settings, air power may find more frequent, visible utility in its indirect support roles than in these direct combat roles.

The main reason, as the preceding analysis shows, is that perhaps the greatest advantage of the adversary – in this case Hezbollah – paradoxically may be the lack of high-value assets. In that way, Hezbollah as an adversary was akin to other terrorist, insurgent groups, or others that employ irregular warfare tactics. Scholars James Corum and Wray Johnson observe: “Generally speaking, guerrillas and terrorists rarely present lucrative targets for aerial attack, and even more rarely is there ever a chance for air power to be employed in a strategic bombing campaign or even in attack operations on any large scale.”³⁹⁶

While the argument may have merit as specified in this way, it may lead to a sense of false choices between air power on the one hand or ground forces on the other. Reliance on air power in a classic air campaign is almost certainly misguided for the reasons discussed earlier, and the use of ground forces is almost imperative if the goals are to disarm un-uniformed fighters and destroy mobile targets, but air power has second order contributions to make.

First, perhaps the most important contribution air power can make in an irregular setting is through close air support as part of joint air-ground operations. The US use of the A-37 attack aeroplane and AC-47 gunship in El Salvador, the A-10 in Afghanistan, the Russian SU-25 in Chechnya, and the Indian Mi-17 in Kashmir serve as examples in which air power has operated on behalf of ground forces and, where appropriate, inflicted casualties on the assaulting guerrilla forces. Detailed accounts of how F-15Es and AC-130s provided urgent close air support when Army Apaches were unable to provide sufficient fire power and presence add further evidence of the importance of air power in a close air support role.³⁹⁷

Second, some air power advocates have suggested that air dominance may limit the adversary's options. Unable to compete with a highly advanced air force, insurgents or terrorists would have to resort to asymmetric tactics. As such, “air power can help bound a conflict and deny the enemy some escalation options,” which advocates such as those at the RAND Corporation argue the US and UK have done in Iraq and Afghanistan. Because of the coalition dominance in airborne intelligence, surveillance, and reconnaissance,

insurgents are unable to mass for a raid or generate any sort of conventional response without being detected. Moreover, the authors note, neighbouring countries that might be inclined to meddle with conventional forces, are also deterred.³⁹⁸ While this argument is not entirely convincing, since the western militaries fight conventional conflicts more successfully than asymmetric ones, it is nonetheless the case that a strong air force at least bounds the instruments available to an adversary by being a deterrent to the use of conventional forces.

Third, in addition to these advantages, air forces play key support roles in terms of airlift, command and control, refuelling, ISR, evacuation, and logistics supply, less direct but equally important supporting roles. Airborne surveillance, for example, might track the adversary's movements and guide ground forces towards enemy weapons caches, with the aid of airborne fire support. The use of unmanned aerial vehicles (UAV) especially the Predator, Global Hawk, Reaper, and airborne satellite assets may add to these advantages because they can penetrate deep into enemy terrain and collect ISR against the adversary, providing tactical advantages. In terms of logistics supply, air forces can help protect supply lines against guerrillas. Commenting on the importance of air power in this context, one air power analyst noted that without air forces in Afghanistan, “US and NATO bases would become little Dienbienphus. Afghan's previous invaders, the British and Soviets, were defeated by their ability to protect their long lines of communications.”³⁹⁹

The objective with this analysis is not to vindicate air power in irregular warfare settings but rather to demonstrate that the choice between air power and ground forces is not binary. While air power may have fewer direct roles as it does in conventional air campaigns, the experiences with Israel in Lebanon should not be generalised too broadly to dismiss the utility of air power in this setting altogether. As the international coalition has demonstrated in theatres such as Afghanistan, air assets may not be assuming the direct roles as do the army and marine assets on the ground, but are a critical instrument as part of a joint air-ground campaign, even in an irregular warfare setting.

Conclusions

Given the limited effects of air power against asymmetric adversaries, and the domestically and internationally unpopular prospect of using ground forces against Hezbollah, what were Israel's strategic options? The Israeli government could not stand by and appear to do nothing when bombs were falling on Israeli towns and soldiers were being captured. Moreover, the government, new to office and seeking to fill the large shoes left by General Sharon, was right to assert its right of self-defence and retaliate in some way. While air power offered a way to demonstrate leadership resolve and appeal to society's interest in doing *something* – without the need to mount legislative and civilian support for the

otherwise riskier strategy of using ground troops – it clearly faced challenges in the execution. What are the lessons to draw from those challenges?

A first lesson is perhaps not that air power is a categorical failure, but that it does not promise the antiseptic elixir that some leaders are seeking. Rather, air is best used as part of an air-ground team, particularly against dispersed, intermingled target sets. War is risky and costly, and unless a state is willing to execute a strategy likely to achieve victory, then it should think hard before launching an attack. In the case of Israel, it maintained the enticing view that the IDF could use air power and win “on the cheap,” risking few casualties, but in so doing took a short-sighted electoral view rather than a longer term strategic view.

Second, as this chapter argues, the shortcomings of air power in the Second Lebanon War may be emblematic of the challenges of using air power in irregular warfare in general. While air power can make useful contributions in conventional settings, its utility in a guerrilla-style conflict may be more limited. Rather than eroding the adversary's morale, the inevitable civilian casualties – prompted by Hezbollah's tactic of hiding and firing from within densely populated urbanised civilian areas – only served to galvanise support against the IDF. In that sense, these efforts to destroy Hezbollah katyushas were ultimately counterproductive, since they antagonised the population they were intending to enlist in its cause. In the war's aftermath, the *Wall Street Journal* observed that “as Israeli bombing continued fiercely day after day, devastating southern Lebanon and parts of Beirut, Lebanese leaders began aiming their ire at Israel, at times even praising Hezbollah's fight.”⁴⁰⁰ The Lebanese government's support for Israel, which had been strong at the outset, gradually eroded as Israeli strikes fell upon Lebanon's civilian areas; the consequence was the eroded tenability of Israel's military approach.

Third, the outcome of a conventional military against an asymmetric adversary shows that not just air power, but military force in general may have limited effectiveness in this type of non-conventional environment. As a RAND counter-insurgency manuscript asserts, “reliance on combat power overestimates its utility and miscalculates the relevance of non-combatants and their attitudes to the outcome of the struggle.”⁴⁰¹ Indeed, in asymmetric or irregular settings, in which the adversaries lack the large industrial, communications, or military centres of gravity of regular armies, the centres of gravity become the citizens' will, an object that both sides may vie for through the “battlefield of the media.” And as the case of the Lebanon war and the magnet for foreign fighters and civilians shows, “citizens” may not mean the citizens of that particular state, but the individuals who are inclined in a similar ideological way, whether they live in Somalia, Syria, Lebanon, or Egypt.

To the extent that opponents use casualties as political theatre for generating support, the use of military force in general, which invariably leads to casualties, will likely only invigorate a resistance that is founded more on an ideology than on the material power that fuels conventional militaries. Since the opposition is as much ideological as military, then it is not clear that only the use of force (land, air, or some combination thereof) will itself bring the adversary to its knees. Rather, the use of force should be integrated within a broader public relations and political strategy designed to collapse support for the adversary.

Most importantly, since asymmetric battles may be part of a broader ideological struggle, any wartime military strategies must be combined with wider-ranging, comprehensive political and economic development strategies. That means addressing the Middle East peace process, since tensions in the Middle East are an ongoing source of recruitment for terrorist organizations. More generally, however, that means that states allies must press harder in their public diplomacy efforts to bridge the ideological divide between east and west. Until these western states can make advances on the battlefield of public relations, they are unlikely to see decisive victories on the battlefield of tanks, missiles, and aeroplanes.

CHAPTER 10

Air Power and Ethics in the Age of the Global Salafi Jihad

M A Ashraf

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“I shall do such things I know not, but they shall be the terrors of the earth”

Shakespeare, King Lear

More than any other form of military activity, air power has influenced the debate on ethics in warfare. A public debate on the use of aerial bombardment began during the Great War and reached an apogee during the Second World War. Today, with civilian casualties accounting for more than 75 percent of deaths in war as compared to between 10-15 percent at the beginning of the twentieth century, the issue of civilian casualties influences political and strategic decisions more so than any other ethical criterion. The application of air power during the inter-war years and World War II, along with the associated ethical debate, have a profound and largely unidentified relevance to today's conflicts, especially to the Global Salafi Jihad (GSJ) currently attempting to change the world order. The contemporary protagonists in the Middle East conflict use British and US actions during the Second World War as precedence and justification for their own use of force. Israel has done so since the early 1980s. More recently, GSJ elements such as Al Qaeda have used examples such as the western aerial bombardment of civilians both in their grievance narratives and as a justification for the use of terrorism as an act of self-defence. In the current conflicts in Afghanistan and Iraq, civilian casualties of air power represent the greatest potential threat to the success of the coalition mission in these countries. Yet comparatively little research has been carried out by RAF personnel on the issues of ethics or morality in aerial warfare. The research that has been undertaken has tended to address interpretation of laws of armed conflict in contemporary situations. A reason for this may be that history is a crucial source of pride and ethos in any army force and aspects of the past that tarnish the image of a noble service make uncomfortable subjects for discussion. A tarnished version of air power history is, however, being exploited by international actors in their political rhetoric and so the issue can neither be avoided nor dismissed without confronting its realities.

This chapter explores the major elements of the early ethical debates on air power in order to expose the relationship between strategic imperatives and ethical aspirations. It compares these with the debate, perceptions and rhetoric employed by Middle Eastern leaders, especially those that relate to GSJ. The aim is not to compare ethics but to expose similarities or differences in arguments. Ethics, by their very nature, are subjective and value-based. However, as far as it is possible to do so, a judgemental or normative approach will be avoided. This chapter concentrates on ethics relating to the conduct of

war (*jus in bello*) rather than the conditions in which the use of force is initiated (*jus ad bellum*) whilst recognising that the two issues are intrinsically linked.

Tension between Ethical Imperatives and Strategic Advantage

There has always been a tension between man's desire to use violence for political purposes and his desire to restrain violence for ethical reasons. Various philosophical, theological and legal codes have been established in an attempt to balance these conflicting desires. Just War, as advocated by St Augustine and others, is the primary western code. This and other codes have at their core the aspiration to minimise unnecessary suffering to non-combatants. Yet attacks on civilians, either intentionally or unintentionally, is occasionally considered advantageous. Forgoing such advantage runs counter to the basic instincts of most military strategists. As Carl von Clausewitz said: "to introduce into the philosophy of war itself a principle of moderation would be an absurdity".⁴⁰² The tension between strategy and ethics rarely surfaced in classical wars where matters were often settled between professional soldiers or sailors in remote fields or on the open sea. The industrialisation of society and, hence of war during the nineteenth century changed things. Weapon production and the logistical support to armies (mostly civilian activities) became potential targets. The concept of "Total War" had emerged.

Military writers including the Italian air power advocate Giulio Douhet recognised the potential of independent air power and postulated that bombs containing high explosive would destroy houses and buildings, incendiary bombs would continue to damage remaining structures and poison gas bombs would prevent fire-fighters and recovery personnel from salvaging the infrastructure and saving lives. Douhet's theory, therefore, relied on the deliberate targeting of non-combatant civilians. The British military writer Basil Liddell-Hart also saw the "strategic" potential of disrupting normal life amongst the civilian population as a means of achieving a quick surrender. The strategy of aerial bombing, targeting urban areas and the associated civilian population, was thus born. A variant of that strategy was initially tested with considerable success in the British imperial dominions of Africa and the Middle East. Most notable of these were the RAF attacks on rebel Kurdish villages during the 1920s as part of an imperial policing concept known as "air control".

While some military thinkers and politicians and politicians in the UK and in the US, including Winston Churchill, embraced the concept of "strategic bombing" and convinced their treasuries to pay for the production of long-range bombers in the inter-war years, there was considerable public unease. The 1930s saw the emergence of an active movement campaigning to make aerial bombardment illegal because of its potential to kill large numbers of civilians.

The interaction between those who supported the concept of bombing civilian targets and those who opposed it provides an insight into the major arguments over the ethics of air power. The Government, the churches, the public and the RAF were involved in this discourse. It now helps us to understand the ethical and strategic calculus of the "other," specifically GSJ movements.

The Inter-war Years

The effectiveness of air power in support of other forces was demonstrated in World War I and the years following the Great War allowed people to reflect imaginatively on its potential as a force with unique capabilities. A Cabinet Office paper produced by the Air Ministry encapsulated the situation at the time:

Great as was the development of air power in the war on the Western front, it was mainly concerned with aerial action against enemy aircraft and co-operation with other arms in actions in which land or sea forces were the predominant partner. In more distant theatres, however, such as Palestine, Mesopotamia and East Africa the war has proved that the air has capabilities of its own.⁴⁰³

Of these new theatres of self-expression for air power, Mesopotamia was perhaps the most influential. Through Air Control the RAF became the primary instrument of British foreign policy in the Middle East and took over the commission in Iraq in October 1922, deploying eight squadrons of fighters and light bombers, four armoured car units and several thousand Iraqi Levies. Operations occurred against Turkish and Najdi raiders into Iraqi as well as Kurdish and Arab rebellions within the country itself.

The air control strategy was based on the concept of "moral effect" which depended on the ubiquity of air power and the fact that the Bedouin would "behave" because they could not discriminate between "bombing and reconnaissance expeditions". When tribes misbehaved and needed a lesson, "airpower was a useful tool. An aerial raid with bombs and machine guns often has an overwhelming and sometimes an instantaneous effect in inducing submission".⁴⁰⁴ To achieve the "moral effect," Charles Townshend points out that it needed to be "cemented at the outset by exemplary violence - in fact, terror." This could only be achieved with the loss of life, as the RAF then accepted in statements.⁴⁰⁵ In simple terms this meant that entire villages were bombed as a punishment for rebellion or for refusal to pay taxes and as an example to others.

These practical consequences did not go un-criticised by Whitehall senior officials. The Air Ministry responded to criticisms by issuing a series of papers on the effects of bombing

on “semi-civilised and un-civilised tribes”. It argued that “all war is not only brutal but indiscriminate in its brutality,” and that at least the lives of attackers were safer in air operations. The Air Staff proposed an unemotional humanitarian argument, insisting that bombing ultimately lowered casualties even amongst the enemy by forcing them to give up in the face of “continual unending interference with their normal lives.”⁴⁰⁶

Civilian casualties in Iraq were explained away in a number of interesting ways. Lord Trenchard addressed the House on the topic as follows: “the natives of a lot of these tribes love fighting for fighting’s sake. They have no objection to being killed.”⁴⁰⁷

This was an interesting assumption about the Arabs’ seeming willingness to accept being bombed. A British commander observed that the Arabs “do not seem to resent that women and children are accidentally killed by bombs.” Yet, when eventually the figures containing numbers of women and children made uncomfortable reading for Churchill, Trenchard directed that where visual marks could not distinguish between combatants and non-combatants, casualties were to be reported in “bulk numbers” without details of age or sex.⁴⁰⁸

The British High Commissioner in Iraq warned against restraining the RAF in 1932 because, “the term ‘civilian population’ has a very different meaning in Iraq from what it has in Europe ... the whole of its male population are potential fighters as the tribes are heavily armed.”⁴⁰⁹ According to T E Lawrence, aerial bombing from an Arab’s point of view is, “not punishment, but misfortune from heaven striking the community.”⁴¹⁰ Aircraft were considered to be a source of divine wrath and measures were taken to ensure that locals did not become too familiar with them so that the aura of “divine retribution” could be maintained.

The experience of using air power in Iraq as an effective way to enforce compliance influenced the strategic and operational outlook of British politicians and RAF officers for decades to come. In his 1924 report, OC 45 Squadron asserted:

[The] Arab and Kurd ... now know what real bombing means, in casualties and damage; they now know that within 45 minutes a full-sized village can be practically wiped out and a third of its inhabitants killed or injured by four or five machines which offered them no real target, no opportunity for glory as warriors, no effective means of escape.⁴¹¹

That officer was Squadron Leader Arthur Harris, who was to take the strategy of aerial bombardment from the villages of Kurdistan and “perfect” it to produce the firestorms

of Dresden two decades later. Harris did not see what he did in Iraq and in Germany as murder or as terrorism in the context in which it is understood today. His actions were, for him, necessary duties to ensure that the military might of the United Kingdom prevailed over its adversaries. For that to occur there had to be deterrence in the form of retribution and collective punishment.

Concurrently, in the US, former General Billy Mitchell argued passionately for the use of high explosive and incendiary bombs to destroy the enemy’s vital centres including populated areas. He could see no legal or moral impediment to this strategy. Experimental German ideas on bombing likewise resulted in the destruction of the Spanish town of Guernica on 26 April 1937, which seemingly became a paradigm for the urban demolition that air power would later cause throughout Europe and Asia.

However, the effect that air control had on the populations of the Middle Eastern countries under its influence has not been examined in any detail. It should be. There is prima facie evidence that suggests the experience of British colonial rule at the time spurred a militant form of Islam which has had direct influence over the ideology of the current GSJ. Hasan al Banah started the Muslim Brotherhood in 1928 as a response to the political and social plight of Muslims under what he saw as colonial oppression. At the same time, T E Lawrence led an Arabian tribe, given to mugging pilgrims, and with its own religious sect (Wahabism), to dominance over a country that was to bear its name: Saudi Arabia. Fifty years later a young Wahabi Saudi would be taught at one the country’s universities by a disciple of al Banah and would no doubt have read statements from al Banah such as this:

[The] days of hegemony and repression are over. Europe can no longer rule the East with iron and fire. Those outdated practices do not tally with the course of events, with the development of nations, with the renaissance of Muslim people, or with the principles and feelings the War has created.

That young man was Osama bin Laden.

World War II

The RAF started World War II with strikes primarily against military targets but progressively concentrated on attacking civilians in city centres. Initially industrial and transport infrastructure was attacked, but as the vulnerability of RAF bombers to German defences dictated the use of night attacks, the already poor accuracy of bombing from altitude decreased to the extent that it was inevitable that the majority of bombs would miss their target. The secondary target, or what some have euphemistically called the

“corollary effect” of these raids, namely the morale of the German people, gradually came to the fore. The situation was crystallised into Anglo-American policy at the Casablanca conference in January 1943 resulting in a directive which called for:

the destruction and dislocation of the German military, industrial and economic system, and the undermining of the morale of the German people to the point where their capability for armed resistance is fatally weakened.⁴¹²

This directive acknowledged formally the de facto policy, in the UK at least, of directly targeting German civilians. The British, and subsequently the Americans, demonstrated ethical elasticity; stretched or contracted by claims of necessity. The culmination was an “Area Bombing” policy resulting in Hamburg, Dresden and other attacks designed to destroy entire population centres.

America’s Perspective

An interesting perspective can be gained by considering the US and the Church’s view of the British strategy. At the start of the War, US Army Air Forces were generally critical of the lack of ethical soundness of RAF raids on German towns at night. They preferred to employ daytime precision bombing against military targets. The US had aircraft capable of higher altitude flight and self defence and so were able to fly in daylight without too many losses. Also, precision was a relative term. In some cases inaccuracies of up to two miles were possible with the sights, bombs and crew capabilities available to the US. Nevertheless, US air commanders (Generals Spaatz, Arnold and Eaker) to varying degrees, actively resisted British attempts at the Casablanca Conference to get the US to adopt a similar strategy. This was because they saw the British approach, according to some US military historians, as terrorism.

The Casablanca Conference marked an eventual and partial relenting by the US. They did not join the UK in night-time bombing but agreed to co-ordinate with them on the round-the-clock and daytime bombing sorties against population centres. General Arnold assuaged ethical concerns by saying:

The way to stop the killing of civilians is to cause so much damage and destruction and death that the civilians will demand their government cease fighting.⁴¹³

Dresden is the most infamous example. The RAF dropped incendiary and high explosive bombs using Bomber Harris’s “double-blow” tactic. That tactic was designed to catch the

Fire and Rescue services in the open during the second raid thus preventing any chance of halting the firestorms. When the US bombers arrived in the morning there was little left to destroy but that did not stop them from strafing the few survivors in the streets, many of whom were women and children. Estimates for the number killed in Dresden range from 25,000 to over 100,000. Similar raids and events occurred in other German towns.

The Terrorism Label

An increasingly relevant footnote to the legacy of Dresden is the periodic accusation of terrorism against the British. In his recent research project entitled, “The Ethics of Bombing Dresden,” Lieutenant-Colonel Raymond Wilcox of the US Army War College frequently uses the term “terror” to describe the RAF strategic bombing strategy during World War II. He never uses the term in connection with US use of air power. Instead he acknowledges that, “while we did not agree with the aim of the British terror bombing, we ultimately concurred on its use”.⁴¹⁴ Wilcox accepted that the US used firestorm tactics similar to Dresden with devastating effect in Japan and ultimately closed the war with the use of atomic weapons against Hiroshima and Nagasaki, killing up to 140,000 thousand civilians in the initial blasts alone. Terrorism is a loaded word. It is used to describe the actions of others, even allies, but never one’s own forces. Fifty years later a man in a cave would describe the US use of air power in Japan during World War II as terrorism, and five years after that, he would bring terrorism to US cities.

Recently released British Government Classified correspondence and records, which are now widely available on the internet, seem to accept a British policy involving the use of terror in WWII. Prime Minister Churchill writing to General Ismay after Dresden said:

It seems to me that the moment has come when the question of bombing of German cities simply for the sake of increasing the terror, though under other pretexts, should be reviewed. Otherwise we shall come into control of an utterly ruined land. ... I feel the need for more precise concentration upon military objectives. ... rather than on mere acts of terror and wanton destruction, however impressive.⁴¹⁵

This document not only concedes the use of the term “terror” to describe Allied bombing but also accepts the policy was presented differently to the public and other parts of the Establishment. It further indicates that restraining the policy was driven by future strategic and political objectives rather than ethical ones. This material is likely to be increasingly exploited by Osama bin Laden and other terrorists.

The Church's Position

Even before the beginning of the World War II some religious leaders wanted the Church to speak out against the “killing of helpless civilians by terror bombing”⁴¹⁶ They did not succeed. One of the most effective attacks on the ethics of bombing was conducted by the Reverend John Collins of the RAF Volunteer Reserve. He created a group containing Servicemen called the “Fellowship of the Transfiguration of Our Lord”. The Fellowship worked subtly to campaign against the indiscriminate and immoral nature of aerial bombing. Yet it failed to convince the majority of the Church of England and other Christians who generally supported the methodology of the war. One justification offered by the Church was the “lesser of two evils” argument:

Often in life there is no clear choice between absolute right and wrong; frequently the choice had to be made of the lesser of two evils, and it is the lesser evil to bomb a war-loving Germany than to sacrifice the lives of thousands of our own fellow countrymen.

Another argument the Churches employed was to endorse the apparent effectiveness of the bombing strategy. Responding to a letter from a critic, the Archbishop of Canterbury wrote:

In my mind we have no business to be at war at all unless by fighting we can, or believe we can, serve the purpose of God. If believing that we enter upon war it becomes a primary duty to fight effectively. Indeed, this consideration then takes precedence of nearly all others. The worst of all things is to fight and do it ineffectively. Therefore while I agree with you that the strategic consideration cannot stand alone it becomes very nearly decisive for our conduct.⁴¹⁷

The Church's position was that the conduct of the war must be dictated by the “effectiveness” criterion which in turn is directed by strategic necessity. Strategic considerations therefore framed ethical arguments rather than the other way around. This implication was that the targeting of civilians was a regrettable necessity. The Church's argument reflected the prevailing mood within the Government, the services and the public in the UK and the US. The primacy of strategic goals and arguments for the effectiveness of warfighting were also articulated by Bomber Harris's personal moral philosopher, Wing Commander T D Weldon. Weldon argued that the bombing offensives against German cities effectively reduced the county's potential to make war. The bombing further diverted significant resources to defence, repair and manufacturing which would otherwise have been used

against British and Allied forces, increasing their casualties and prolonging the war. In other words, area bombing spread the enemy's military, economic and political burden of defence.

Legal Considerations

A contradiction between legal and ethical arguments came to light with the advent of strategic bombing. Article 2 of the 1907 Hague Convention on Naval Bombardment absolved Commanders of any responsibility for “unavoidable damage” caused by bombardment of towns which contained military objectives. The failure in this Convention to emphasise the need for reasonable care in avoidance of civilian casualties meant that it could be interpreted as legal cover for accepting civilian casualties in any form of bombardment. The key to this law was the definition of military objective. That definition was too general and many saw this as a legal precedence. Unbridled use of this precedence was not in the interest of the British Government. On 21 June 1938 the Prime Minister, Neville Chamberlain, promulgated three basic principles that governed aerial warfare by the British: civilians would not be intentionally bombed, only military targets would be attacked and reasonable care would be taken to avoid bombing civilians. This left the definition of a military target open to interpretation.

Collective punishment was not specifically outlawed until after the Second World War in response to Nazi killings of French and Italian civilians as punishment for actions by their resistance organisations⁴¹⁹. Although the concept of collective punishment was used by the British as an imperial political tool, most notably in Iraq using air power, collective punishment was never used by the UK and US governments as official justification for attacks on Germany. Nevertheless, it was a primary motivating factor in the public imagination and was behind the growing clamour in British newspapers during the early part of World War II for reprisal attacks against the Germans in response to their bombing of British cities. Public support was, therefore, a factor in the British Government's decision to exceed its own guidelines on aerial bombardment by deliberately targeting civilian populations, as the war progressed.

The most significant legal factor at that time was the absence of an independent body to enforce international law. The futility of depending upon laws and treaties in warfare, especially when faced with strategic disadvantage, was aptly expressed by a British Prime Minister in the 1930s:

Will any form of prohibition, whether by convention, treaty, agreement or anything you like be effective in war? Frankly, I doubt it, and in doubting it I make no reflection on the good faith either

of ourselves or any other country. If a man has a potential weapon and has his back to the wall and is going to be killed, he will use that weapon, whatever it is and whatever undertaking he has given about it.⁴²⁰

Therefore, legal arguments were incidental to the ethical debate which principally centred on Christian values of the sanctity of human life and the degree to which innocents could be sacrificed in the service of the greater good. That “greater good” often required ruthless decisions, not just against the enemy but also against one’s own people. Some scholars argue that, in October 1940, Winston Churchill knew of plans for a major raid on Coventry through decoded secret German communications. To warn the RAF and the City to defend against the raid would have aroused German suspicions and caused the loss of a major strategic advantage the UK had in code-breaking. Churchill decided not to make any special defensive preparations. Over five hundred British civilians died in the subsequent raid, many of whom could have been saved if the RAF and civil defence services had been told of the secret plan. The balancing of a perceived “greater good” against seemingly ruthless action is a conundrum faced by political and military leaders of all backgrounds throughout history.

Michael Scheure, the Head of CIA’s Bin Laden Unit, described how bin Laden struggled with balancing ruthlessness and high ideals by comparing his struggle with that of a prominent figure in American history, John Brown:

Both Brown and bin Laden present their respective societies with the difficult task of reconciling what Professor Blight called the contrast of high ideals and ruthless deeds.⁴²¹

Ruthlessness and illegality are two different things. According to David Hall, “Ruthlessness is unpleasant to say the least, but it is not necessarily illegal.”⁴²² German air operations were condemned by British leaders on the grounds of brutality rather than illegality.

Interestingly, it was strategic considerations rather than legal or ethical ones that prompted the Allied powers to attempt to narrow the employment of air power at the beginning of World War II. At that time, Germany had superiority in strategic bombing capability and it was therefore in the interest of both France and Britain to avoid a strategic bombing contest. Just before the start of World War II (2 September 1939) Britain and France, and eventually Germany, declared that air power would be used against “strictly military objectives in the narrow sense of the word”. At this stage, all of Europe was aware of the destructive power of aerial bombing, as demonstrated by the Germans in Guernica. In response to the RAF’s bombing of Berlin (itself a response to the accidental release of bombs on London by

a lost bomber), the Germans succumbed to the temptation to target towns and cities in the UK.

Israeli Statements

The precedents set by the British during the Second World War in terms of use and ethical arguments in favour of air power have been an important rhetorical tool for Israeli leaders. Israeli behaviour in this context is significant in understanding the GSJ’s strategic and rhetorical aims. Firstly, political rhetoric in the Middle East is an interactive process. What the Israelis say influences the Arab counter-argument and vice versa. Style is similarly mutually developed. Secondly, civilian casualties caused by Israeli bombings have been and continue to be a major source of grievance and motivation for militant Arab and Muslim groups operating throughout the world.

In 1982 Israeli Prime Minister Menachem Begin claimed that civilian casualties in Lebanon caused by Israel’s air raids were no different from the casualties caused in Denmark as a result of RAF raids in WWII. Begin was referring to an RAF attack on a Nazi Gestapo headquarters in Copenhagen which resulted in the deaths of over eighty children, twenty nuns and three firemen on 21 March 1945. In reality, the RAF had taken great care to avoid civilian casualties and had consequently chosen a low-level attack using Mosquito aircraft. Unfortunately one of the aircraft hit a tower and crashed into a school and the other aircraft assumed that the resulting fire was the target. This was a mistake, made all the more tragic by the fact that the RAF took great care to avoid civilian casualties in that instance. As with most rhetoric, context and factual accuracy are often sacrificed in favour of political effect. To the uninformed, Menachem Begin had a point and his argument helped to deflect some of the international criticism of Israeli actions.

More recently, Benjamin Netanyahu and Shimon Peres, both ex-Israeli Prime Ministers, explicitly rejected British media criticisms of Israel’s bombing of Lebanon in August 2006. They repeatedly pointed to British air power and German civilian casualties during WWII. Netanyahu said in various statements that as Britain and the US had bombed Dresden, killing tens of thousands, in response to the V2 rocket attacks on England, they should understand Israeli bombing of Beirut in response to Hezbollah’s Katyusha rocket attacks against Israel. In reality, no rocket production capability was identified at Dresden before it was attacked. Such detailed inaccuracy may be of interest to historians but it is an irrelevance to political rhetoric. The fact remains that both the US and the UK deliberately bombed German towns and cities with the specific objective of undermining civilian morale through overwhelming casualties during WWII. Having set that precedent and, more importantly, having not formally renounced their actions, the US and the UK are unintentionally providing political and ethical cover for Israel and other actors in the

region to justify the killing of civilian non-combatants, under the guise of self-defence and strategic necessity.

Global Salafi Jihadi Perspective

A: The Western Legacy

G SJ movements, of which Al Qaeda is the vanguard, are in essence a reaction to the strategic and ethical legacy of the west in the region ranging from the 1920s to the present day. The ubiquity of air power, its efficiency and the need for a prominent role and resources for the embryonic RAF all led to a number of strategic drivers that periodically modified ethical concepts, especially the definition of enemy combatant. The foregoing analysis identifies these strategic drivers as:

- The total war concept. The civilian population provides material and political support for the war and so can be targeted to obtain victory.
- Disruption of the civilian population's normal life reduces its capacity to support the war by diverting valuable resources to civil defence which would otherwise be used for offensive purposes.
- Lack of precision in weapon delivery leads to an inability to discriminate between military and non-military targets and so forces a strategy based on targeting civilians.

This redefinition of "combatant" to include civilians is underpinned by a number of arguments to justify the new ethical criteria. The arguments were espoused by the establishment and underpinned by the clergy to give them legitimacy as follows:

- War is by nature brutal and indiscriminate – ruthless conduct is not necessarily illegal.
- By attacking civilians en masse we can save the lives of our own troops.
- Bombing is humanitarian in that it saves the lives of civilians in the long run.
- It is a lesser evil to kill some civilians and gain peace swiftly than the alternative of a long war where many more lives would be lost.
- Terrorism is what others do.

B: The Al Qaeda Re-Mix

Al Qaeda and other G SJ movements attempt to draw their legitimacy from religion and are consequently forced to justify their ethical and strategic actions in an Islamic context. Unlike Christianity, Islam does not have a pacifist tradition. War is permitted for defensive and legal purposes. In Islam rules on the conduct of warfare are more precisely laid down than in Christianity and so there is relatively less ethical elasticity. The killing of non-combatants, especially women, children, the elderly and monks is strictly forbidden as is the wanton destruction of property, crops and trees. These restrictions place a considerable burden on Jihadi ideologues to provide religious justifications for their actions.

Until the creation of Hezbollah in Lebanon in 1982, terrorist action involving groups from Muslim countries had largely been carried out by secular groups, such as the PLO, involved in nationalist independence struggles. The rationale used by these groups for killing civilians was similar to that used by contemporary western revolutionary organisations such as the IRA and the Red Army Faction. Those with political power had the monopoly of violence and so it was necessary to use violence to achieve power. Religious justifications were irrelevant.

However, Hezbollah and Hamas, acting under the guise of religious movements, had to justify their attacks on Israeli civilians when they first targeted them in the 1980s. They did this by declaring that, as all Israeli adults were subject to conscription in the Israeli Defence Force, they were essentially combatants and so legitimate targets. The argument has parallels with the rationale put forward by supporters of Douhet's air power theories and it was to be repackaged by Al Qaeda after 9/11. In the meantime, this argument proved difficult for some of Al Qaeda's ideologues. Abdullah Azzam, Osama bin Laden's mentor, had grave reservations about Jihadi operations in countries outside the Muslim domain as well as over attacking civilians. It was only after Azzam's assassination that Bin Laden was able to issue his fatwa in 1996 declaring a war on the west. At that time, however, he was highly critical of the west's track record of targeting civilians. He specifically cited Hiroshima and Nagasaki as examples of past western barbarity and pointed to the sanctions against Iraq as a continuation of it:

Not to forget the dropping of the H-bombs on cities with their entire populations of children, elderly, and women, on purpose, and in a premeditated manner as was the case with Hiroshima and Nagasaki. Then, killing hundreds of thousands of children in Iraq, and whose numbers (of dead) continue to increase as a result of the sanctions (sic).⁴²³

He describes US and western actions in the cases above as beneath even the most ravenous of animals. He repeated the Islamic prohibition of targeting elderly men, women and children and offered the track record of the Mujahideen in Afghanistan as proof that, unlike western governments, Muslims respected human rights and behaved in a civilised manner. This was at a time when Osama bin Laden was full of romantic notions of the Soviet/Afghan conflict where naturally the Mujahideen avoided civilian casualties as the civilians were their own people. Osama bin Laden rejected the charge of terrorism in the following manner:

As for their accusations of terrorising the innocent, the children, and the women, these are in the category “accusing others with their own affliction in order to fool the masses.” The evidence overwhelmingly shows America and Israel killing the weaker men, women, and children in the Muslim world and elsewhere.⁴²⁴

Forced with the strategic reality of having virtually no US forces to attack on the ground in Afghanistan and recognizing that he needed to do something spectacular to provoke the US into invading a Muslim country, bin Laden’s ethical principles had to be re-interpreted. The 9/11 attacks killed nearly three thousand civilians, including women, children and the elderly. Only after the attacks and after considerable criticism within Muslim circles, did Al Qaeda provide an ethical explanation for its actions. It argued that, as the US was a democratic country and as all citizens were able to vote, they were vicariously responsible for their Government’s actions and, as their Government was responsible for killing Muslim civilians, they also could legitimately be killed. The logic of this argument may have flaws, but it has many of the same elements that the British officials provided to justify the attacks on Kurdish villages in the 1920s.

The concept of “lesser evil” does not exist in Islamic theology and so militant Jihadis have recently exploited the concept of “retribution” to legitimise their actions. Retribution is allowed under some circumstances in Islamic law but it is strictly limited. Killing an innocent for the crime of another has never been allowed but the GSJ ideologues have stretched the principal to provide an ethical fig leaf. The attacks of 9/11 were justified by Al Qaeda as symbolic retribution and a “lesson” intended to compel the US and other western governments to withdraw their troops from Arabian and Muslim countries. The justification echoes Churchill’s feelings towards the Germans during WWII: “[Those] who have loosened these horrors upon mankind will now in their homes and persons feel the shattering stroke of retribution.” Churchill viewed the necessity to visit retribution on thousands of civilians in German cities as “higher poetic justice”.⁴²⁵

Al Qaeda and other GSJ movements have understood that the judge and jury in this “poetic justice” is ultimately the public. Unlike the ethical debate in the UK and the US during WWII, which was closely controlled by the establishment, the GSJ is doing everything it can to open the debate through the Internet. Every opportunity is taken to highlight the apparent brutality and the double standards of western military action. Whilst western air forces were congratulating themselves on the creative use of air power in Afghanistan during 2001, the Taliban were conducting an effective psychological operations campaign to discredit the west. One of their spokesmen said this in an interview broadcast on Al Jazeera at the time:

Eighty percent of the targets hit by the American planes and smart bombs are civilian. You at al-Jazira broadcast horrible pictures that express American cultural and moral values; you broadcast pictures of the children killed in their mothers’ arms; you broadcast pictures of the ruined mosques and the charred Qur’ans inside them; you broadcast pictures of the villages destroyed along with all their residents. These are the results of the American bombing so far.⁴²⁶

Such rhetorical instruments have formed part of military propaganda throughout the ages, but what makes these particular examples different is their use in a global context. When presented in the context of UK and US historical uses of air power, and when linked to other contemporary conflicts such as Iraq and Sudan, these become powerful sources of grievance. These grievances add fuel to the continuing fierce resistance to NATO’s best efforts to build a secure Afghanistan.

Conclusions

Air power and ethics are more closely linked than any other aspect of warfare. In the tension between strategic advantage and ethical restraint, the early history of air power suggests that strategic advantage has invariably stretched ethical restraint to include wider definitions of combatants. The policy of Air Control in the Middle East during the inter-war years was a significant influence on British air power and political strategists and shaped their approach in WWII. There is evidence to suggest that it also influenced the ideology of today’s GSJ movements. The inter-war years and WWII expose some of the main strategic drivers for ethical elasticity as well as a number of justifying arguments. These arguments are primarily offered by the establishment to the public and have been underpinned by theological support. RAF aerial bombing has been described as terrorism, sometimes by Allies. The charge seems to have been secretly accepted by the British Government at the time.

The precedent set by the deliberate bombing of civilians and the destruction of infrastructure by the Allied powers in Europe during WWII is exploited by the protagonists in the Middle East conflict including Israel. GSJ movements began by arguing that they employ higher ethical standards than the west but were forced to relax their ethical criteria when faced with a strategic choice. Their ethical and theological justifications for killing civilians follow similar strands of argument to those used by the British during and before WWII.

Legal considerations are invariably part of the ethical debate. Yet the absence of effective and independent international legal enforcement has allowed states and non-state actors to ignore or interpret the laws as they see fit. The increasing influence of the media and the empowerment of public opinion has become the final arbiter of acceptability. GSJ organisations understand this and are effectively getting their message across to their target audiences throughout the world. This message is probably the single greatest motivator of resistance to western military presence in Muslim countries.

Accepting a small number of civilian casualties from bombing may be considered a tolerable risk in military terms. However, in political terms, it is likely to be counterproductive, especially when contemporary localised “collateral damage” is exploited by presenting it in a global and historical context. In the age of precision-guided weapons we need precision-guided strategic thinking. The air battle and the political battle have to be synchronised. The ethical framework is an integral part of the political battle.

CHAPTER 11

Starting with a Blank Sheet:
Principles of War for a New Century

Phillip S Meilinger

Starting with a Blank Sheet: Principles of War for a New Century

Phillip S Meilinger

The world has changed and so has warfare over the past two decades. This truth has rapidly taken on the stigma of a banality. Yet basic questions contained within that truth need to be addressed. What precisely is the nature of the new type of environment and warfare that confronts us? Just as importantly, how can we meet this challenge most effectively and efficiently? In short, how can we continue to defend ourselves and our interests with the least cost in blood and treasure? In my view, the appropriate responses demand that we start afresh, with a blank sheet of paper, to explain the nature of the present security environment and how our militaries should be structured to operate within that new environment.

Just as importantly, we must then revise our thinking and our doctrine to reflect these new conditions, and we must teach these new ideas to soldiers, sailors and airmen so they can internalise them before a crisis occurs. At that point, stopping to get the books out that were once skimmed in school will be too late. One of the basics for such an educational rebirth is an understanding of what have been termed the Principles of War. Unfortunately, these Principles, articulated nearly a century ago and enshrined in British Army doctrine following the Great War, in US Army doctrine soon after, and in US Air Force doctrine following World War II, are outdated, insufficient and misleading in a modern era dominated by air and space assets, near real-time intelligence, speed-of-light command and control systems, and ubiquitous multi-media news sources. Simply put: the old Principles of War are insufficiently informative in an age of transformation that calls for new ways of fighting, not just more efficient ways of fighting the old way. It is my fear that reliance on the old Principles of War will have us looking backwards and fighting the last war – and doing that badly – rather than looking forward to fight the next.

The Persian Gulf War of 1991 was a watershed. Iraq then had a very large military force, well stocked with Soviet-built equipment. Its army was the fourth largest in the world at the time and had been hardened during a decade-long war against Iran. Yet when the Coalition struck in January 1991 to liberate Kuwait, the Iraqi forces were doomed. In a remarkable directive, the theatre commander, General Norman Schwarzkopf, told the air component commander, General Chuck Horner, that he wanted air power to reduce all 48 frontline Iraqi divisions by at least fifty percent *before* offensive ground operations began. This in fact occurred.⁴²⁷ The short and sharp land offensive that followed the five-week air campaign sealed the outcome. It soon became apparent, however, that the

victory was incomplete. For sound political reasons the Coalition had not moved north to take Baghdad. For unsound military reasons the bulk of Iraq's elite forces, the Republican Guard divisions that had been positioned well behind the frontline conscripts, escaped largely unscathed. To a great extent, the failure to neutralise these Republican Guards assured Saddam Hussein a Praetorian Guard for suppressing the dissident elements within Iraq, giving him another decade in power, and also serving as a nucleus for a rebuilt military.

Desert Storm was an important precursor of a new type of war; the first of the new wars while simultaneously, and paradoxically, being the last of the old wars. A large ground-force contingent of over 500,000 troops supplied by the US, Britain, Egypt, Saudi Arabia, France and other countries, served as a blocking and pinning force – both physically and psychologically – to ensure Saddam's own ground forces remained firmly anchored in place along the southern Kuwait border. Robbed of mobility, the Iraqis were easy prey for the around-the-clock Coalition air strikes that rendered them "combat ineffective." When the Iraqis attempted to move, as they did at Khafji in late January 1991, air power simply killed them quickly. Over a two-day period the Iraqi III Corps and over 300 armoured vehicles were destroyed from the air.⁴²⁸ Khafji was the one and only attempt by Iraq to take the initiative. When the Coalition ground offensive finally occurred, it faced a broken army primed for a massive retreat. As the US Air Force chief of staff stated bluntly, this was the first time in history that an army had been defeated by air power.⁴²⁹

There was an important lesson here regarding the revolution taking place in war. The combination of precision weapons, stealth airframe technology, and increasingly effective and ubiquitous intelligence sensors and disseminators made air power dramatically more effective than at any time in the past. A metric once used by air planners was: "How many aircraft and sorties are necessary to neutralize a given target?" In World War II the answer would generally have been thousands of aircraft and sorties. Those numbers steadily dropped with the introduction of laser-guided bombs first used in Vietnam.⁴³⁰ By 1991 the number had dropped even further. Indeed, with the development of increasingly sophisticated and accurate laser bombs, radar guidance systems, and satellite-guided weapons like the JDAM first used in combat in the Serbian air war of 1999, air planners now had a new metric: "How many targets can one aircraft neutralize on a single sortie?"⁴³¹

The issue of collateral damage and civilian casualties is another reason why precision-guided munitions (PGMs) have become so crucial to the way the US fights. Modern western societies now seem to require that war be bloodless not only to ourselves but to our enemies. We must minimise casualties to both sides in conflict. Limiting NATO casualties was a major concern to General Wesley Clark during the air war against Serbia

in 1999, or so he was told by his political masters.⁴³² Ominously, the mounting US death toll in Iraq corresponds to the fall in popular support among the American people.⁴³³ As for collateral damage, the news media and their mobile satellite uplinks are ever present where our forces fight, and that media will highlight every bomb or artillery shell that falls short and every rifle bullet that kills an innocent bystander; to say nothing of blunders like Abu Ghraib and the Haditha massacre. Such events can seriously undermine US foreign policy; hence, the extreme emphasis now placed on limiting collateral damage in all of our military operations. PGMs are essential in the conduct of US military operations, even though such expensive weapons are not required by international law. The US is now *expected* to use them.

Conflicts following Desert Storm buttressed claims that a new paradigm of war was emerging. In Bosnia, Kosovo, Afghanistan and northern Iraq in 2003, diplomatic constraints helped to shape a series of operations that proved unusually successful to both sides by providing politically desirable results with a remarkably low casualty toll. These notable campaigns were alike in that they relied primarily on air power – both land and sea-based – combined with special operations forces (SOF), indigenous ground troops such as the Northern Alliance in Afghanistan and the Kurds in northern Iraq, and robust intelligence and command and control (C2) systems that were linked together in a global array.

So what has gone wrong in Iraq? Certainly it was not the initial operations to overthrow the Saddam regime that were found wanting. Despite arguments from some ground generals and ill-informed pundits that the number of US conventional ground troops to be used in the invasion was too small – barely one-quarter the total used in 1991 – the results achieved were astounding. Indeed, the invasion force of General Tommy Franks was decreased even further than intended due to the refusal by Turkey to allow Coalition troops to use its territory. As a consequence, the new paradigm remained largely intact in northern and western Iraq where few conventional US troops were present. Even the contingent coming up from Kuwait was relatively small. The decisive force remained air power, and it possessed even greater precision, stealth (the addition of the B-2 bomber) and enhanced space and air-based reconnaissance assets and C2 systems than in 1991.

One of the compelling illustrations of how these new technologies have revolutionised war was the sandstorm that essentially halted Coalition forces in the drive for Baghdad in March 2003. These conditions in times past would have kept air power grounded and ineffective. This time, however, Joint STARS and Global Hawk sensor aircraft flying above the storms could penetrate the sand with their radar sensors and pinpoint Iraqi targets, which were then struck by GPS-guided weapons.⁴³⁴ To the stunned Iraqis below, the

delivery of these weapons with such accuracy and in near-zero visibility conditions was an incredible psychological blow.

In three weeks Baghdad fell with a blessedly low cost of life: 139 Coalition deaths. Only two fixed-wing Coalition aircraft were lost to enemy fire.⁴³⁵ “Shock and awe,” as the new operational scheme was dubbed, was amazingly successful.

But then things went horribly awry. A large part of the resulting problems were caused by two decisions that, in retrospect, were terribly ill-advised and which are illustrative of the new conflict environment that confronts us. The civilian head of the Coalition Provisional Authority (CPA), Paul Bremer, issued two edicts. First, on 16 May 2003, he directed a “de-Baathification program.” All senior Baath Party members, who occupied the majority of key administrative and bureaucratic positions in Iraq, were henceforth banned from holding such positions.⁴³⁶ A week later he ordered the disarmament and disbanding of both the Iraqi armed forces and the Iraqi National Police Force. The result of these two edicts was that virtually overnight a power vacuum was created in Iraq, allowing the forces of lawlessness to move in virtually unmolested. At the same time, the two edicts effectively put tens of thousands of highly-trained and capable Iraqis out of work, thus ensuring not only chaos in government services, but also deep enmity for those who had put these former civil servants into the ranks of the unemployed. As one member of Bremer’s staff later commented: “That was the week we made 450,000 enemies on the ground in Iraq – and over one million more, if one counted their dependents.”⁴³⁷

The US military compounded these mistaken policies by inserting large numbers of conventionally trained and equipped ground troops into an explosive situation that demanded instead the expertise of those schooled in counter-insurgency operations.

It is significant that US Army Field Manual 1 states baldly: “Decisive resolution of conflicts normally occurs on land. Of the Armed Forces’ capabilities, land power is unique because only land forces can occupy, control, and protect vital areas. People and resources – the participants, supporters, and objectives of land operations – can only be controlled or protected by land forces.”⁴³⁸ Yet few plans were made to conduct this “unique” mission. Observers have noted that US Central Command had virtually no plans for the occupation phase of Operation Iraqi Freedom.⁴³⁹ This is the more surprising because a disturbing study done by the US Army’s Strategic Studies Institute reveals a peculiar spin that ground commanders put on planning for this crucial post-conflict phase:⁴⁴⁰

In Iraq, the US leadership did not seem to expect protracted irregular warfare beyond the termination of major combat operations. As liberator of all Iraqis from a brutal tyranny, US forces, it was widely

believed, would be as welcomed in Iraq as had Anglo-American and Free French forces in France in 1944. Some argue that the prospect of guerrilla warfare was dismissed because, among other things, it raised the prospect of a Vietnam-like quagmire. Frank official discussion of possible intractable post-war political and military challenges in Iraq would have impeded efforts to mobilize public support for going to war.

In other words, our military leaders did not plan for trouble, and they deterred themselves from even seriously considering such an eventuality for fear it would contradict the views of their civilians leaders. Tom Ricks, in his sobering account of military operations in Iraq titled *Fiasco: The American Military Adventure* in Iraq, relates how these conventional troops fumbled, disastrously, their mission.⁴⁴¹

Ricks begins by stating that most military observers on the scene advised against the decisions for disarmament and de-Baathification, but Bremer overruled them. It appears that General Ricardo Sanchez (the commander in Iraq following Franks), as well as the other ground commanders in theatre, rolled over far too easily on these decisions despite their alleged misgivings.⁴⁴² As a consequence, during the year following spring 2003 the situation in Iraq deteriorated dramatically.

As an aside, I would note here an interesting aspect regarding civilian control of the military (a bedrock of US and UK military tradition). The key mistakes made were by Bremer and his civilian staff. These mistakes were either approved or condoned by civilian leaders in Washington (Bremer worked for Defense Secretary Donald Rumsfeld who worked for President Bush). General Sanchez and his military associates, seemingly dutiful and obedient servants, remained quiet as they attempted to carry out orders they later claimed were dumber than dirt. My point: just because civilians are in control of policy and in even firmer control of their military subordinates does *not* mean that their policy will be either wise or successful. The broader question is, what is a senior officer to do when his civilian superior gives him orders that he believes to be foolish or wrong? It would seem that our military simply says “yes sir” and does as it is told. Given the Iraqi debacle, which so parallels the Vietnam situation in the actions/non-actions of senior military officers there, is that the best and most responsible course?

Ricks also strongly criticises the activities of the 4th Infantry Division (4th ID) for its activities north of Baghdad. The 4th’s commander encouraged an extremely aggressive stance when dealing with the Iraqi populace. When his troops went into an area, they did so heavily armed, usually at night, and brooked no interference. Ricks quotes observers as

saying that 4th ID troops tried hard to look “mean and ugly” while sitting on their vehicles “with weapons pointed directly at civilians.”⁴⁴³ They usually roused “suspects” in the middle of the night, using foul language and force, which embarrassed the males in front of their families and led to a “blood debt” attitude of hatred for the Americans. Tellingly, he titles one of his chapters “The Descent into Abuse,” which is a sobering condemnation of the US military in Iraq as it documents dozens of cases of abuse of the population; that population whose hearts and minds we were supposedly trying to win. The wrong troops were employing the wrong tactics.

It should also be noted it has become a matter of faith to most ground officers in the US and their supporters in the press that too few ground troops were deployed to Iraq from the very beginning. In mid-2006 a number of retired ground generals called for Rumsfeld’s head while solemnly intoning that they knew all along that Rumsfeld’s strategy was fatally flawed. Not one of these generals said so at the time. They waited until they were comfortably retired before opening their mouths.⁴⁴⁴ In truth, however, the serious problems experienced in Iraq seem not to have been a problem of having too few ground troops, but rather the wrong types of troops; while also having those troops poorly led.

For example, during the looting of Baghdad after the fall of the regime, the more than 40,000 US troops present in the city were not given orders to stop the looters: “it was not our mission” one infantry lieutenant stated, while the 3rd Infantry Division’s after-action report states bluntly: “there was no guidance for restoring order in Baghdad.”⁴⁴⁵

As for the egregious abuses that occurred at Abu Ghraib, the problem again was not insufficient troops. Although there were but 360 army reservists serving as jailors there, the real problem was that some units, like the 4th ID, dumped thousands of prisoners into the system who clearly should not have been detained and imprisoned in the first place.⁴⁴⁶

Regarding the tinderbox of Fallujah, Ricks argues that the city’s populace was “known for their cultural conservatism and xenophobia considered intense even by other Iraqis.”⁴⁴⁷ How would inserting more foreign infidels, especially aggressive ones like the 4th ID, into that cauldron have made things better? As it was, Fallujah had four different units “handling it” for the year following April 2003. Small wonder the troops were unable to establish a rapport with the local population. Again, this was not a problem of too few boots on the ground.

In short, all of these instances were problems of leadership, not a paucity of ground troops. Better leadership and policy decisions – developed from an understanding of the nature

of warfare in this environment – would have led to better tactics and procedures which in turn could have led to pacification not insurgency.

In contrast, Ricks waxes eloquent when discussing the activities of SOF and those few other units that tried to understand the Iraqis, talk to them, treat them as equals, eat with them, and try to win their hearts and minds.

Success occurred when small numbers of troops acted responsibly, not when large numbers acted irresponsibly or like thugs. Sending in more ground troops would have simply aggravated an already deteriorating situation because conventional forces are inappropriate for conducting counter-insurgency (COIN) operations. Indeed, says Ricks, COIN ops have always been ignored by the army: “After it came home from Vietnam, the Army threw away virtually everything it had learned there, slowly and painfully, about how to wage a counter-insurgency campaign.”⁴⁴⁸ Instead, big battalions fighting aggressively dominated army doctrine, and this, regrettably, was on display in Iraq.⁴⁴⁹ The lessons of COIN would have to be relearned, slowly and with much loss of blood, in Iraq.

What we have seen in Iraq is an Army and Marine Corps that despite all of their rhetoric about understanding Clausewitz and his most famous one-liner (“war is an instrument of policy”), they have, in reality, devoted little time, force structure, or budget towards fighting COIN; the war that is the most political of all wars. Instead, they fall back on the parts of Clausewitz that appeal most to their institutional ethos: the deliberate drive to find and destroy the enemy army; to fight the force-on-force engagement that is devoid of political nuance.

It is my argument that for more than a decade following Desert Storm the US began to experiment with a new paradigm in war: the use of overwhelming air and space power, coupled with SOF, indigenous ground troops, and very robust intelligence assets and C2 systems. The use of conventional US ground troops was avoided for the simple and logical reason, now being proven so abundantly in Iraq, that putting boots on the ground is dangerous and politically risky. This emerging paradigm proved remarkably successful in Bosnia, Kosovo, Afghanistan and northern Iraq.⁴⁵⁰ When we broke that mould in Afghanistan in Operation Anaconda, the result was near disaster. As one observer noted: “Franks’ decision to use conventional ground forces would probably be something he would sorely regret, resulting in more than a hundred casualties, and more Americans killed than Special Forces had lost in the past eight years. Franks’s decision ended up costing the US more lives in one day than any single combat mission since ... Mogadishu in 1993.”⁴⁵¹ When we broke the mould again, in Iraq proper, we have the situation today.

My point: Given the extreme risk of putting our sons and daughters in harm's way – the political as well as military risk – it should be the aim of all joint planners to devise ways of achieving national objectives with the least cost in blood and treasure. That means we should send in large numbers of conventional ground troops as a last resort. Sometimes that will be necessary; but too many of our current planners, especially in the ground forces, see boots on the ground as the *first* resort instead of the last.⁴⁵²

To sum up this first section, I am contending that a totally new environment confronted the US in the aftermath of the Soviet collapse in 1989. That new environment was dominated by countries and non-state actors that learned very quickly that taking on the US, and the west in general, in a conventional war was folly. Asymmetrical warfare, and especially terrorism, was to be the weapon of choice against an overwhelmingly powerful US. To its credit, America and its closest allies reacted initially with gratifying quickness and cleverness. Beginning in Desert Storm in 1991 and then followed by military campaigns in Bosnia, Kosovo, Afghanistan and northern Iraq, we used *our* asymmetric advantages. We used a new paradigm of war that employed overwhelming air and space power, SOF, indigenous ground forces, and networked intelligence and C2 assets. The result was the achievement of political objectives quickly, with a minimal loss of life on both sides.

That successful paradigm, for both political and military reasons (most of them bad), was ignored in Iraq following the collapse of the Saddam Hussein regime. The result is increasingly viewed as a disaster. Conventional US and British ground forces have taken the lead in attempting to squash the ever-growing insurgency in Iraq. Rather than being successful in this task, they have at times fuelled the insurgency while simultaneously providing more targets for the insurgents. In a poll taken in October 2003, fully two-thirds of Iraqis saw the Coalition as "occupying powers," while only 15 percent saw them as "liberators."⁴⁵³ Four years later, another poll had 69 percent of Iraqis saying that the US presence was making things worse; only 21 percent thought the Americans were making things better.⁴⁵⁴ Clearly, the resort to old methods for this new type of war has failed.

It is now time to posit a new set of Principles of War that reflect the new realities discussed above and this new, revolutionary method of war.

The desire to impose order on the chaos of war is age-old. This desire manifested itself by military thinkers, as well as practicing generals, positing various rules, laws, maxims and principles that governed the conduct of war. This was an imminently practical endeavour, and still is. The human brain needs to limit complexity, especially in crisis situations when time is short. It does this by categorizing. For soldiers, sailors and airmen this means reducing their job to certain basics. Some of the devices used have assumed the character

of adages: take the high ground; "get there fustest with the mostest" (the alleged words of General Nathan Bedford Forrest); and, for the pilot: check six or "nothing is more useless than runway behind you and altitude above you." For those more learned we have the words of Field Marshal Bernard Montgomery who supposedly commented that the first rule of war is that you cannot walk to Moscow. And then there is the apposite observation made by Field Marshal William Slim: "While the battles the British fight may differ in the widest possible ways, they have invariably two common characteristics – they are always fought uphill and always at the junction of two or more map sheets."⁴⁵⁵

Others have taken this subject a bit more seriously. Over two millennia ago Sun Tzu wrote what some today regard as a classic work of war strategy. I say "some" regard it as a classic. One of my brighter students referred to *The Art of War* derisively as "war by fortune cookie". He had a point. Nonetheless, Master Sun was the first to compile a group of statements that he termed "considerations." These were, truthfully, fairly simplistic, including questions such as "which of the two generals has most ability" and "which army is the stronger" and "most highly trained?"⁴⁵⁶ Not very impressive.

Many generals, and perhaps others wishing they could be, continued to expound on rules regarding warfare: Niccolo Machiavelli, Henry Lloyd, Maurice de Saxe, Carl von Clausewitz and Antoine-Henri Jomini.⁴⁵⁷ These last two, participants and observers of Napoleonic warfare, have had the greatest influence on modern military thought.

Clausewitz has had, regrettably, a greater impact on military and political leaders in the west than anyone in history. To give him his due: there are several concepts that Clausewitz is justifiably famous for articulating. He warned all political and military leaders to understand the kind of war upon which they were embarking. He stressed the importance of knowing in advance precisely what they wanted to achieve and how much they were willing to pay in blood and treasure to obtain it. At the same time, however, attempting to plan out exactly how a war or campaign would unfold was ludicrous. Nothing ever worked as intended due to fog, friction and chance.

These were not new ideas. Yet Clausewitz was seminal because he was the first to examine them rigorously and at length. There is a special value in being able to take ideas that have been circulating in the ether, analyse them, and then explain them to others. Clausewitz did that, and he did so quite well.

I did say, however, that Clausewitz's enormous influence has been regrettable. I contend that is so because his most enduring, and pernicious, influence has been his insistence on the need for a bloody and decisive battle. His statements on the necessity for such

climactic engagements – of which there are over two dozen in *On War* – may have been true in his own era, but such advice seems inappropriate and ill-advised today. And yet Clausewitz was emphatic on this point. Although at various stages he insists that there are no fixed rules in war, he nonetheless proceeds to provide us some.

In Book IV (“The Engagement”), Clausewitz lists what he terms five “unequivocal statements” regarding war:⁴⁵⁸

1. Destruction of the enemy forces is the overriding principle of war, and, so far as positive action is concerned, the principal way to achieve our object.
2. Such destruction of forces can *usually* be accomplished only by fighting.
3. Only major engagements involving all forces lead to major success.
4. The greatest successes are obtained where all engagements coalesce into one great battle.
5. Only in a great battle does the commander-in-chief control operations in person; it is only natural that he should prefer to entrust the direction of the battle to himself.

These are dogmatic statements; indeed, they are “unequivocal statements.” The only hint of moderation is the word “usually” in statement two (emphasis in the original). Yet, a few paragraphs later when Clausewitz discusses the *unusual* situation where victory can be achieved without the destruction of the enemy army, he treats it with disdain, noting that commanders who have tried to achieve victory without battle are pursuing “nonsense.” Rather, “only great victories have paved the way for great results” and he is “not interested in generals who win victories without bloodshed”; rather, he lauds those generals who “seek to crown their achievements by risking everything in decisive battle.” Clausewitz concludes this chapter by stressing again the “absolute necessity” of fighting the great battle. He reminds us that “it is the theorist’s most urgent task to dissipate such preconceived ideas”; namely that great battles are avoidable.⁴⁵⁹

These unequivocal statements, and indeed, Clausewitz’s entire stress on the need for decisive battle, have had a profound and lasting influence on the US military. The US Army’s Field Manual 1, for example, states boldly:⁴⁶⁰

Offensive operations carry the fight to the enemy by closing with and destroying enemy forces, seizing territory and vital resources, and imposing the commander’s will on the enemy. They focus on seizing,

retaining, and exploiting the initiative. This active imposition of land power makes the offense the decisive type of military operation, whether undertaken against irregular forces or the armed forces of a nation state. In addition, the physical presence of land forces and their credible ability to conduct offensive operations enable the unimpeded conduct of stability and reconstruction operations.

This is a paraphrase from *On War* without the now politically-incorrect references to violence and slaughter so prevalent in Clausewitz’s writings. In US Army Field Manual 3-0, “Operations,” this belief in the necessity and desirability of close combat is reiterated:

Land combat continues to be the salient feature of conflict. It usually involves destroying or defeating enemy forces or taking land objectives that reduce the enemy’s effectiveness or will to fight.

The US Marine Corps has a similar view of war, although they seldom find the need to be politically correct. In their Fleet Marine Field Manual 1, “Warfighting,” they too paraphrase *On War* to educate their troops on the nature of war:⁴⁶²

The means of war is force, applied in the form of organized violence. It is through the use of violence – or the credible threat of violence, which requires the apparent willingness to use it – that we compel our enemy to do our will. In either event, violence is an essential element of war, and its immediate result is bloodshed, destruction and suffering. While the magnitude of violence may vary with the object and means of war, the violent essence of war will never change. Any study of war that neglects this characteristic is misleading and incomplete.

In my view, such slavish devotion to the anachronistic teachings of Clausewitz has, as noted in the first part of my chapter, led us into a world of trouble.

Jomini is another matter. In many ways he has been even more influential, albeit somewhat unknowingly, in the training and education of military officers in the west than has Clausewitz. With a methodology and approach that military academics have loved to scorn ever since, Jomini wrote what he believed were practical guidelines for the conduct of war. To many, this smacked of trying to make war a science rather than an art. They have seen them as simplistic; yet the enduring drive to simplify the practice of war with “principles” testifies to the need for just such formulations. In 1807 Jomini listed ten maxims, simplified here:⁴⁶³

1. Take the initiative
2. Attack the enemy's weakest point
3. Attack the extremities of the enemy's position
4. Concentrate for ease and rapidity of movement
5. Force the enemy to commit errors
6. Know the enemy's position and intentions
7. Mass for effectiveness at the decisive point
8. Pursue the beaten foe
9. Morale is important
10. Summarizing the above: a general should occupy favourable positions, move quickly, and hit hard with great mass.

Over the next several decades Jomini would continue to refine his principles, although, in truth, he moved little beyond the ten noted above. It has been argued, however, that because of Jomini's long life, his relatively straight-forward and uncluttered prose, and the fact that he wrote in French – at that time the *lingua franca* for the learned of the west – his influence was great. I would note that in contrast, Clausewitz died relatively young, wrote in a confusing, redundant and contradictory fashion, and published in German. Thus, Jomini beat him on all three counts. Some contend that it was Jomini's *Précis* that accompanied Union and Confederate generals to battle in the American Civil War.⁴⁶⁴

The nineteenth century was a particularly rich period for military thought. Staff and war colleges, along with various branch schools– such as infantry, cavalry and artillery – were founded in most European countries as well as the US. Partly this was due to a drive to rationalise war; as well as all other aspects of life. This was the age of managerial and administrative revolutions that attempted to treat the complex processes of life as scientific problems that could be overcome with rationality, organization and technology. It was no coincidence that was also the era when general staffs were formed in most major armies.⁴⁶⁵ The era also gave birth to a number of theorists who continued to refine ideas for warfare, including such notables as Ferdinand Foch, Colmar von der Goltz, Ardant du Picq, G F R Henderson, and, significantly, naval theorists Alfred Thayer Mahan and Julian Corbett.

Most unfortunately, however, all of this useful thought did little to avert the catastrophe of World War I. If the internalization of Principles of War was intended to minimise mistakes by commanding generals, they failed in their primary task. Alan Clark evocatively referred to “the donkeys” of the Great War who seemed unable to think beyond what I would argue was Clausewitz's prime directive: find and destroy the enemy army.⁴⁶⁶

Hope springs eternal. Despite the carnage and muddle-headed thinking of Great War commanders, one rising star stepped forward with a new set of principles. J F C Fuller was a British Army officer with a brilliant mind; a condition that was not always welcomed by his colleagues. Fuller would later write: “When, in 1898, I joined the Army, though a normally indifferently educated young Englishman, I was appalled by the ignorance which surrounded me and the immense military value attached to it.”⁴⁶⁷ He was not deterred. In 1916 he compiled a list of “strategic principles” that were imbued with a logic and pithiness that has let them stand the test of time:⁴⁶⁸

1. The principle of the *objective*
2. The principle of the *offensive*
3. The principle of *mass*
4. The principle of *economy of force*
5. The principle of *movement*
6. The principle of *surprise*
7. The principle of *security*
8. The principle of *co-operation*

Although Fuller initially unveiled these principles in a journal article, in 1920 they were formalised in British Army Field Service Regulations. The following year the US Army adopted Fuller's principles, although adding a ninth: *simplicity*.⁴⁶⁹

Over the next several decades these principles remained largely intact. One notable addition was made in 1945 when Field Marshal Bernard Montgomery listed “Air power” as the first principle of “Modern War.”⁴⁷⁰ This addition was an important and obvious step given air power's importance in all phases of World War II. Perhaps as a way of expanding the bounds of military thought even further, the newly independent US Air Force came up with its own “Basic Principles of War” in 1949:⁴⁷¹

1. The will to win rapidly
2. Singleness of purpose
3. Co-ordination of ends and means
4. The principle of indirect approach
5. Surprise (alternative objectives)
6. Intelligence
7. Air Supremacy

There were some interesting ideas here, and, in fact, the Air University exclaimed proudly: "The principles of Air Warfare stem from Mitchell, Arnold, and Knerr, more notably than from Frederick or Napoleon, and Air Force thinking needs no Old Testament text for justification."⁴⁷² Unfortunately, despite the bold talk, the Air Force failed to follow up. The first official Basic Doctrine Manual of 1953 listed the same principles then being used in Army doctrine manuals. Today, US Air Force doctrine still lists nine principles; the same tired list proposed by Fuller and modified by the US Army nearly a century ago.⁴⁷³ The airmen who copied these land warfare principles laboured to make them into something useful for the Air Force; not always successfully. The discussion of mass, for example, makes little sense in an age of precision-guided munitions.

It is now time to start with a blank sheet. War has changed so dramatically since 1916, when Fuller first enumerated his strategic principles, that the continual attempts to shape and sand these round pegs so they'll fit into square holes are becoming useless.

To the extent that Principles of War are at all useful to modern military and civilian planners – and I think that they are – then clearly the new environment coupled with revolutionary transformation in the conduct of war demand a fresh start. I therefore propose the following list.

1. Air, space, cyberspace and naval supremacy: The US and its closet allies have come to depend upon – to assume – this dominance. They do so for good reason. The US Army has not had to fight without air superiority since Kasserine Pass in 1943.⁴⁷⁴ It has not lost a soldier to an enemy aeroplane since 1953 during the Korean War. It has never had to fire a surface-to-air missile at an enemy aircraft. The bad guys have never gotten that close.

US and allied sea superiority has been equally impressive. Since the 1943 victory in the Battle of the Atlantic during World War II, our dominance at sea has been unquestioned. In short, the US and its allies have been able to deploy forces worldwide, by air or sea, for over a half-century with virtually no losses. Once those forces have been established in theatre, they have been re-supplied, again by air and sea, largely unopposed.⁴⁷⁵ Given that virtually all US military operations occur abroad, this is very significant. In the battlespace itself, air superiority, and indeed, air supremacy, has meant that the other air missions so essential to the joint force – deep strike, interdiction, close air support, reconnaissance, battle management, airlift and air refuelling – have gone largely unimpeded, especially since the Vietnam War over three decades ago.

Cyberspace is a new environment that is rapidly becoming a crucial front in modern war. In fact, the US Air Force has designated a major command to deal with the challenges

and opportunities of cyberspace.⁴⁷⁶ There is a danger lurking in this new arena. Western strength in air, space and sea power is so profound that it is unlikely an enemy will be able to seriously challenge us there in the foreseeable future – barring some unanticipated technological breakthrough. Cyberspace is another matter. Because it is such a new field, dependent on brain power as much as industrial might, it is a prime area for potential adversaries to seek an asymmetric advantage.

A final note: the air, space and sea supremacy of the past was earned through decades of effort and tens of billions of dollars in expenditures. Future supremacy there, as well as in the cyberspace, will require a similarly dedicated commitment.

2. Homeland Security. The terrorist attack of 9/11 was one of the worst assaults on the US mainland in history. Air power, in the form of commandeered civilian airliners, killed over 3,000 innocent civilians in the two attacks on New York City and the Pentagon. One result has been the establishment of a huge apparatus – the Department of Homeland Security – of Cabinet-level rank that has responsibility for thwarting future attacks. The devastating terrorist attack on the London subway system in July 2005 was no less horrific. Certainly, continental and home defence has always been a major component of US and UK defence policy – and of every other country for that matter – but these new terrorist threats demand a totally different response. Internal police forces, border patrols, or intelligence agencies like the FBI in the US are no longer adequate to defend against the worldwide and networked terrorist forces arrayed against us. Entirely new technologies like unmanned air vehicles, information warfare and computer self-defence systems have been built to conduct this new fight. The budget for this new US Cabinet Department – over \$42 billion in FY 2007 – is larger than the entire defence budgets of most countries. (And I would note that the US defence budget is a further \$500 billion-plus when the supplementals are included.)

A listing of some of the many organizations and agencies now comprising this new Cabinet Department is informative. It includes the US Customs Service, Immigration and Naturalization Service and Border Patrol, the Transportation Security Administration (those folks that rifle your bags at the airport), the Animal and Plant Health Inspection Service, Federal Emergency Management Agency, the Nuclear Incident Response Team, the Plum Island Animal Disease Center, the Federal Computer Incident Response Center, the National Communications System, the Secret Service (the guys in dark sunglasses usually seen hanging around the President), and the Coast Guard. This diverse grouping says much about the wide range of threats now on our radar scope. To reiterate, these threats and the groups just listed are not necessarily new; what is different is the requirement to tie them together in order to more quickly and effectively counter terrorist threats and to

do so on US territory; a concern we have seldom worried about in generations past. It is also indicative of our times that a major office within Homeland Security deals with civil rights and legal issues to ensure the rights of Americans and foreign visitors are protected.

I would also note that for the US Air Force this new threat has resurrected an old weapon of defence. For decades during the Cold War the USAF had an Air Defense Command consisting of over two thousand interceptor aircraft designed to meet a Soviet bomber attack. Over time this force dwindled to a few squadrons. It is now re-established in a smaller form to protect against further 9/11-type airliner attacks by terrorists.

3. Unity of Command. This is an old concept, but when the term was used in the past it generally was concerned with unity of command over similar forces in a given theatre. In World War I, for example, it was used as an argument for appointing a single Allied commander on the Western Front, one who would have control over all ground forces, whether belonging to the British, French or US. Too often in coalition warfare in the past, commanders of national contingents were more responsive to politics and politicians in their home capitals than they were to the needs of the coalition as it confronted an enemy. The various coalitions that fought Napoleon, for example, were initially unsuccessful for this very reason: the differing, parochial concerns of Austria, Prussia, Russia and England were such that a unified front was never able to present itself for very long against Napoleon. For two decades the Emperor played upon these divisions, splitting the coalition and defeating its constituent members piecemeal. It was only during the final grand coalition of 1814-15 that Europe united against France, appointed a single field commander (the Austrian Prince Karl Philip Schwarzenberg), and temporarily put their individual concerns aside to defeat the common foe.⁴⁷⁷ The epitome of this new attitude was at Waterloo when the seemingly-defeated Prussian Marshal Gebhard von Blücher returned to the battlefield to combine with Wellington's forces to defeat the French; an event that Napoleon did not expect simply because such a spirit of unity against him had not existed before.

The demands of theatre-wide warfare necessitate unity of command, and this fact is due to the increasingly long ranges and responsiveness of the weapons at a commander's disposal. Aircraft can travel hundreds of miles in minutes to deliver ordnance, and space assets can direct their sensors on entire theatres during a single pass. When such systems can see or shoot at continental distances, there must be a guiding hand to ensure those systems are operating in a co-ordinated and seamless fashion to achieve a specific purpose.

Moreover, the demands of today's increasing move towards jointness and integration, discussed below, require that the principle of unity of command be taken to a new level.

The demands of unifying and focusing the efforts of several military services – from several different countries in the case of a coalition – while at the same time controlling and co-ordinating the efforts of non-military agencies so as to ensure a holistic strategy and policy, demands that a single individual be in charge. Although this will not ensure that the resulting policy or strategy is the correct one – witness the events in Iraq during 2003 – such unity of command is a necessary if insufficient condition for success.

4. Integration. By this I mean the co-ordinated use of all instruments/levers of power: military, political, economic, psychological and cultural. As I have tried to stress several times already, the new environment confronting us is marked by asymmetric actors and challenges. Although in the old era it was wise to use a combination of these levers of power, today it is essential, and, importantly, the actual mix employed is changing.

During the last Quadrennial Defense Review, Defense Secretary Donald Rumsfeld pushed a concept of four major challenges to the US and its interests: *traditional* (regional competitors posing conventional threats), *disruptive* (adversaries negating US advantages with asymmetrical technology), *irregular* (terrorist attacks by non-state actors), and *catastrophic* (a major attack on the US involving WMD).⁴⁷⁸ It was his belief that the threats facing the US were gradually but definitely shifting away from the traditional threat – although it certainly did not disappear – and towards the other three. These “other three” required fundamentally different types of forces, doctrines and organizations to combat them effectively. More importantly, these threats required an integrated effort that crossed cabinet departments and agencies. The Department of Defense could not handle these problems alone, despite a vigorous “can do” spirit.

Despite Rumsfeld having fallen from grace, the validity of his view and the results *not* obtained when it is violated, are evident in Iraq. At the conclusion of military hostilities in 1991, General Norman Schwarzkopf journeyed to the tent at Safwan to negotiate a cease fire with the commander of the defeated Iraqi forces. Schwarzkopf received virtually no guidance from the US State Department on this critical meeting. Another participant, General Chuck Horner the air component commander, remembers sitting down with the other senior commanders the evening before the crucial meeting to discuss their agenda. They were not prepared. Horner pulled out a blank yellow writing pad and after some initial discussion wrote “prisoners of war” at the top. All those present remembered the terrible fate of their comrades at the hands of the North Vietnamese and were determined to receive a full accounting this time. Further discussions were equally unfocused and haphazard.⁴⁷⁹ War, and its aftermath, must be addressed by a coalition of agencies, not simply the military. Today, a concerted effort emphasizing experts and expertise from Defense, State, Treasury, Homeland Security, Intelligence, and perhaps Non-

Governmental Agencies, will be needed to confront successfully the varied challenges now facing us.

5. *Jointness*. For centuries, the need for co-operation between the services was usually considered a sometimes desirable but seldom necessary occurrence. An exception was often seen in England where the British Way of War, as characterised by Basil H. Liddell Hart, was an indirect approach that relied on what could be termed peripheral operations.⁴⁸⁰ When the enemy – usually France – was too strong to confront head on, amphibious operations in a different theatre – North America, the Middle East, Iberia – were conducted instead. In Lord Grey’s lovely phrase: the British Army was to be a projectile fired by the Royal Navy.⁴⁸¹

In the US, such co-operation was less evident. An Army-Navy Board existed for a century or so that was designed to co-ordinate the efforts of soldiers and sailors, but the two seldom had to actually work together. That changed during World War II for two major reasons. First, global war against major powers demanded close co-operation to achieve victory. Second, air power introduced a new dimension to war that also now *required* close co-operation between the army and navy. When the mediums of the sea and land were so clearly demarcated, sailors and soldiers could often ignore each other with few ill effects. When air power spanned both domains, arguments regarding priorities, targets, command and control, and allocation of resources had to be solved using a joint approach.⁴⁸²

Even so, the services resisted. A main problem leading to defeat in Vietnam was the parochialism and sometimes childish rivalry that existed among the services, especially between the Air Force and Navy, and the Army and Marines. It was only further difficulties in war – fortunately of a relatively minor nature: in the botched Iranian hostage rescue and in Grenada – that forced reform. The result was the landmark Goldwater-Nichols legislation of 1986.⁴⁸³ The move towards jointness occurred in Britain a bit earlier due largely to fiscal constraints.

Today it is difficult to see what the problem was all those years. Jointness works. Period. The question is, where do we go from here? In my view, jointness today tends to occur at the operational level of war; at the theatre. This is good, but more can be done. Is it time for jointness to move both up and down? The only joint tactical units in the US are in Special Operations Command. It is time that instead of air bases, naval ports and army forts, we have Joint Bases where all of the services live, train and work together so that the first time a soldier meets an airman is not in combat overseas. At the same time, the US is now experimenting with Standing Joint Task Forces that could move the concept of jointness upwards a notch. Today, for example, we have air, land and sea component

commands established within a theatre, each with their own, nominally joint, planning and operations staffs. These separate staffs, overseen by the combatant commander, are expected to *co-ordinate* with each other.⁴⁸⁴ There is also the combatant commander’s staff, but this is largely a peacetime organization that develops contingency plans: when a crisis breaks out, these staffs remain behind to become largely administrative units while the functional component staffs deploy forward. I envision the new joint task forces becoming the nucleus for theatre battle staffs: fully joint and fully integrated, working directly for the combatant commanders that will eventually replace the component staffs.

6. *Intelligence*: On the face of it, this maxim seems to apply most specifically towards the employment of air and space power. I have written elsewhere that intelligence is the key to air power, and by that I meant that the nature of global strike capability means that all aspects of an enemy nation are vulnerable to attack.⁴⁸⁵ In the era before air power, that was not generally the case: the vital centres of a nation were defended and protected by armies, fortresses and sheer geography. If the French wished to strike Berlin, for example, they had to first get close enough to do so, and that might take years and countless lives. Air power changed all of that. At the same time, however, just because all targets might now be vulnerable did not mean all were of equal value or promised the same return if neutralised. Intelligence, and intelligence of a new type that focused on economic and industrial data, was needed to most effectively and efficiently target an enemy’s vital centres.

Today, the demand for intelligence is even greater while at the same time more difficult to obtain. As our intelligence-gathering sensors and techniques have become better, so too have adversaries learned new tricks at hiding, camouflaging or distorting the objects we try to examine. At times, this can lead to disaster, as with “The Case of the Missing WMD” in Iraq. This means that once again the *type* of intelligence has metamorphosed. Just as air power demanded a new type of economic intelligence, so now does the asymmetrical warfare of insurgency and terrorism require cultural intelligence that our present system is not equipped to collect. We simply do not know or understand the motivations of many of those who now seek to destroy us. The psyche of al Qaeda leaders still mystifies us.

In addition, although we now have sensors – based in space, in the air, on land and at sea – that can detect objects, both moving and stationary, as well as intercept all types of electronic emissions, there are certain targets that still confound us. We need to detect the presence of all types of WMD: where they are made, stored and transported. Until we can do so, accurately and continuously, we will be unable to hold at risk the activities of rogue states like North Korea or Iran who defy international sanctions and continue to pursue

such weapons. After all, given our failure to locate accurately such weapons and facilities in Iraq – a country subjected to intelligence over-flights and UN inspectors prowling the ground for a decade – how can we claim with a straight face that our intelligence tells us where such targets exist in closed societies that we can monitor only from a distance?

7. Netcentricity. Related to the principles above, this concept refers to the increasing necessity to link together, on a global basis and in real time, the various intelligence-gathering sensors and C2 links that are deployed around the world. The linkage of aircraft with air and space-based sensors and other C2 assets, worldwide and virtually instantaneously, using machine-to-machine interfaces, has happened. In Afghanistan and Iraq, for example, UAVs were “flown” by pilots at consoles at airbases in the US. That is world war in real time.

One of the dominant themes of modern war is speed. Everything happens faster than even a decade ago. The greatest venue for this revolution in speed takes place in air, space and cyberspace. “Near-real time” is a phrase used increasingly in air operations centres to denote the requirement for intelligence and communications almost as soon as an incident occurs. A former USAF chief of staff went further and argued that *reaction* time must be similarly rapid; he referred to the capability of seeing a target, analyzing its importance and then neutralizing it as “one time of flight.”⁴⁸⁶ In other words, he wanted planners, commanders and aircrew to see, decide and act in seconds; the length of time necessary for a weapon to travel from the air to the ground.

Such a capability is not a pipe dream: operations in Afghanistan and Iraq have shown an increasing ability to employ force with tremendous speed. Indeed, one of the problems in Afghanistan was that sensors and aircrew were not usually the limiting factor in putting weapons on target. Rather, the reason for delay in the kill cycle was often human; the time necessary to make a decision based on a deluge of intelligence data. The problem was not a dearth of information – a problem in times past – but the need for commanders to sift through the abundance of information and rapidly arrive at an appropriate decision.⁴⁸⁷ One of the major reasons for this need to pause was the increasing necessity to ensure the target struck was the correct one and that minimal collateral damage would occur when it was hit (concerns that will be discussed in more detail below).

The demand for speed has in turn necessitated that sensors from all services, sources, venues and mediums be linked together and disseminated to the appropriate users at all levels virtually instantaneously. Art Cebrowski, a retired admiral who ran the office of Transformation in the US Defense Department until his death in 2005, was the individual

who coined the term “netcentricity.” He saw it as a revolution, and like other revolutionary turns in military affairs, it grew out of fundamental changes in American society. In his words: “These changes have been dominated by the co-evolution of economics, information technology, and business processes and organizations, and they are linked by three themes: 1) The shift in focus from the platform to the network; 2) The shift from viewing actors as independent to viewing them as part of a continuously adapting ecosystem; and 3) The importance of making strategic choices to adapt or even survive in such changing ecosystems.”⁴⁸⁸ In essence, he foresaw global links and networks that could communicate instantaneously, providing needed information to warfighters at all levels when they were needed. Another metaphor often used was “a giant server in the sky” that allowed individuals to plug in – after ensuring the requisite security procedures – as they would the Internet, to ask specific questions that they needed immediate answers to, without extraneous and unnecessary detail or potentially limiting filters or command/staff layers. We are rapidly achieving this vision.

There is an intrinsic tension between the principles of netcentricity and unity of command. The latter can be seen as fostering a more centralised view of command and control; whereas, netcentricity can often be viewed as an attempt to decentralise; to flow information downwards to the tactical level, allowing local commanders on the scene to make more timely decisions. This seeming paradox is not insoluble. One could argue that the key to sound decision making – or judgment – at all levels is the accurate information provided by a network-centric C2 system. Information does not ensure sound judgment, but is a necessary ingredient for that result.

8. Mobility. In the aftermath of the Cold War, two-thirds of all US military bases overseas were closed. This did not, however, signal a turn towards “Fortress America.” The US continued to believe that its interests were best defended as far from her shores as possible. Power projection, always a strength of the US Air Force, became even more important.

When one studies the quantity, quality and composition of air forces worldwide, a number of startling statistics become evident. First of all, with over 13,000 military aircraft of all types, the US is by far the largest Aerospace Nation. Russia and China are next in line with barely a third of that total. Significantly, although the US Air Force with its 5,789 aircraft is the largest air arm in the world, the US Army and the US Navy are in the top five, and the US Marine Corps is not far behind. Thus, despite talk of the importance of “boots on the ground,” ships or submarines, the fact is that all of the US services put their money into air power. Yet the statistics are in some ways even starker. For example, there are only three operational stealth aircraft in the world, and all three are in the US Air Force. *Quality* as

well as quantity is important. Perhaps most importantly, however, is the dominance that the US enjoys in power-projection forces. At the present time there are slightly over 1,100 large cargo aircraft in the world. The US has over 700 of them (all in the USAF), which is 63 percent of the world total. There are also 825 aerial refuellers in the world: the US has 707 of them, or around 86 percent of the total. Most of the other large cargo aeroplanes and tankers belong to NATO countries. This incredible air mobility fleet allows the US and its allies to project power anywhere in the world, rapidly, and, just as importantly, to sustain those forces for an extended period of time.

This has been demonstrated on a number of occasions over the past two decades. The Gulf War of 1991 saw mountains of materiel and hundreds of thousands of personnel deployed to the Middle East. US airlifters – enabled by Air Force tankers – hauled 500,000 people and 540,000 tons of cargo into the theatre, making it the most massive airlift in history. During Desert Storm itself, the tankers flew 16,868 sorties to offload over 800 million lbs. of gas in 51,696 hook-ups. On any given day tankers accounted for around 20 percent of all Coalition sorties flown. Of importance, nearly one-third of the aircraft refuelled by the tankers were from the US Navy, Marine Corps and Coalition countries.⁴⁹⁰

During the decade-plus following Desert Storm, the US and its allies flew over 300,000 sorties in Northern and Southern Watch over Iraq. Beginning in 1995 the implosion of Yugoslavia was marked by a bloody civil war that saw NATO air power take an increasingly active role. In 1995 NATO deployed south for the conflict in Bosnia, and in 1999 they went back to the Balkans to protect the Kosovars. Late 2001 and early 2002 saw the destruction of al Qaeda terrorist camps in Afghanistan and the overthrow of the Taliban regime. In 2003 came the removal of Saddam Hussein.

During all of these operations air refuelling was essential. Tankers refuelled deploying fighters from all the services and allied countries to bases in the crisis regions; they then refuelled the airlifters maintaining the air bridge between the theatres and the US; and they also refuelled US and coalition aircraft throughout the combat operations themselves.

The increased demand for tankers has been due to several factors. The reduction of overseas bases by two-thirds in the aftermath of the Cold War meant that deploying aircraft would have to fly farther to arrive at a crisis area. Upon arrival, the expeditionary bases then used were often a great distance from the targets to be struck. This was especially true for both land and carrier-based strike aircraft hitting targets in land-locked Afghanistan. Finally, the shift to fleeting and time-sensitive targets means a greater demand for persistence, a capability provided by air refuelling. All of these conditions are likely to remain in effect for the foreseeable future.

9. Precision. The development of precision guided munitions (PGMs) is one of the great military revolutions of our age. These weapons, which continue to evolve, have generated several fundamental revisions in the way we plan military campaigns.⁴⁹¹

Although used in Vietnam, PGMs truly came into their own during the Persian Gulf War of 1991. Television networks showed cockpit videos detailing the accuracy of these weapons so frequently that they became one of the defining images of that war: the public saw bombs going down chimneys, through doors, and into specific windows. “Air-shaft accuracy” had become so routine that everyone expected it. When American aircraft struck Serbian targets in Bosnia in 1995 and Serbia/Kosovo in 1999, they used PGMs almost exclusively in populated areas. Once again, the accuracy of these weapons was extraordinary. Visitors to Serbia were amazed to see radio towers neatly separated from their concrete bases and toppled, while civilian buildings not more than 50 feet away remained untouched. In another instance, the bombing razed a Serbian defence facility but left buildings on either side largely unscathed.

PGMs have reduced by orders of magnitude the number of sorties required to neutralise a given target. This reduction in sorties has a direct relation on the logistics tail required for an air campaign. Simply put, fewer weapons mean fewer sorties, which in turn mean fewer aircrew and maintenance personnel, less fuel, less ordnance, and fewer spare parts. These reductions cause a cascading effect on the number of support personnel required in-theatre to supply and maintain these fewer numbers of aircraft. Because many of these personnel and much of the materiel must come from the US, their reduction puts a correspondingly lighter load on the mobility forces that deploy and sustain these assets. PGMs are the gifts that keep on giving.

Finally, and perhaps most importantly, the use of PGMs ensures less casualties to both sides. Because these new weapons have such a high probability of success, generally only a single aircraft is needed to neutralise a given target.⁴⁹² Compare this to the thousands of aircrew members who flew into harm’s way in times past. In addition, PGMs mean dramatically less collateral damage and fewer civilian casualties. In the 1991 Gulf War, although thousands of tons of bombs were dropped on Iraq, damage to the civilian population was minor, amazing western observers.⁴⁹³ The next sizable conflict was in 1995 when force was used to halt the fighting in Bosnia between the various factions. According to Slobodan Milosevic (who supported the Bosnian Serbs), perhaps twenty-five civilians died from NATO’s two-week air campaign. To stop ethnic violence by Serbs in Kosovo, in 1999 NATO launched Operation Allied Force. After a 78-day air campaign, Milosevic capitulated. Despite the duration and intensity of this air assault, Human Rights Watch estimated that fewer than 500 civilians were killed.⁴⁹⁴ The use of air power in Afghanistan and Iraq in the aftermath of 9/11 was similarly discriminate and effective.

PGMs, in a very real sense, have negated the old principle of “mass.” Quite simply, targets today are no longer “massive,” so the weapons used against them need not be either. Moreover, new weapons employing more finely-tuned radar or GPS guidance systems will give greater accuracy, thus allowing smaller warheads and lowering the degree of physical damage even more.

The concept that precision is the antithesis of mass bears resemblance to the old principle of “economy of force.” It is interesting that J.F.C. Fuller, a decade after first articulating his principles of war, mused about raising economy of force to the status of a law. To his mind, the old ways of slaughter were almost never justified, simply because the political, economic, and social problems created by such a Clausewitzian strategy of annihilation were too great. The cure was far worse than the disease. In other words, although this principle was generally viewed mostly as a tactical concept, Fuller realised that such economy was essential at the strategic and grand strategic levels as well.⁴⁹⁵ His concern was an appropriate one, especially in this day and age. In my view, the revolution occasioned by precision weapons has effectively addressed this quite valid concern.

10. Media Awareness and Initiative. I do not wish to be mistaken, so let me state unambiguously that I am not advocating that the military devise ways to manipulate or deceive the news media. The “embedded media” concept introduced in 1990 was an excellent idea that ensured the military’s story was presented factually without the taint of manipulation. Rather, my point is that global communications make it inevitable that virtually everything we do will now be scrutinised by a sceptical news media over which we have no control.

In a sense, every bomb, missile, or bullet fired by an American airman, soldier, or sailor is a political act. When a bomb goes astray and hits a residential area, when a Tomahawk missile crashes into a hotel lobby, or an edgy soldier on patrol kills a civilian at a roadblock, US *foreign* policy – not just *military* policy – suffers a setback. We can no longer afford to miss. More than that, even when we hit the target, we have to do so almost softly and with minimal impact. One is reminded of TV westerns many years back: the good guy – the one in the white hat – never killed the bad guy; he shot the gun out of his hand and arrested him. That is our new standard.

In a very real sense, photographic images determine and shape our memory of past events. There are, no doubt, photos that spring to mind when one considers the Vietnam War, but I would venture that most of us would recall three images in particular: a Viet Cong terrorist being executed with a shot to the head by a South Vietnamese general on a Saigon street; a young girl, naked, running away in terror from a napalm strike; and an

American soldier using his lighter to set fire to a Vietnamese hooch. None of these are images the American military would have chosen to depict their decade-long agony in Vietnam, but it did not have a vote. Similarly, it is likely that the current war in Iraq will be forever linked with the photos of the abuse of Iraqi prisoners at Abu Ghraib, and the image of a US Marine firing his rifle into a helpless Iraqi at his feet. These photos, which spread widely and quickly throughout the Arab world, have become a metaphor for our failed attempts to democratise Iraq.

In short, the days when we could control the news reporting from the frontlines are long gone. Anyone with a camera, cell phone, camcorder, or satellite uplink can monitor our military’s actions and beam those images, instantaneously, worldwide. Commanders must be aware of this new capability and take it into account during the planning cycle. They must also be proactive and not reactive, because, as the old adage goes, bad news never gets better with age. And so, the US Army has been justly criticised for deliberately distorting facts to suit their institutional purposes. In a recent instance, Congressional testimony revealed that the Army misrepresented and then covered up the truth concerning the death of Pat Tillman – a National Football League player turned Army ranger – who was killed by friendly fire and not by the enemy. Army leaders were aware of this fact almost immediately after the event. Similarly, regarding the capture of Private Jessica Lynch, the Army initially portrayed her as a “girl Rambo from the hills” who heroically emptied her gun against attacking Iraqis before they overwhelmed her and took her prisoner. In reality, says Lynch, she surrendered without firing a shot, and the Army knew it but told the public a different story so as to project a false image and serve their own agenda regarding women in combat.

On a more elevated scale, the entire issue of media awareness has taken on increasing significance in this new era of “information warfare.” This is a huge topic, worthy of several essays by itself, but let me sum up its potential importance by repeating an observation made by an old colleague, Dr Steve Chiabotti at the School of Advanced Air and Space Studies. Chiabotti noted that the current Global War on Terror is first and foremost an information war, and that war is occurring primarily within Islam itself between the radicals and the moderates. This internal battle is the true centre of gravity of the War on Terror, and our primary task should be to devise ways to aid the moderates in their struggle. In this vision of the great threat now facing the US, the information war should be the “supported campaign” to use modern parlance, and our military actions should be directed with the goals of the over-arching information war always in the forefront. Thus, all we do in Iraq and Afghanistan should be with the aim of aiding the Islamic moderates in their struggle to police the radicals who are hijacking their religion. In truth, I know of no one in our military who views the war in Iraq in such terms. As a consequence, much

if not most of our ground-oriented strategy in Iraq has served to undermine those Islamic moderates, not help them.

11. Purpose. I initially rejected the inclusion of this principle, largely because it has been so misunderstood by so many people. It seemed to me that including it here would do more harm than good. I have been persuaded to change my mind, but have put it last on my list as a way of signifying my reticence.

Virtually everything a rational human being does is guided by a sense of purpose, even if that purpose is obscure, ill-advised, self-destructive, or made under pressure. War is no exception. It has become almost an article of faith, if not fact, that in western countries this purpose, which is used to justify the use of military force, must be based on policy/politics. In other words, the use of military force is determined by politicians, not those in uniform, and the politicians should base their decision to use force on rational reasons of state policy. In my view, this is not only a peculiarly western notion, and therefore lacking in universality, but in practice it is often twisted and distorted so as to become meaningless. Let me explain.

Adolf Hitler was the political head of Nazi Germany, elected to this position in 1933. A few years later he embarked on a series of military operations to conquer and enslave most of Europe, while also attempting to exterminate the Jewish race. Hitler's stated political purposes for these actions were to redress the injustices of the Versailles Treaty, to gain living space for the Germanic people, and to purge the world of heinous enemies of the state. Joseph Stalin, a communist dictator, invaded Poland, Finland, and the Baltic states while serving as an ally of Hitler, and slaughtered tens of thousands of people in the process. Stalin's political purposes were to gain a buffer zone against that very same German ally, which he mistrusted, to regain territory that had been held by the tsars and that therefore "belonged" to Russia, and to obtain ports on the Baltic Sea. The Japanese regime led by Hideki Tojo invaded Manchuria, overran Indochina, and then brutally conquered, among other places, the Dutch Indies, Malaysia and the Philippines. The political purposes used to justify these conquests were to extend Japanese influence, secure natural resources unavailable in the Home Islands, and to enhance a sense of national pride that had been slighted by western nations in the past.

To cite two more modern examples: in 1998 President Bill Clinton launched air strikes against Iraq for the express political purpose of punishing Saddam Hussein's regime for expelling the United Nations nuclear inspection team. There were some, however, who saw President Clinton's political purpose as one that reflected domestic,

not international, concerns: that he was merely trying to distract attention from the Congressional hearings into the Monica Lewinsky scandal that were scheduled for the following day. In 2003, President George Bush, after consulting Congress and obtaining its approval via a voted resolution, launched an invasion of Iraq. His stated political purposes were to confiscate or destroy Iraq's illegally-held weapons of mass destruction, overthrow the oppressive and non-elected regime of Saddam Hussein (and initiate a wave of democratic reform throughout the region), and ensure that all elements of the al Qaeda terrorist group operating or hiding in Iraq were exposed and neutralised.

The common element in these five diverse examples of military action is that all were instigated by political leaders for, what were claimed, sound and specific political purposes.

If all of these cases fulfil the dictates of the notion that the use of military force must conform to a principle of war that demands a political/policy purpose rationalizing such use, than that principle is manifestly meaningless.

Rather, many will no doubt fall back on the argument that the principle of political purpose must necessarily be qualified. That is, the political purpose used as justification for military action should be rational, consensual, achievable and moral. Yet motives are virtually always judged through the eyes of the beholder, or more to the point, by those devising the political purposes for military action. Even the actions of Hitler, Stalin and Tojo were justified in their own eyes, but were not seen as being so by a large portion of the globe. A bit more surprisingly perhaps is that neither were the actions of Presidents Clinton and Bush viewed by many as fulfilling the criteria. Yet in all five cases the majority of the populations (and militaries) of Germany, the Soviet Union, Japan and the US supported the actions, and by extension the political purposes, of their leaders. At least they did so as long as the military operations were viewed as being successful.

It therefore seems clear that merely stating a principle of war that all military actions must have a purpose and that such purpose must be grounded in policy/politics can be an extremely vague if not misleading concept. Nonetheless, it is equally self-evident that Purpose is indeed a crucial component of military action. Yes, there must be a point to it all. Given the landmines surrounding such a principle, however, perhaps it merely can be said that these purposes should be well-conceived, clear, and non-trivial, that the use of military force should not be considered as an end in itself, that the gains to be achieved should be commensurate to the resources expended, and that all those involved should understand what is expected of them individually and as a nation before employing the military tool. Yet saying that says a very great deal indeed.

I do not wish to sound flippant, because the concept of Purpose is indeed an important one. However, I question whether any term or concept so freighted with ambiguity and capable of distortion is worthy of consideration as a principle of war.

To summarise, this is my effort at proposing new Principles of War for a new era of warfare. In my view, they reflect the new conditions, new enemies, and new technologies that now dominate warfare. Warfare has changed, and we must change with it. These new Principles of War can help us understand this new era and also shape the doctrine and force structure we will need to confront that new era.

I owe special thanks to Dr Steve Chiabotti, Colonel Eric Herr, Air Commodore Mike Harwood and Air Vice Marshal Tony Mason for their insights and criticisms of this essay.

CHAPTER 12

Air Power and Counter-insurgency: Back to the Basics

James S Corum

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James S Corum

In reviewing the dozens of major insurgencies that have occurred around the world since World War II, we can identify two necessary requirements for the conduct of effective counter-insurgency without which success is not possible. The two fundamental requirements for successful counter-insurgency are: good strategy and good intelligence. By good strategy I mean a strategy that is comprehensive, effectively applies to all the elements of national power (economic, military, diplomatic, information), allows for effective co-ordination of those elements (provides for a good organization), and sets a realistic endstate and intermediate goals. The strategy must be flexible enough to meet changing conditions and it must be supported by the right kind of civilian and military organizations and personnel.

Counter-insurgency Strategy

Strategy is defined as the allocation of military, political, economic, and other resources to attain a political goal. The strategic level of war refers to applying these national or coalition resources in a co-ordinated manner to meet national or theatre objectives.⁴⁹⁷ In a conventional conflict the military normally has the paramount role in strategy. In counter-insurgency this is not the case. A counter-insurgency strategy that relies overwhelmingly on military forces and military operations, and largely ignores the social, political and economic aspects of the insurgency will not get you to the desired endstate, or even closer to it. In fighting an insurgency, the political, informational and economic aspects of the strategy are as important in achieving success as the military contribution. One lesson is emphasised throughout the new US Army and Marine Corps counter-insurgency doctrine, and that is the solution may not be a military one.⁴⁹⁸ A military approach may kill a lot of the insurgents. Yet, unlike conventional war and its focus on fielded forces, killing the insurgents is not the path to success in counter-insurgency. You need to adequately address the social, political and economic issues to reach the political solution that is usually the way that a successful counter-insurgency campaign is concluded.

The emphasis on the non-military factors of counter-insurgency in any sound strategy means that the military is often a supporting force, and not the main effort. This goes against the US, and I suspect, the military culture of most of the western nations. This also means that air power is a supporting force and not the main effort. This is not to say that the military effort and air power is not important and essential. Yet it does mean that we have to consider military force and air power within a very broad and very complex political context.

The complexity of counter-insurgency strategy has to take into account that insurgency is local, and often driven by local, rather than national, conditions. This means that, in addition to a national counter-insurgency strategy, one will likely have to craft comprehensive local strategies. One can take the case of Bangladesh as a current example of a nation combating local insurgencies. Today there are three small insurgencies in three different regions of Bangladesh. In organizing to combat the insurgencies the Bangladesh government employs essentially the Malaya committee model, in which the provincial governor chairs the committee that includes the senior military, intelligence and police officers as well as the civilian directors of the social services, economic development and government information service. With the civilian governor in charge and the military serving in the role as support to the civilian authorities, each province crafts its own local strategy to combat the insurgents and provide security to the local population. The strategy in each province and district is likely to be very different. One Bangladeshi officer explained to me: "In one province the strategy is to take a hard line against the insurgents, in another province they have taken a soft line and the third province is somewhere in the middle." In fact, this is not much different from doing counter-insurgency in Iraq or Afghanistan. In those countries we have found that we need both national and local strategies, and each one has to be comprehensive and address the social, economic and political dimensions of the conflict as well as the military side.

Intelligence and Counter-insurgency

The role of intelligence in counter-insurgency is fundamentally different from intelligence in conventional war. Conventional military intelligence is about looking for things you can see and count. Thanks to modern technology, with its signals intelligence, and ability to monitor the battlefield by space and aerial surveillance, the primary mission of intelligence in conventional war – locating the enemy's main conventional forces – is relatively easy. The high-tech intelligence assets are featured in conventional war operations: the space, reconnaissance and signal assets. In counter-insurgency, the first mission of the intelligence agencies is to try to understand the context of the conflict. This means collecting information about the whole society, understanding local conditions, monitoring public opinion, analyzing social and political relationships and networks. And that is just the start. The next step is to find the insurgent and try to understand his organization. This is difficult because the insurgent is likely to wear civilian clothes and hide among the population. The insurgents will have a local, perhaps national organization, and it is all underground. If you are lucky, the insurgents will stand and fight and give the counter-insurgent the chance to use military force and air power against them. Yet even if you decimate the insurgent forces, if you do not break the underground support network, the insurgent combatant forces will quickly revive.

The kind of intelligence that you need to understand the insurgent social context and to understand the insurgent organization is human intelligence. Again, this goes against the US and western military bias of a high-technology approach to war. High-technology intelligence does have its place. Space surveillance and other reconnaissance assets can give you great data. High-technology surveillance can tell you that the people are all leaving a particular village. Yet it does not tell you WHY they are leaving. You need really competent analysts to answer questions like that.

The kind of intelligence analysis that you need in counter-insurgency is essentially a foreign area officer, someone who speaks the language fluently, has studied the country and the region in depth, and who understands the societal context of official and unofficial networks. In fighting insurgents, a mature, competent specialist intelligence officer is far more useful than a B-2 bomber. The good news is that a human intelligence specialist is a lot cheaper than a B-2 bomber. The bad news is that it takes about as long to develop a competent country and regional expert as it does to develop the B-2 bomber.

One of the primary problems that our forces in Iraq and Afghanistan face is the lack of fully qualified human intelligence specialists. Unlike logistics, which requires some general skills, you cannot easily contract out for such people when you need them. If you are going to have adequate human intelligence support in a conflict, you need to build up your human intelligence capabilities long in advance. Unfortunately, at the end of the Cold War the US largely gutted the human intelligence specialist force and we are paying for the consequences of that now.

Leadership in Counter-insurgency

One of the most important issues in counter-insurgency, especially for the military forces, is to understand the unique requirements of leadership. As with other issues we have examined, the requirements for effective leadership in counter-insurgency operations are very different from the requirements of conventional war. To start with, to be an effective officer in counter-insurgency one must know the basics of the military profession and be a competent leader in conventional operations. Yet that is not enough for counter-insurgency. This is a fundamentally different kind of warfare, and it requires a considerable amount of understanding of essentially civilian issues, to include such factors as social and political relationships. Moreover, the radically different context of counter-insurgency requires a high degree of mental flexibility, not necessarily a common trait of military leaders. An officer can be a great soldier or airman in a conventional war, and fail badly in counter-insurgency.

For the last couple of years the US Army Command and General Staff College has been dealing with the issue of effective leadership in counter-insurgency and have decided that officers need cultural expertise. The model of leadership held up in the Staff college course instruction is T E Lawrence, more popularly known as “Lawrence of Arabia.” Staff College students study how Lawrence used his deep knowledge of the Arab language and culture to move Arab leaders in the direction that he, and sometimes the British government, wanted.

This is a case in which I believe that the US Army, for all its enthusiasm and good intentions, has got it wrong. First of all, one should ask if the T E Lawrence model is appropriate for the average US Army officer. After all, Lawrence was a multi-lingual, psychopathic genius who pushed his own version of a grand strategic agenda in a theatre of war. I suspect that one Lawrence in a theatre of war was more than enough. In any case, Lawrence’s act is a hard one to follow, and it might not be reasonable for the US Army to expect its field grade officers to be cultural experts on the level of Lawrence.

To be successful in counter-insurgency, the senior military officer does not need to be a genius, or even a cultural expert. What the effective leader needs is what airmen call “situational awareness.” For a senior officer in counter-insurgency, the specific requirement is political situational awareness; a thorough understanding of the political context of the insurgency. This requires an understanding of the different factions, their motivations, and their goals. It requires an understanding of the fundamental issues of the insurgency, as well as being able to look for realistic political solutions. A senior leader in counter-insurgency needs to recognise the political dimension of his policies and carefully employ the resources available to further the political objectives.

A good example of effective senior leadership in counter-insurgency is General Gerald Templer, who served as military commander and governor general of Malaya at the height of the insurgency, from early 1952 to 1955. Templer inherited a bad situation. When he took command the insurgency had been going for four years and was steadily increasing in the level of violence. Although the British and Malay forces had killed many insurgents, the insurgent strength was steadily increasing. Templer’s leadership over three years was a key element in turning the situation around, and his approach to counter-insurgency is worthy of study.

Gerald Templer was a highly intelligent officer, but no genius. He had an outstanding record as a conventional soldier, having commanded a division and later a corps during World War II. Yet his success as leader in Malaya was less a function of his conventional war skills than an intrinsic talent to study a situation and grasp its essentials. Templer

was no expert on Malay culture, and his knowledge of Malay language and culture was never deep. I doubt that he knew more than a few phrases of Malay, and certainly no Chinese. Yet in the weeks before he went out to Malaya, he corresponded and talked with several senior officials and other experts on Malaya. Even before he arrived, he had a good understanding that the solution to the insurgency was going to be as much political as it was military.

The insurgents in Malaya were overwhelmingly ethnic Chinese, who were actually a plurality of the population of the Malayan states, but excluded from government power by the ethnic Malays. Templer understood that one of the core causes of the insurgency was this systematic exclusion of the Chinese from the government, civil service and security forces. Templer immediately initiated a series of reforms to help close the deep social and political divide between the Malays and the ethnic Chinese. Against considerable resistance from the Malay state governments, and many in the British military and civil service, Templer pushed the Federation governments to admit Chinese to the civil service and into the security forces with the goal of making the Malayan army and police forces representative of all of Malaya’s groups. Since Chinese were excluded from the Malaya Regiment, he created new Malayan regiments that would be multi-ethnic and personally recruited for officers from among the Chinese community. Sir Arthur Young, who came out with Templer to take over and reform the Malayan Police, worked together to weed out the most corrupt elements from the police force and to recruit as many Chinese as possible into the force.

Most importantly, Templer encouraged all efforts of the Malayan politicians to reach out to the Chinese community. Some of the most prominent Malay political leaders had also concluded that an independent Malaya required a partnership between the Malays and ethnic Chinese and co-operated with Templer in supporting reforms. Tunku Abdul Rahman, leader of the Malay nationalist UMNO Party, began to forge alliances with the moderate Malayan Chinese political groups in the 1952 municipal elections. As the political co-operation between Malays and ethnic Chinese improved, the Chinese support for the insurgency declined. While the literature about the Malayan insurgency concentrates overwhelmingly on the military side of the insurgency, the political reforms, coupled with the reform of the Malaya security forces, did more to curb the popular support for the insurgency than overt military operations. Templer’s role as commander and governor general was key to the success. He understood that the mission was now one of preparing Malaya for independence, and sooner rather than later. He also understood the central importance of building a sound foundation for a multi-ethnic state. Throughout his tenure he probably spent as more time in meetings with Malay and Chinese leaders as he did overseeing military operations; which is about right for a

senior leader in counter-insurgency. Templer may not have been a great diplomat, but he did develop a solid understanding of Malayan politics and offered the ethnic Chinese an alternative to insurgency.⁴⁹⁹

A prime example of poor situational awareness in counter-insurgency is a contemporary of Templer's, Field Marshal Sir John Harding. Like Templer, Harding had a brilliant record as a conventional soldier. He had served as a division and corps commander in World War II and was serving as Chief of the Imperial General Staff in 1955 when the insurgency in Cyprus broke out. Since he was getting ready to retire, he accepted Anthony Eden's plea to take over as commander and governor general of Cyprus. However, unlike Templer, Harding had talent at all for understanding the political context of the insurgency.

The motivation of the insurgency was simple. Eighty percent of the Cypriots were ethnic Greek and wanted an end to colonial status and union with mainland Greece. British policy was that Cyprus would remain a colony. Harding saw his job as a simple one; crush the insurgency with overwhelming force. In implementing his strategy he made a series of bad decisions based on a terrifically bad understanding of Cypriot politics and conditions. Each bad decision, made the insurgency and violence on the island worse. First, Harding was convinced that the Cypriots really did not want independence or enosis, but had been pushed to violence by Archbishop Makarios, the political and spiritual leader of the Greek Cypriots. If the radical Makarios were removed, then he could sit down and discuss some form of minimal home rule with the moderate Cypriots, who he believed were in the majority. So he had Makarios arrested and sent to exile in the Seychelles Islands.⁵⁰⁰

Harding's assessment was incredibly wrong. Makarios, in fact, was one of the more moderate Greeks, and had been working to see that the insurgent military force limited its attacks on the British. With Makarios gone, the more radical leaders were left in charge and the violence escalated dramatically. Harding's next step was to arm a large force of ethnic Turkish Turks who, with minimal training and little in the way of leadership, would be unleashed on the Greek community. Harding did this against the advice of Britain's Cyprus experts. What they had feared, open communal warfare, came to pass. Harding's strong arm counter-insurgency policies also caused a wave of blatant human rights violations that were documented in front of the international press, which was in force in Cyprus. Harding publicly denounced all allegations against his troops as Greek propaganda, even as journalists reported collective indiscipline of British troops.

If there had been any Greek moderates on Cyprus before Harding, his actions pushed them into supporting the insurgents simply as an act of self defence. With 40,000 troops and police to control 400,000 total Greek Cypriots – the greatest troop to population ratio

in the history of counter-insurgency – Harding failed to bring the island under control and failed to capture the leader of the Cypriot insurgents. Harding left the island in 1957, believing that the tide had turned and that outright victory was around the corner. The next year the British government agreed to grant Cyprus independence, and also granted full amnesty for the insurgents.

The contrast between the two soldiers in counter-insurgency illustrates some basic principles of leadership. One soldier, Templer, adjusted to the conditions of counter-insurgency and always kept the political issues in mind. Under his administration in Malaya the political ramifications of every decision were carefully considered. He listened and took advice from some top experts. Templer was a great success. Harding saw the Cyprus insurgency as primarily a military operation with a military solution. That was his downfall. He had a special talent for ignoring good advice. His strong-arm tactics put a bad face on British imperialism and left behind a legacy of communal violence that persists today.⁵⁰¹

Counter-insurgency and the Media

One of the most common critiques made by officers involved in counter-insurgency operations around the world is that the counter-insurgent forces are doing very poorly in employing the media to get the government message out; while the insurgent, terrorist, and radical groups are using the media very effectively.⁵⁰² For one thing, insurgents, radical groups, and the states that support them, are not hindered by any requirement to stick to the truth. Disinformation campaigns and deliberate falsifications are standard methods of attacking the legitimacy of counter-insurgency operations, and in whipping up local and world opinion against the US and coalition allies.

The effective use of the mass media by revolutionaries and insurgents is nothing new. Richard McKenna's insightful 1962 novel, *The Sand Pebbles*, depicts the confusion and frustration of US military officers on a gunboat in Chinese waters when they confronted the mass propaganda campaign of the Chinese revolutionaries in the 1920s. McKenna had been a US Navy "China sailor" in that era, and had lived many of the events described in his novel. His description of the revolutionaries' use of newspapers and pamphlets rings true for any US officer confronting irregular warfare today. In the novel, Lieutenant Collins USN, Captain of the *USS San Pablo*, a gunboat stationed on the Yangtze River in 1926, tells his crew about new orders restricting their operations:

For instance, our little sortie against the river pirates last month, they fired first, and we killed only one pirate. Yet the consul has a clipping

from a local newspaper stating that we killed 30 unarmed people, including women and children. They have suddenly begun making fantastic charges against gunboats on the main river. That is why we have new orders not to fire back blindly against ambushers, because if we do the students will make a big lie of each occasion. We are up against lying as a matter of planned strategy. . . . We are fighting lies now, not armed men.⁵⁰³

Insurgents and non-state forces confronting the regular military forces, especially of western states, will commonly focus their propaganda efforts against the technological advantage of the counter-insurgent forces. US and western nations are portrayed as using their asymmetric technological advantage as a means to bully and repress the civilian population. In China in the 1920s, the gunboat was the symbol of western technology and oppression. Today, air power is the force that is especially singled out as the primary symbol of repression. It is easy to make fantastic charges against air forces, and accuse them of deliberately bombing civilians, because the insurgent still controls the ground at the end of the day. This means that the insurgent also controls the story, and accusations of brutality through air power makes great for sensational news stories. Insurgents and non-state forces are also assisted by a news media, often the western media, because they will print the insurgent and radical casualty claims without disclaimer or comment, often repeating ludicrously high figures of civilian casualties and damage to civilian homes. Indeed, insurgents and non-state groups get so much propaganda value from civilian casualties that they readily use the civilian population as human shields. The tactic of placing heavy weapons in highly populated areas in the hope that the air force will attack them and inflict collateral damage has become a common insurgent strategy.

During Israel's 1982 invasion of Lebanon, the PLO placed artillery pieces and anti-aircraft guns in civilian neighbourhoods, on the roofs of apartment houses, and even on hospital grounds.⁵⁰⁴ They hoped to provoke the Israelis to attack targets with the assurance of heavy civilian casualties. If the Israelis refrained from attacking, the PLO preserved its forces and equipment. If Israel attacked, the resulting dead civilians could be displayed to the world as victims of Israeli aggression. For the PLO, it was a win-win situation. What the PLO did in 1982, and similar actions by Hezbollah in the 2006 conflict with Israel, are clearly war crimes under the Geneva Conventions. Although using civilians as human shields is a gross violation of international law, many in elite circles in the west are willing to give warring non-state groups a pass on following the basic rules of warfare. In 1983 an "International Commission" of European academics presented a case against the Israeli Air Force that appealed to the anti-Israel bias common to many European circles.

With little hard evidence, the International Commission repeatedly accused the Israeli Air Force of violating international law in the conflict in Lebanon. For example, the Israeli bombing of PLO targets in Beirut was referred to as "terror bombing" and "indiscriminate bombing of Muslim civilians." The reported figure of hundreds of civilian casualties after thousands of Israeli air sorties gives lie to the charges. If the Israelis wanted to slaughter civilians from the air, they could have easily done it with more than 600 combat aircraft in the IAF inventory.

In 2006 the Israelis faced an even more sophisticated media campaign against their use of air power against the Hezbollah irregulars. Hezbollah, tacitly supported by the Lebanese government, carefully controlled the media coverage of the conflict. What the world saw was evidence of a massive attack by Israeli forces against the civilians of Lebanon. The media dutifully repeated unverified claims of massive civilian casualties and damage to civilian homes – 15,000 homes destroyed was one figure bandied about. The reporting was accompanied by dramatic images – many of them doctored by reporters sympathetic to Hezbollah – that promoted the image of Israeli targeting of civilians. That many civilian casualties were the result of Hezbollah's practice of firing rockets from heavily populated areas was less reported.

In contrast, the Israeli government and military did a poor job of presenting their case to the world. Early in the campaign, Israeli ground forces captured Hezbollah rocket firing cards that proved that Israeli civilians were the targets of the massive Hezbollah rocket barrage. That many Israeli civilian targets were hit, and Israeli civilians were killed by rockets fired from Lebanon was hardly noted by the international media. In short, Hezbollah came out of the conflict as the big winner in the opinion war, while Israeli was generally characterised as the aggressor.

In the aftermath of the Israeli campaign Lebanon, western human rights groups and even some western governments are now pushing for an international ban of the use of cluster bombs, which are very useful munitions in fighting both insurgents and conventional forces.⁵⁰⁶ But the case of Israel is not unique. Insurgents have also used this win/win media strategy in Iraq. In Fallujah in 2004 insurgents placed munitions and weapons in twenty mosques, and used mosques as fighting positions. Targeting a mosque that is being used as a military installation is a perfectly acceptable act under the laws of war. Still, this common insurgent practice works well for the insurgents. Although the US employs precision weapons, and tries to keep damage to mosques to a minimum, there was just enough damage in Fallujah to ensure that insurgents could portray the conflict as Americans attacking Islam; a theme that resonates throughout the Arab nations and helps further radicalise the Islamic opinion.

Because aerial attack is automatically viewed in the less developed world as cruel and heavy-handed, it creates a paradox for policymakers. While air power is often the most effective means to strike at insurgents and terrorists, its use will provoke outcry in many quarters of western society and throughout the less developed world. In short, there is a heavy political price to pay when air power in the form of air strikes is used.

The US and western nations must do much better in presenting our side of the conflict to the world media. We have to be ready to counter a large scale disinformation campaign mounted by insurgent and radical groups against our military operations. A senior commander today, operating against irregular enemies, needs a highly trained specialist cadre who can handle media and information operations.⁵⁰⁷ The poor Israeli response to the conflict with Hezbollah in southern Lebanon in the summer of 2006 ought to be a warning about the need to anticipate the opponent's media campaign and to proactively develop responses using themes, words and images that will appeal not only to our own public, usually the audience for our own media campaigns, but also to the people of the region. When we catch our opponents using lies and disinformation, or the western media uncritically repeating the disinformation, we need to be able to quickly and effectively counter such propaganda campaigns. Counter-insurgency is still about winning hearts and minds, and effective media operations are one of the main weapons we have. As the US Army and Marine Corps counter-insurgency doctrine argues: "Some of the best weapons for the counter-insurgent do not shoot."⁵⁰⁸

Another thing that we should seriously consider is directly confronting the insurgent tactics of using civilians as human shields as their means of inhibiting our air power and also gaining propaganda advantages by increasing the likelihood of civilian casualties.

One important step to deter this practice would be to aggressively prosecute leaders of radical and insurgent groups as war criminals when they use civilians as human shields. The precedent of the Nuremberg Trials is clear: leaders can be held responsible for the systematic policy of war crimes committed by their subordinates. There is ample hard evidence that this is a common practice, and indicting and prosecuting insurgent leaders for such acts will serve to change the legal and political dynamics in which insurgency and terrorism are viewed.

The Doctrinal Gaps

The current conflicts that we are facing in Iraq and Afghanistan are forcing us, however reluctantly, to re-evaluate air power theories and doctrines. For many years, the study of air power against non-state enemies was largely ignored by mainstream air force officers and generally relegated to the Special Forces. Our air power doctrine reflected

this emphasis on the conventional state on state war. However, Iraq and Afghanistan are not anomalies. The US is currently helping several nations to fight serious insurgencies with Colombia and the Philippines being two of the larger advisory and training missions. NATO is heavily involved in Afghanistan and helping that nation to establish a secure and stable government is a long term operation. These missions are not going away, and that means that we need a much more extensive doctrine to help guide our operations.

In looking at American air power doctrine, there are currently two large gaps in our strategy for employing air power in counter-insurgency: training allied air forces facing insurgencies, and ensuring that they are provided with adequate equipment. As a first principle of counter-insurgency, we must remember that we cannot win another nation's internal war for them. We can provide aid, equipment, training and advice. We can by them time to build up their own forces and infrastructure. Yet, in the end, to defeat insurgents the threatened nation has to field its own forces, develop its own strategy, and find its own political solution.

Therefore, standing up capable indigenous forces ought to be the central focus of any American counter-insurgency effort. Yet the cultural preference of the US military is to view the US operations as the main effort and the training and equipping of foreign forces as a very secondary mission. In Iraq, the US Army and Marines did not make building the Iraqi army a priority mission until 2005. Little was done to begin building an Iraqi air force until 2006. The US military culture has put us years behind where we ought to be in helping Iraq and Afghanistan to establish capable air forces. The issue of time is especially important for air forces, because it takes much more time to build an air force than it does an army. This is due to the requirement for training a large number of technical and specialist personnel, who require a far longer period of training than army infantry. Building an appropriate infrastructure for an air force is also a far more complex and time-consuming process than building the physical infrastructure for an army.

Training foreign air forces is a skill that the US military has largely forgotten. Yet in the past we had a strong record of building allied air forces. In the 1940s the US and British stood up a Greek air force that helped defeat the insurgency in that country. In the 1950s American personnel trained a Philippine air force that helped defeat the Huk insurgency. In the 1960s, a small group of American advisors trained and equipped the Laotian Air force, which by 1966-1967 was more successful at destroying North Vietnamese vehicles and installations on the Ho Chi Minh trail than the USAF.⁵⁰⁹ We tend to forget that the US programme to train and advise the South Vietnamese Air Force (VNAF) was one of the success stories of the Vietnam War.⁵¹⁰ Flying older US aircraft, VNAF units provided effective air support for the US Army in the Mekong Delta in the

1960s.⁵¹¹ The VNAF maintained a solid combat performance throughout the war. As the US turned the war over to the South Vietnamese, the VNAF took up the burden. In the spring of 1972 the VNAF flew thousands of sorties in the successful air effort to defeat the grand North Vietnamese spring offensive. However, the history of building the VNAF also highlights some of the complexities in supporting a less developed ally. The VNAF's biggest problems were shortages of trained personnel, mechanics and parts. While the VNAF had plenty of aircraft, operational rates were low due to a weak infrastructure.⁵¹²

Coming out of Vietnam, the US carried out a very successful effort to build an effective air force in El Salvador during that nation's insurgency from 1981 to 1992. The Salvadoran Air Force was primarily a helicopter force for troop transport with some close support and medevac capabilities. The effort to increase the size and effectiveness of the Salvadoran Air force, which US trainers and advisors made possible, gave the Salvadoran Army the ability to quickly respond to rebel attacks. The provision of medevac helicopters raised the morale and fighting effectiveness of the Salvadoran Army. Finally, the Salvadoran Air Force gunships provided effective close air support to ground troops.⁵¹³ The El Salvador experience is a good model of doing it right.

Yet the US Air Force's new counter-insurgency doctrine, Air Force Doctrine Document 2-3, *Irregular Warfare* (August 2007), draws little on the historical experience of past US success in counter-insurgency and focuses instead on highlighting how the USAF can fight insurgents in its 94 pages. The vital mission of training the host nation air forces to fight their own war is hardly mentioned. When the mission is mentioned on a few pages, it is discussed only in the most general terms. In contrast, the new Army and Marine Corps counter-insurgency doctrine contains a more detailed discussion concerning the requirements for building indigenous air forces. Although all the major counter-insurgency theories of the last five decades emphasise building the host nation forces and capabilities as a key to success, the US military tends to ignore this. Currently the USAF has only a small force of less than 300 personnel to cover the worldwide mission to training allied nation air forces. In confronting counter-insurgency today, all the services need to revamp their doctrine to place considerably more effort into the training and advisory mission. I can think of few US efforts that have paid off more handsomely at relatively little expense in manpower and equipment.

Appropriate Equipment for Allied Nations

The Army/Marine counter-insurgency doctrine is far superior to the new Air Force doctrine in its discussions about equipping host nation air forces. FM 3-24 recommends the use of inexpensive, low-tech aircraft and technology for less developed allies facing

insurgency.⁵¹⁴ In the 94-page new USAF counter-insurgency doctrine, the issue of providing appropriate equipment to less developed allies is not even addressed. Simply put, the Army/Marine doctrine recognises that effective counter-insurgency is not just about using US forces, but about helping allied nations win their own wars. Allied nations threatened with insurgency need their own air forces. Unfortunately, US aircraft and systems are too expensive and sophisticated for less developed nations to operate and maintain.

What kind of aircraft and systems do small allied nations need? Ideally, they should be simple and easy to maintain, survivable, able to operate from rough airfields, and be capable of operating in the strike or surveillance roles. In the years after World War II and Vietnam, the US had plenty of surplus aircraft that fit the bill. Yet today, we no longer have such aircraft in our inventory. One solution is to design and build a new counter-insurgency aircraft suitable for small, allied nations. Luckily, American initiative is not dead. In late 2003, a group of designers and manufacturers formed the US Aircraft Corporation and began a project to build a simple and inexpensive counter-insurgency aircraft. The result is the A-67 Dragon, a light two-seater turboprop that is specifically designed for survivability (armoured cockpit), light strike and long endurance. Its simplicity ensures that a less developed air force can operate and maintain it. Its low cost will make it possible for the US to provide it in adequate numbers to allied nations. The A-67 has incorporated several features that are essential for counter-insurgency. It has an exceptionally long endurance, over ten hours, which means that it can keep a large area under surveillance for a long time. Using of aircraft in the surveillance and standing patrol missions have historically been some of the most effective means of observing insurgent activity and inhibiting insurgent movement and activity. The trained observer in the backseat with high power lenses is still a very effective means of monitoring ground activity. It might not be as good as some of our high-technology systems, but it is something that a less developed nation can easily operate.

However, while a light, multi-purpose aircraft such as the A-67 Dragon can effectively carry out most counter-insurgency missions, there still remains the requirement for effective close air support of ground troops. While a light strike aeroplane can fulfil some of these functions, a heavier aircraft such as the gunship is best suited for a developing nation's air force in conducting the close air support mission. There are several reasons why gunships are a preferred solution. First of all, a number of twin-engine transports have been modified as gunships and they have proven highly effective in combat. In El Salvador's civil war (1981-1992) the AC-47, an old modified C-47 transport armed with three .50 calibre machine guns, proved to be the most accurate close air support weapon of the war. It is fairly easy and inexpensive to modify a modern twin engine transport as a

gunship and a combination of 20-millimetre and 40-millimetre automatic cannon make for an accurate and effective firepower combination against ground targets. The primary advantage of the gunship is that it only takes a few weeks to train a competent transport pilot to be an effective gunship pilot. Conversely, it takes a considerable amount of time and training to get an aeroplane pilot to the point where he can accurately drop bombs. As well as developing the A-67 Dragon for counter-insurgency, the US Aircraft Corporation is currently experimenting with modifying a CASA 212 twin-engine transport as a gunship. The CASA 212 is a highly popular light transport, easy to maintain and capable of being flown from small rough airfields. In short, the CASA is a good choice for a gunship conversion platform. Given the training and financing, it would not take long to equip Afghan and Iraqi air forces with effective counter-insurgency aircraft of this type. One can also see the need for such aircraft as the A-67 and the CASA 212 in several other allied countries facing insurgencies.

It is remarkable that these initiatives to field simple, effective aircraft for counter-insurgency did not come from the US Air Force, but from the civilian sector. It also illustrates just how far we have gone in making the high-technology war part of our military culture and doctrine. However, one sign of progress is that the Air Force Special Operations command is now very interested in these initiatives. As the Airpower Annex of the US Army and Marine Counter-insurgency Manual (FM 3-24 Appendix E) noted, while there is an important role for high-technology air power in counter-insurgency operations, there is also an important role for the low end of technology.

Conclusions

While there is no air power solution to counter-insurgency, there is certainly a large role for air power. Air power can bring firepower, transport, reconnaissance and constant presence to the fight; and these are all things that the counter-insurgency force needs. Currently, the greatest obstacles to doing this mission are not material ones, but what lies in our own minds and our own military cultures. In the last sixty years, western nations have had their best results in counter-insurgency by first developing a comprehensive strategy and then remembering that success lies in helping allied nations fight their own war. Frankly, there is not a lot of glory in training and equipping allied air forces to fight insurgents. Nor is there much recognition for those who serve as human intelligence specialist or as a media expert. Yet, in order to fight insurgencies well, we will have to reorient some of our efforts towards these largely neglected military specialties.

CHAPTER 13

The use of Air Power Today:
Have New Ethical Challenges Occurred?

Steinar Sanderød

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Steinar Sanderød

Since the Kosovo War in 1999, western air power⁵¹⁵ has been used primarily against asymmetric opponents fighting in an “unconventional” style. In today’s wars in Afghanistan and Iraq, air power is a major contributor in the fight against insurgents. Due to characteristics including speed and range, air power can deliver lethal firepower where and when it is needed. Technological developments in precision weaponry have made it possible to destroy targets with pin-point accuracy. Therefore the optimistic perception of today’s air power is that it has precision and can selectively target and take out the enemy only. The promise made is that future wars can be won within days with few casualties among one’s own soldiers and civilian lives. Is this in fact the case?⁵¹⁶

Numerous reports after operations in Afghanistan and Iraq offered evidence of collateral damage due to incorrect bombing.⁵¹⁷ The new counter-insurgency manual from the US Army/US Marine Corps recognises the significant contributions air power can make to counter-insurgency operations. At the same time the manual urges commanders to “exercise exceptional care when using air power”.⁵¹⁸ Does this indicate that there is a mismatch here between the perception of air power and its usage in recent wars?

This chapter aims to highlight ethical challenges in today’s use of air power by addressing the ethical implications of the trends of air power and examining some of the moral issues involved in the use of force.

Ethics are essentially a matter of values rooted in culture. I recognise Human Rights as an attempt to develop universal ethical standards. Yet ethics tells us what, from a cultural point of view is seen as right or wrong; what conforms or conflicts with the ruling norms of individual cultures. Norwegian and British ethics, for example, may differ in some certain areas but be similar in others. Military ethics can also vary due to their close relationship with cultures. Different views of ethics between military forces increase the complexity of applying air power in today’s warfare. In addition, the complexity of the battlefield and the application of force are not the only things to cause ethical challenges. Further complexity comes when western military forces wage war on non-western opponents, as is the case in Afghanistan and Iraq. The ethics of the population in Iraq and Afghanistan differ widely from those found in western states. Discussing ethics is therefore a problematical area because our view points are so dependent on our own cultural frameworks.

Precision: Good or Bad?

Precision characterises much of modern air power. The development and the increased use of precision munitions and their accuracy have raised public expectations of air power as a humane weapon. Its ability to deliver lethal and precise power over vast distances has increased. Simultaneously new and enhanced technology is enabling air power to operate over even greater distances.

Charles Dunlap Jr warns us to look at the future use of air power as described above:

Recent scientific developments raise hopes that Twenty-first century warfare – if not avoided altogether – might nevertheless be waged in a more humane manner. Much of this optimism is traceable to the Gulf war [1990/1991] where the application of high technology seemed to minimize allied and Iraqi casualties [civilian] alike. Key to this perception of war where the widely televised images of precision-guided munitions (PGMs).⁵¹⁹

He claims that such optimistic predictions will remain unfulfilled, but will create worse problems.⁵²⁰

The promise of Discrimination and the Expectation of a Clean War

The technological development of air power has given it the ability to identify targets, illuminate them and guide weapons against them with a high degree of precision. Technology has also made it possible for pilots and others to rapidly see the result of the bombing and evaluate the need for re-allocation of the target. The improvement and advance of precision-guided munitions (PGMs), coupled with the all-weather capability of sensors, can be seen as a step in the right direction to adapt air power to the moral principles of “Just War”.⁵²¹ In the ethical context, the use of PGMs is a step in the right direction to prevent collateral damage. This is underlined by James Turner Johnson, who claims that “smart weapons” reduce the risk of killing non-combatants.⁵²² Not only do they reduce the risk of incorrect bombing, but they further reduce the number of munitions required to destroy individual targets, and also further reduce the need to repeat combat missions and minimise the exposure of the aircrew to danger.⁵²³ It can be claimed that precision in air power weapons today compared to their predecessors makes them more discriminate and therefore in accordance with the principles of proportionality and discrimination. From a historical perspective the use of precision weapons can be viewed as a reduction in the use of force, making weapons more morally acceptable.⁵²⁴

Is Risk-free War lowering the Force Threshold?

In his book, *The Future of War?* Christopher Coker argues that there are features in

American society that make technology the preferred tool, instead of humans. He labels this “the instrumental dimension of war” and asserts that technology offers a chance to reduce the cruelty of war.⁵²⁵ The development of technology in air power and its “successful” application in the wars since the Gulf War of 1991 have created an image of air power as a nearly risk-free tool. The west seems to be fascinated with air power and its minimum risk to its own pilots and to the non-combatants in theatre.⁵²⁶ Politicians and public opinion in the west seem to be convinced that air power is less “messy” than the use of ground forces.⁵²⁷ Colin McInnes underlines this perception of air power: “Indeed, it has almost become a self-fulfilling prophecy, with air forces proclaiming their ability to strike with precision, fuelling expectations of near-bloodless campaigns where enemy civilians are successfully avoided and only the regime is targeted”.⁵²⁸ Such a perception of air power has greatly contributed to lowering the threshold for using force among western politicians. A paradox is that this perception of air power has had an unanticipated effect.⁵²⁹ More “humane” air power has contributed to the use of more force.

This is perhaps the “nice version” of the story. A more controversial one is to say that this technology has been developed in order to preserve its own legitimacy.⁵³⁰ This approach is ethically much more problematic. Is the west developing sophisticated weapons in order to make their employment more acceptable so that one can continue to wage wars? One current example comes from Afghanistan, where NATO wants to reduce the explosive force of bombs in order to limit and avoid collateral damage.⁵³¹ Can this be viewed as an example of trying to make ourselves still relevant in a situation that perhaps calls for means other than air power?

The idea that air power and precision have lowered the threshold for the use of force is ethically problematic. The ethical challenge is that the effects of air power tend to increase violence rather than reduce it. Michael Ignatieff highlights my point by stating: “The accuracy of new airborne weapons systems lowered – or appeared to lower – the political costs of using them. Clinton went to war, believing that new technology would bring speedy, risk-free victory”.⁵³²

The ethical challenge is even greater if air power and precision have been developed to promote air power as the weapon of choice. Is one of the aspects more acceptable than the other, or do we have to consider them both as ethically problematic?

Targeting

In its short history, air power has shown its value on the conventional and classical battlefield, against military opponents with a clear distinction between friend and foe and a terrain that exposes ground troops rather than conceals them.⁵³³ It seems that when a

“clear” picture of the battlefield glides from black and white into shades of grey the assets of air power are less significant.

Air power has the potential to hit a target at almost any given place on the earth’s surface. This has been promised by air power “prophets” and theorists since the inter-war period. Technological development has now made that “promise” reality. However, the ability to decide *what* one should hit has not increased at the same pace. Targeting and dilemmas in conjunction with it have been one of the permanent challenges since the infancy of air power. The selection of targets results from human judgment. Even if technological elements have apparently made the process of selecting targets much easier, the basis is still the judgment of humans. One of the factors in the process of judgment is ethical considerations. In targeting ethical dilemmas related to errors of judgement may arise. The first element is to find the target, and evaluate if it is the right target to hit.⁵³⁴ The second element is to evaluate if the destruction of the target meets the desired goal of the operation. One ethical perspective is: does the desired effect of destroying the target meet the principles of proportionality and discrimination? The question in this section is if targeting as a result of precision has created any new ethical challenges.

Fluid Battlefields

To a greater extent the potential ethical dilemmas can be considered when the targets are determined prior to the engagement. Targeting cells have a mix of various specialists: air planners, legal advisers, weaponeering personnel, etc. Personnel can assess the physical damage potential of the different weapons. Other weapons can be selected; the angle of attack can be changed to minimise unintended damage.⁵³⁵ Lieutenant Colonel Dwight A. Roblyer points out that the US planners in Operation Enduring Freedom had methodologies for assessing the possibility of collateral damage and casualties. It seems perhaps natural that to a great extent the pre-planned missions can avoid unintended harm or damage.

One of the features of the new wars and the battle environment is that it is difficult to distinguish combatants from non-combatants. Moreover, combatants are highly mobile in their warfare. In response to western military technological supremacy the opponent’s tactics are to be mobile, avoid making his soldiers static targets and mixing them up with the civilian population. In wars from Somalia onwards, western forces have had few possibilities to plan for attacking static targets. Recent wars have shown how difficult it is to plan an attack against non-static targets. The challenge is to meet the opponent with air power in a mobile and mixed environment.

The air power response to the “fluid battle environment” is to have aircraft on CAP⁵³⁷ with appropriate means available to respond to short-notice requests to attack targets on the

ground, often termed “targets of opportunity”. Compared to pre-planned missions, it is not possible to exercise the same depth of judgment on the risks of collateral damage and civilian casualties. Both the pilots and the personnel on the ground make their own assessments, but naturally not as thoroughly as in pre-planned missions. In order to consider the target’s legitimacy, time can be one of the aspects that influences the ethical assessment when attacking a target of opportunity. Even if a target is authorised by a higher command echelon and is in conformity with relevant rules of engagement (ROE) the time factor is of importance.⁵³⁸ But time alone cannot account for the risk of making wrong ethical judgments. Within this limited span, decisions with both operational and ethical implications have to be taken fairly quickly. The judgment of pilots and personnel on the ground is further influenced by the “heat of the battle” and the time pressure imposed by the desire to conduct the bombing. As Thomas Wards puts it: “How for example, can a belligerent know whether a bombing mission promises sufficiently significant military gains to justify the risk of civilian casualties if both the risk of casualties and the prospective gains are matters of conjecture?”.⁵³⁹ The question is: does the pilot or the personnel on the ground have a complete picture of the situation, so that he or she can decide if the risk of collateral damage, for example, is proportionate to the possible benefit? Constraints from the environment can add to the difficulty of forming sound judgments. Yet making an ethically correct judgement is up to the individuals concerned. Ethics must be one of the crucial assessments when bombs are to be dropped.

Ordnance

When engaging a target of opportunity, the aircraft has only its loaded ordnance. There is little flexibility concerning what kind of ordnance to use once the aircraft is airborne. Thus, air power can be less flexible when it comes to delivering relevant ordnance which can be adjusted to changes in the tactical situation. The ordnance selected for a pre-planned mission is specially picked out for the designated target and can therefore be subject to an assessment of proportionality. This can not be done to the same degree when targets of opportunity are to be attacked. It seems that air power fights with ordnance designed for conventional war. The tool one already has decides what one does.⁵⁴⁰ In today’s battle environment that ordnance is ill-suited to some of the missions conducted. So both the lack of flexibility concerning ordnance once airborne and ordnance not adjusted to targets create ethical challenges. The principle of proportionality emphasises the important moral aspect of minimizing the harm inflicted. Is it ethically right to use a 500 pound GBU⁵⁴¹ against two insurgents?

Intelligence

Precision guided munitions can only be as precise as the intelligence the bombing is based upon. In the words of Phillip Meilinger: “In essence, Air Power is targeting, targeting

is intelligence, and intelligence is analyzing the effects of air operations".⁵⁴² In the US Marine Corps doctrine publication covering intelligence, it is defined as *knowledge*.⁵⁴³ And knowledge and the interpretation of intelligence data is an activity for humans. In selecting targets air power is dependent on correct information. In complex situations and circumstances there can be problems concerning both the identification and the allocation of the target. One issue is the originator of the information about the target. In Afghanistan during the most intense phases of Operation Enduring Freedom, it occurred that some target information was delivered from local Afghan supporters.⁵⁴⁴ Even if there were western coalition forces on the ground, it was difficult for them to assess the reliability of the information.⁵⁴⁵ There were instances where bombs were dropped on the basis of invalid information. There was speculation that the aim of the given information was to get rid of local Afghan rivals; those not supporting the goals of the operation. Personnel requesting, approving and delivering ordnance have the ethical responsibility to verify the validity of the information.⁵⁴⁶ When information which has been collected is unreliable and the use of force is applied on the basis of this information it can be a short distance to an unethical effect.

The need to strike emerging targets rapidly made US forces in Afghanistan short-cut the targeting process and then rely upon unverified information before striking a target.⁵⁴⁷ One cruel example was the bombing of an Afghan wedding party in the summer of 2002.⁵⁴⁸ Therefore, there are two pitfalls concerning intelligence serving as a basis for precision guided munitions: the reliability of the intelligence and the aspect of correct target identification. These two circumstances are perhaps nothing new or particular to the use of air power. Yet as the conditions of the battle environment require that rapid decisions should be taken, these circumstances should be considered part of the ethical responsibility of the decision makers.

As already mentioned, there are a number of aspects while handling the complexity of air power which constitute ethical pitfalls. Air power – due to the altitude from which it operates – is totally dependent on correct information. Intelligence has one implicit task and that is to minimise the uncertainty and prevent unethical judgments from being made.

Technical Limitations

Precision-guided munitions, enhanced surveillance capability and communication, UCAVs, in other words state-of-the-art technology, have laid the foundation for the striking of the correct targets and avoiding collateral damage. Yet technology is used by humans and we as operators of technology should be aware of its possibilities as well as its limitations. Perhaps the technology and our trust in it affect our decisions concerning

the use of lethal force. If we have overwhelming trust in technology we will lose the ability to recognise the different delicate aspects of warfare which require human judgement.

An example of the technical limitation and of target information and the use of the precision-guided munitions was when during Operation Allied Force NATO aircraft bombed a railway bridge while a train was crossing.⁵⁴⁹ A UAV was operating in the vicinity of the railway bridge transmitting a real time picture to the CAOC⁵⁵⁰ in Viezenca. The picture from the UAV showed an "empty" railway bridge with no other elements around. Clearance was given to release weapons from the CAOC. Yet due to the limited ability to change the angle of the camera on the UAV, the incoming train was not detected until seconds before weapon impact.⁵⁵¹ The result was the death of non-combatants causing uproar among the media and concern amongst NATO commanders.⁵⁵² The combination of the limited visual angle from the UAV and a wrong assumption from the pilot dropping the bomb, contributed to making this disastrous judgement.⁵⁵³ Even if the aim of technology is to give us advantages we have also to consider the limitations of technology and not trust it blindly. This is especially relevant for people in the Air Force. The Air Force is probably the most technology-dependent of all the armed services. The complex technical systems upon which air forces depend can break down or errors can occur. It is a short distance from a precision-bomb to an ordinary dumb bomb. We are ethically irresponsible if we blindly trust technology without taking into account its limitations, or if we blindly trust technology's ability to give us crystal clear information. As air power becomes more and more dependent on technology – for instance the increased use of UCAV – we have an ethical obligation to know the limitations of technology. Also, as far as possible we should be able to understand what influence technology has on our perception of the conduct of war.

The technical ability to discriminate between military and non-military targets has never been better than it is today. Still, as pointed out above, harm to civilian personnel and damage to infrastructure due to the use of air power do occur. There are several ethical challenges concerning targeting. One of the ethical challenges, due to the fluid battlefield, is the ability to discriminate between combatants and non-combatants, because combatants are often indistinguishable from non-combatants. Combatants have driven western air power to attack moving targets and targets of opportunity, which present a higher chance of errors and collateral damage. The proportionate use of force is another ethical aspect highlighted by the environment in which the new wars are fought. The weapons of air power are ill-suited for some of the missions conducted, therefore causing greater damage than other means could have done. Verified and correct intelligence is the basis for targeting. Even still, this area is subject to misuse, leading to ethically wrongful decisions concerning the use of force. The technology involved in the use of air

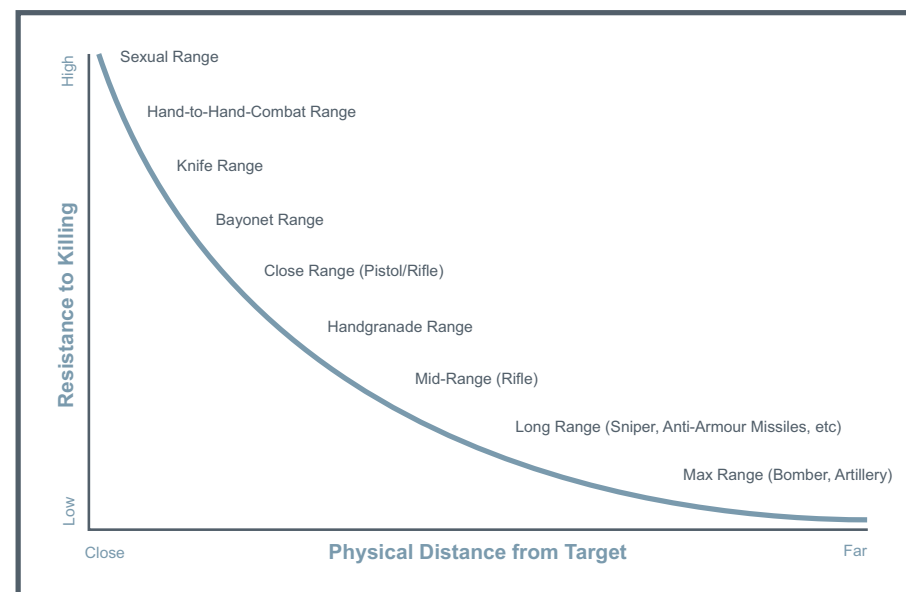
power gives us huge advantages, but its limitations and wrongful use can cause ethically questionable judgments and acts.

The Ethics of Distance

Assistant Professor Ole Jørgen Maaø pointed out that the distance from shooter to target has increased tremendously and “this distance will probably increase”.⁵⁵⁴ In addition, Christopher Coker states: “The new technologies have drawn the military into a world in which reality is mediated or simulated. This is one of the ethical dilemmas of the American way of warfare, because it creates an encounter that is qualitatively different from before – one that has little or no reference to us. What the warrior sees on the computer screen is also real. The perception of reality becomes reality”.⁵⁵⁵ This quotation indicates that long distance is one of the characteristics of new technology and especially of air power.

Distance prevents airmen from seeing the effects of their weapons. Modern technology compensates for this by giving airmen the ability to see buildings and personnel that have been blown up. Yet it is all presented on screens and monitors, completely free of the noise and smell of the battlefield. The battlefield and war itself – for aircrew – have increasingly become a conceptual and synthetic world. What is the difference today between a simulated bombing mission and a live mission?⁵⁵⁶ If there is no difference what effect does it have on the ethical conscience of airmen? Christopher Coker addresses this complex issue. He claims that physical distance – as provided by technology – is in danger of being transformed into disassociation in two ways.⁵⁵⁷ First there is a mental disassociation, since operators are increasingly cut off from the consequences of their acts. Secondly, reality is increasingly presented by computers. In sum, he claims that pilots are increasingly cut off from taking responsibility for their acts. I think that these observations – combination of technology, air power and distance – create a sort of alienation from the traditional battlefield. My claim is that distance, due to the characteristics and the increasing use of air power, has created and will create ethically challenging situations. The danger is that airmen put a mental distance between themselves and what happens on the ground and then let this distance influence their judgment.

I refer once again to Coker concerning the impact of distance upon soldiers: “[greater distance] suggest that emotionally and psychologically soldiers will continue to become increasingly detached from the enemy”.⁵⁵⁸ Lieutenant Colonel David Grossmann verifies this by arguing that there is a connection between the physical distance to a victim and the reluctance to kill.⁵⁵⁹ He asserts that it is easier to kill people when the physical distance increases. The resistance to killing is inversely proportional to the distance to the target. He has illustrated this increased resistance to killing in the following diagram⁵⁶⁰:



The diagram illustrates the distance to the target, the human who is to be killed. Grossman describes a number of factors which make it easier to kill when there is physical distance between the killer and the victim. The physical distance protects the killer from perceiving how the victim feels. It is not possible to hear the screams or see the “burning bodies” from thousands of feet in the air.⁵⁶¹ Grossman names the distance – that is, the height above the ground from which airmen drop ordnance – as the “moral distance”.⁵⁶² It should be noted that Grossman drew his data from bombing during the Second World War, when the ability to see the result of one’s own bombing was poorer. Today sensor and imagery technology has made it possible to see the result of an attack almost instantly.

My point is that the physical distance corresponds to a mental distance and therefore has ethical implications. If distance makes it easier to kill, must this not affect airmen’s ethical awareness? Does bombing from 15,000 feet give air power and airmen a kind of anonymity? If so, does this anonymity provide some sort of self-defence and alienation, thus creating an ethical shield? When killing is done from a distance, one should rather be ethically more aware, due to the fact that the option of killing is easier.

The moral relevance of physical distance – and the possible ethical challenges which follow – are of increasing significance if the west continues to use air power to the extent it has up to now.

Another aspect pertaining to distance is the ability to operate air power almost risk-free. As David Wetham puts it: "A whole new generation of weapons demonstrate a willingness to kill but not to die for a cause".⁵⁶³ The physical distance, inherent in air power, and the near absence of opponents in the air today makes air power nearly a risk-free business. Martin Shaw argues that high altitude and long range destruction is inherently indiscriminate, and concludes that when western forces use air power, it is to avoid the risk to one's own soldiers.⁵⁶⁴ He labels this "risk transfer war". In this context one can ask oneself about the will to sacrifice lives. Is increased use ofUCAV in missions in Afghanistan and Iraq a sign of where air power is heading? Are we heading towards a risk-free environment where Air Forces are not willing to sacrifice their airmen's own lives?

Historically, the classical duel in which two opponents confront each other on equal terms has been looked upon in the west as something ethically correct. Boxing is named the "noble art of self defence". Here the opponents have the same weapons, their fists, and they meet on equal terms on neutral ground. To provide extra fairness there are even weight classes in boxing in order to make the fight as equal as possible. The premise is that the means are the same on both sides. If not, the contest is unethical. Is this logic transferable to air power and the ethical challenges in today's new wars? Has air power erased the notion of a duel in today's war? Is this no longer a duel between symmetric opponents as in the major conflicts of the twentieth century? We must not forget that asymmetry, like symmetry, is a two-sided affair. When it emerges it is the consequences of a "mismatch" in a relationship for which both side are responsible. Due to the technological superiority of the west, today's battlefield features the big against the small. If air power represents the west's lack of will to sacrifice and its refusal to operate on equal terms, war itself may have become ethically questionable.⁵⁶⁵ This does not take into account the security of one's own troops, which is not unethical. Yet if the need for self-protection weighs more than the principle of the proportionate use of force, then there are definitely ethical challenges involved in the use of air power. And if the consequence of the use of power does not emerge out as ethically justifiable to the user, then the ethical boundaries are in danger of being crossed. It may seem that air power, as a symbol, represents the west's reduced will to risk and sacrifice their own lives.

Keeping a Clean Perception of Air Warfare

During the Gulf War of 1991, correspondents and military spokesmen started to use new vocabulary concerning the use of precision weaponry. The great impact of the introduction of new technology caught the attention of many in western society.⁵⁶⁶ They were fascinated by "invisible" aircraft delivering munitions which were accurate down to a couple of feet, CNN showing footage of released bombs with aim points hitting shelters

and other military installations, and stories of cruise missiles following roads and turning left and right in order to find their designated target.

Modern air power has created a picture of war as something precise, clean and more or less casualty free in terms of both non-combatants and friendly aircrews. When using the means of air power, we, as airmen, have the habit of using terminology reflecting the picture of "cleanness". When talking, especially in a public context, we use words like "surgical intervention" and "surgical precision," which obviously refers to surgeons who use a scalpel to make clean precise cuts.⁵⁶⁷ We seem to like to think of ourselves as doctors who remove unwanted and infected tissues from the social body before neatly closing the incision. When collateral damage occurs due to air power, it is harder to use vocabulary such as "surgical" or "precise". The effects created cannot be said to be "precise". They become "dumb hits" by "precise weaponry". Is our choice of words aimed at cleansing reality from the use of air power?

Is the use of such vocabulary intended to make the conduct of military operations more acceptable to western societies? Does this kind of rhetoric concerning the use of air power contribute to lowering the aversion to military solutions to political problems? If this is true does our air power terminology say something about ourselves and the standards of our societies' ethical involvement?

We see ourselves as noble warriors and our enemies as despicable tyrants. We see war as a surgical scalpel and not a bloodstained sword. In so doing we mis-describe ourselves as we mis-describe the instruments of death. We need to stay away from such fables of self-righteous invulnerability. Only then can we get our hands dirty. Only then can we do what is right.⁵⁶⁸

What is Michael Ignatieff trying to tell us in this quotation? As I see it he has two messages. The first is how we in the west view ourselves compared to the enemy. Yet I want to focus on the second message. Here Ignatieff tells us that the perspective of war is no longer viewed as cruel battle involving the horrors with which war has been previously associated. New wars are something to be related to the removal of something like a tumour with precision and cleanness. If we do not relate to the reality of war and somehow absorb it, we can not do right.

Perhaps we can learn something from how we describe the use of air power. Our rhetoric says something about how we want air power to appear and thus make it more acceptable to the opinion in the west. Do we, as airmen, create an ethical shield by deliberately using

words such as, “smart bombs,” “surgical attack,” “precision weapons,” “selected military targets,” “minimal civilian casualty,” “collateral damage,” “bombing leadership” etc.⁵⁷⁰ When using such vocabulary are we trying to normalise the ugly sides of air power? Is this somehow another kind of war fought by means of language, by creating neutral and “positive” words? Is the real vocabulary of war and killing too hard to sell to western societies? Must we keep the realities of our conduct of war hidden from the citizens? Such secrecy is ethically untenable while living in a democracy. Therefore, I agree with Ignatieff that we do not want to *get our hands dirty* and there is perhaps a long way to go before we *do what is right*. We find ourselves near what I will label the ethical boundaries in an attempt to neutralise the ugly aspects of war and warfare. An example is the statements given by the Norwegian Prime Minister in the opening stage of the Kosovo War, claiming that Norwegian F-16s participated in a “limited military operation”. When talking in public he deliberately avoided using the word “war”. Later he publicly admitted his choice of words was politically motivated and misleading.⁵⁷¹

Conclusions

It is difficult to say something absolute about ethics, due to the fact that the whole concept comprises social values rooted in a nation’s culture. Ethical standards differ among western states and in their military services. Inevitably, this makes it hard to have the same ethical foundation when working in a coalition. Different views on ethics add another dimension of complexity to the conduct of war, raising the possibility of creating ethically challenging situations.

The lack of opponents in the air coupled with precision’s ability to employ lethal power over long distances have made air power the military instrument of choice for western politicians. The advantages of air power and its technological advance have created a picture of a nearly risk-free instrument for western forces to use and of a weapon that just hits the opponent leaving non-combatants more unharmed than they used to be. This may have lowered the threshold for western politicians’ willingness to use military force and therefore dare to challenge the ethical borders.

On today’s battlefields are opponents who have developed and employed tactics to minimise or neutralise western military superiority challenge. The technological ability to discriminate between combatants and non-combatants has never been better, therefore some of the ethical challenges in today’s war lie in the blurred nature of the battlefield making discrimination difficult.

Different aspects concerning targeting, ordnance, intelligence and technical limitations have and are challenging our ethical norms. Reliable information and trustworthy

intelligence are the foundation for making sound (ethical) judgments. The principle of proportionality still applies to the use of air power. It can appear as if we are bringing into war the ordnance we thought of fighting with in the conventional battlefield, thus making its application ethically questionable. Air power is and remains technology-dependent. Thus, the technical limitations of the technology should be known, in order to prevent for wrongful results. When wrongful results occur, too often it is civilians who suffer.

The combination of technology, air power and distance can create a sort of alienation from the traditional battlefield. Distance has created and will create ethically challenging situations. If Grossmann is right when he claims that increased physical distance makes it easier to kill, without worrying about it, should we be more careful in our use of distance as a tactical asset?

I do not think that the enhanced technology and precision of air power have deliberately made airmen more unethical soldiers. Yet I think that now, more than ever, we need to be aware of the ethical implications involved when we use air power against our opponents. The way we handle these ethical challenges may impose limitations on our conduct of warfare. To me, it seems we need to rethink some aspects of our current practice.

CHAPTER 14

Neglected Contributors:
The Continental European Air Powers

Christian F Anrig

Neglected Contributors: The Continental European Air Powers

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Desert Storm and the ensuing air campaigns over the Balkans revealed considerable shortfalls in Continental European air power. On top of that, American airmen considered allied military operations, the actual achievements of Continental European air forces have been neglected. Seeking to bring balance, this article will in particular examine the performances of the French and the Royal Netherlands Air Forces.

The following arguments are divided into two main parts. First, Continental European contributions to the so called “War on Terror” will be analysed, with a focus on operations in Afghanistan. The underlying developments of Continental European air power will then be scrutinised in order to put the Continental European contributions into context.

Contributions by Continental European Air Powers to Operations in Afghanistan and Elsewhere

Since the beginning, Continental European air powers have contributed to Operation Enduring Freedom. In particular, the French Air Force has opened a new front, flying into Afghanistan from Kyrgyzstan. A combined European F-16 unit finally replaced the French detachment. Moreover, Continental European Air Forces played an important role by providing intra-theatre airlift and combat helicopters for operations in Afghanistan.

The French Air Force in Afghanistan: Operation Héraclès

After September 11, the French Air Force was the first European air force to engage targets in Afghanistan with fighter bombers. An intelligence-gathering phase preceded these engagements. From 23 September 2001, a French C160 Gabriel electronic intelligence aircraft conducted missions over Afghanistan. This effort gained support from the deployment of two Mirage IVP together with two C-135 FR tanker aircraft to the Arab Emirates, delivering important imagery intelligence. These assets provided France with autonomous intelligence prior to dispatching their naval air arm and Mirage 2000 D aircraft.⁵⁷² French imagery intelligence also helped the USAF to identify important targets for their bombers.⁵⁷⁴

Regarding the deployment of combat forces, the French approach was two-pronged. On the one hand, French Super Entendards from the aircraft carrier Charles de Gaulle had been flying missions over Afghanistan since December 2001. Together with Italian Navy Harriers

operating off the carrier *Garibaldi*, these aircraft supported US Navy fighter bombers orbiting over Kandahar and Tora Bora to attack any al Qaeda targets that might emerge.⁵⁷⁵ On the other hand, six Mirage 2000 D together with two tanker aircraft were deployed over 6,000 kilometres from France to Manas, Kyrgyzstan, on 27 February 2002. On 2 March, these aircraft, alongside sixteen French Navy Super Etendards, took part in Operation Anaconda.⁵⁷⁶ The American air component commander, General Moseley, argued that, given the ferocity of the fighting on the ground, he immediately had to engage the French Mirage aircraft, without giving them time to acclimatise. The French detachment, consisting of fighter bombers and tanker aircraft, was the first to be based at Manas, and General Moseley acknowledged France's role in establishing a new front for operations over Afghanistan. He considered it particularly important to complement air power projected from aircraft carriers with a land-based approach. In June 2002, the French Mirage aircraft in Manas were joined by USMC F/A-18D Hornets. Both in the air and on the ground, co-operation between the two contingents was very tight. For instance, French C-135 FR tanker aircraft refuelled the American fighter bombers operating from Manas. Up to autumn 2002, the American and French air forces were the only ones amongst the twelve coalition countries that patrolled over Afghanistan day and night. Missions lasted between four to seven hours.⁵⁷⁷ Within seven months, French Mirages logged 4,500 flying hours and 900 sorties, destroying or neutralising thirty-two targets.⁵⁷⁸ Over a protracted period of time, French aircrews covered vast distances in each sortie.

In the ensuing years, the French Air Force has continued to deploy combat aircraft to Central Asia.⁵⁷⁹ In the first half of 2007, the French Air Force deployed Rafale combat aircraft for the first time to Central Asia for operations over Afghanistan. Their base of operations is the capital of Tajikistan, Dushanbe, and their missions encompass tactical reconnaissance, low-level passes to deter and disperse enemy forces or to provide close air support. On 1 April 2007, for instance, French Air Force fighter bombers responded to a call by US troops for air strikes against insurgents 200 kilometres east of Kabul. The request was picked up and executed by a Rafale and a Mirage 2000 D, which each dropped one GBU-12 bomb. Recently, also French Navy Rafales operating from the aircraft carrier *Charles de Gaulle* have contributed to the fighting on the ground. On 28 March, for instance, a Navy Rafale dropped two GBU-12 precision guided bombs in a close air support mission for Dutch Army troops.⁵⁸⁰

French participation in the early phase of Operation Enduring Freedom was not limited to combat, reconnaissance and tanker aircraft. The French transport command very early established an air-bridge to Central Asia and was amongst the first to conduct night-flights into Mazar-i-sharif under extremely adverse circumstances.⁵⁸¹

Combined European F-16 Detachment operating in Central Asia

In the first phase, the Royal Netherlands Air Force supported Operation Enduring Freedom by an air-to-air refuelling capacity. For this purpose, it dispatched a KDC-10 tanker aircraft to Qatar's Al Udeid airfield, from where it carried out missions in close co-operation with US tanker aircraft for the duration of nearly three months in the first half of 2002.⁵⁸² Only later in the year did the Dutch contribute fighter bombers to the equation.

On 1 October 2002, the French Mirage 2000 D based in Manas were replaced by a European F-16 detachment.⁵⁸³ This combined detachment consisted of eighteen F-eighteen from Denmark, the Netherlands, and Norway supported by a Dutch KDC-10 tanker aircraft.⁵⁸⁴ Within one year of operations, the Dutch fighter bomber alone logged 804 sorties and 4,640 flying hours, regularly providing close air support to ground troops. The combined European F-16 detachment finally led to the establishment of a European F-16 expeditionary air wing, known under the acronym EPAF EAW (European Participating Air Forces' Expeditionary Air Wing). Its development will be scrutinised below.

In the second half of 2005, a combined European F-16 detachment was directly deployed to Kabul airport in Afghanistan. Both Belgium and the Netherlands provided four aircraft each, with the Belgian contingent being replaced by Norwegian F-16s in February 2006. Alongside its alliance partners, the F-16 detachment provides a strong security presence and show of force in the country. The detachment of eight aircraft regularly carries out reconnaissance and close air support missions and it is on note 24 hours a day to provide air support for troops on the ground.⁵⁸⁶ For instance, when in February 2006, a mob of 200 to 300 people broke into an ISAF camp, Dutch F-16 made several passes at low-level altitude in order to intimidate the crowd and fired warning shots above the crowd.⁵⁸⁷

Royal Netherlands Air Force Apache and Patriot Deployments

With regard to Operation Iraqi Freedom in early 2003, the Royal Netherlands Air Force did not directly participate in the high-intensity phase of this operation, but did so indirectly by deploying Patriot guided missile units to Turkey in early 2003.

In February, the Dutch government received an official Turkish request for three Patriot units and additional Stinger teams to be stationed in Eastern Turkey.⁵⁸⁸ Operation Display Deterrence aimed at protecting NATO air bases. Within one month from the receipt of the Turkish request, these Patriot units were operational in Turkey and remained there throughout the high intensity phase of Operation Iraqi Freedom.⁵⁸⁹

Another Dutch main weapon system contributing to the "War on Terror" is the attack helicopter. On 30 January 2004, the Dutch government agreed to a NATO request and

put six Apache combat helicopters at the disposal of the ISAF peace-keeping force in Afghanistan. They were the first attack helicopter at the disposal of ISAF and, as a rapid response unit, provided close air support for ground forces and deterred attacks by insurgents.⁵⁹⁰ According to the Deputy Commander Air of ISAF, these helicopters increased ISAF's self-protection and reconnaissance capabilities considerably.⁵⁹¹

Soon afterwards, the Netherlands dispatched six Apache combat helicopters to Iraq to provide the Dutch ground contingent with enhanced situational awareness and firepower.⁵⁹² These helicopters also proved to have psychological effect upon insurgents. For instance, in August 2004, Dutch infantry got involved in a gunfight with insurgents, who employed rocket-propelled grenades. When Dutch AH-64D Apaches appeared on the scene, the insurgents reportedly withdrew on the spot.⁵⁹³

The German Air Force in Central Asia

The Federal Republic's participation in operation ISAF put one of the highest demands upon German Air Force airlift capacities. Moreover, German airlift capacities were still suffering from significant shortfalls. As consequence, Ukrainian and Russian transport aircraft had to be chartered (amongst others).⁵⁹⁴ Nevertheless, the German Air Force finally managed to establish an air-bridge to Kabul in early 2002. It ran from Cologne through Termez airport in Uzbekistan to Kabul. Whereas for the first leg Airbus A310s were used, the second leg was served by C-160 Transall aircraft, equipped with self-protection suites. At Termez airport, the German Air Force established a base which hosted up to seven C-160. This route became an important life-line not only for the German, but also for the entire ISAF contingent. Furthermore, from February 2003 until June 2004, the German Air Force was in charge of running Kabul International Airport. What originally was supposed to be a six-months assignment ended as a fifteen-month assignment because no other nation was prepared to take on the succession.⁵⁹⁵

Germany's participation in Allied Force in 1999, which supposedly pursued humanitarian goals, did not mean that German politicians would in the future easily participate in an allied air campaign at the higher spectrum of military force. As such, the GAF's contribution to Enduring Freedom was in the first phase relegated to NATO AWACS aircraft deployments to the US and to military airlift in support of deployed naval, army, and special-forces units as well as of allies.⁵⁹⁶ Only in early 2007 did the German Parliament decide to dispatch RECCE Tornados to Afghanistan in support of ISAF.⁵⁹⁷ Although Germany pursued an evolving path throughout the 1990s, which finally culminated in the German Air Force's participation in Operation Allied Force, the main emphasis of Germany's military contribution has remained upon stabilization operations, with a clear cut humanitarian purpose, as was the case in the German led EU mission in

the Democratic Republic of Congo during 2006. Hence, operations of a more offensive nature as those in Southern Afghanistan are not in line with Germany's defence policy.

Operating under a recently established Swedish Air Force Rapid Reaction Unit scheme, a Swedish C-130 Hercules executed transport missions for ISAF in Afghanistan in late 2004. It operated in tough, mountainous conditions in the northern part of the country, where the landing strips were frequently gravel-topped or in a disastrous shape.⁵⁹⁸ From August to November 2005, a Swedish C-130 was again dispatched to Central Asia. It was based together with German transport aircraft in Termez, from where it assisted ISAF in Afghanistan.⁵⁹⁹ Although this contribution might not seem significant, it nevertheless shows that even European countries with a tradition of neutrality are contributing to current operations in Afghanistan. This was inconceivable at the outset of the post-Cold War era.

Evolution of Continental European Air Power in the post-Cold War Era

The development of Continental European air power will now be analysed in order to put European contributions into context. Interoperability and power projection have been the two key themes shaping European air power in the post-Cold War era. Moreover, the French Air Force could draw upon a vast experience in rapid reaction operations in the African theatre and the Royal Netherlands Air Force upon distinct doctrinal features, combat proven in the air campaigns over the Balkans. Moreover, co-operative ventures have helped to improve European power projection.

French Interventions in Africa

When rapidly deploying forces to Central Asia against the backdrop of Operation Enduring Freedom, the French Air Force could draw upon a vast experience in small scale deployments to Africa since the late 1960s. In the wake of protracted large-scale involvements in Indochina and Algeria, France – under the presidency of Charles de Gaulle – adopted a new military strategy to protect its remaining overseas interests. This strategy hinged upon light and rapidly deployable units as well as on theatre reception bases within Africa such as in Djibouti or in Senegal.⁶⁰⁰ This allowed for interventions on a much smaller scale, but not necessarily at the lower end of the spectrum of military force. Particularly under the presidency of Valéry Giscard D'Estaing (1974-1981), French overseas interventions experienced a drastic rise against the backdrop of growing Soviet-Cuban involvement in Africa.⁶⁰¹

Gradually, reliance upon the French Air Force to project power grew. This trend is illustrated by the composition of French deployments to Chad between 1968 and 1987. The first operations hinged upon light and mobile infantry forces with air power playing

a secondary role and being primarily relegated to inter-theatre and intra-theatre airlift. In the late-1970s, French Jaguar aircraft took on an increasingly important role, by delivering concentrated firepower.⁶⁰² In the first half of the 1980s, the increasing Libyan air threat for the first time made the deployment of French air defence assets such as the Mirage F1-C and Crotale guided missile batteries necessary.⁶⁰³ The final major deployment to Chad, lasting from early 1986 to late 1987, reversed the original composition of French intervention forces. For the first time, an air force officer served as the joint force commander. The operation aimed at deterring enemy air and land incursions. For this purpose, the French Air Force executed two major offensive counter-air missions deep inside enemy-held territory, and engaged Libyan aircraft at least twice in combat.⁶⁰⁴

Besides an increasing threat posed by African opponents and the desirability of reducing potential political liabilities associated with prolonged overseas deployment of substantial ground combat forces, the concurrent conduct of several interventions led to greater reliance upon air power in order to avoid overstretch. This was especially true in 1978, when three major crises – in Zaire, Mauritania, and Chad – had to be dealt with simultaneously. During Operation Lamantin, up to eight French Jaguar combat aircraft conducted decisive strikes over two days against Polisario rebels, raiding Mauritanian government installations, and thereby contributed to the establishment of a cease-fire. French air-to-air refuelling aircraft as well as French Navy Atlantic anti-submarine-warfare aircraft, serving as command and electronic intelligence platforms, supported and guided the Jaguar fighter bombers. The detachment never exceeded 350 personnel.⁶⁰⁵ This vast experience, spanning the spectrum from counter-insurgency operations to sophisticated offensive counter-air missions, rendered the French Air Force one of the most combat-experienced western air forces at the end of the Cold War.⁶⁰⁶ Yet operations in Africa remained secondary to the French Air Force's nuclear role.⁶⁰⁷

As during the Cold War, French operations in Africa have primarily been autonomous national operations. In many instances, French forces have intervened in order to temporarily stabilise hotspots or to evacuate western citizens. As these operations have required quick reaction, power projection by air has often proved indispensable for mission-success. Besides airlift, the French Air Force has often provided combat aircraft, giving the lean French ground force deployments a decisive edge in firepower. Operation Turquoise, lasting from 22 June until 22 August 1994 aimed at stopping genocide in Rwanda and at establishing a safe haven. Since Rwanda was a land-locked country and more than 8,000 kilometres away from France, rapid deployment could only be executed by airlift. Chartered Russian wide-body transport aircraft augmented the air-bridge. A total of three thousand personnel as well as seven hundred vehicles and additional cargo were moved during the operation. Firepower came from twelve hundred French

frontline troops supported by twelve combat aircraft.⁶⁰⁸ Jaguar and Mirage F1 combat aircraft supported by a C-135 FR tanker were stationed in neighbouring Kisangani and Goma,⁶⁰⁹ from where they were capable of delivering air cover for ground operations in Rwanda and of executing low-level flights aimed at deterring combatants.⁶¹⁰ Further major joint interventions throughout the 1990s were conducted in Central Africa and in Congo.⁶¹¹ These operations provided a pool of experience when it came to the rapid deployment to Central Asia. They gave the French Air Force the necessary expertise to open a new front for air operations over Afghanistan.

Towards the Primacy of French Conventional Forces

While the French Air Force has proved to be extremely skilled in autonomous rapid interventions, interoperability became a major challenge at the outset of the post-Cold War era. Since French decision makers strongly favoured a diplomatic solution and were reluctant to commit forces to an American-led coalition, French forces were only shortly prior to the commencement of Desert Storm integrated into the coalition.⁶¹² Yet reluctance to subordinate French forces to the Joint Force Commander during the force build-up led to a marginalisation of the French Air Force contingent.⁶¹³

Though French aircraft flew 1,237 combat and a significant number of tanker and airlift sorties, French participation represented only two percent of the total volume of sorties flown.⁶¹⁴ This was partly due to tight political control. French decision-makers demanded to be informed on potential targets forty-eight hours in advance. This proved to be incompatible with the high tempo of air operations.⁶¹⁵ Moreover, the reason for this relatively limited contribution was related to materiel. French aircraft lacked compatible IFF equipment, which prevented them from working closely with the allies, and French Jaguar aircraft, despite their precision strike capability, lacked night-sight capabilities.⁶¹⁶ In July 1991, an official French report came to the conclusion that the French Air Force generally was unable to immediately operate in an advanced technological environment.⁶¹⁷ Desert Storm proved at the time too big, too technically advanced, and too Anglo-Saxon for the French Air Force. As such, the air campaign constituted a watershed.⁶¹⁸

One French commentator argued that the shortfalls envisaged by the French Air Force during Desert Storm seriously put into question previous procurement priorities. In particular, the French Air Force did not possess sophisticated command and control systems which proved indispensable for an air campaign of this scale and complexity.⁶¹⁹ Shortfalls in the conventional force structure primarily resulted from the primacy of nuclear doctrine.⁶²⁰ As a consequence, substantial parts of the French conventional force inventory were second-rate by the end of the Cold War.⁶²¹ Moreover, conventional air force squadrons were not even allocated enough funds to attain 180 flying hours per pilot per year.⁶²² The

only all-weather capable attack aircraft at the time, the Mirage 2000 N, was assigned to the strategic squadrons tasked with the nuclear strike role.⁶²³ In order to address the shortfalls, President Jacques Chirac embarked upon a far-reaching defence reform in the mid-1990s. It is supposed that particularly shortcomings in French power projection during Desert Storm were the driving factors behind Chirac's reform.⁶²⁴

A cornerstone in the French Air Force's modernisation in the post-Cold War era has been the Rafale programme. Yet delays of the programme caused serious problems for defence planners. While the first Rafales were originally expected to be delivered in the early 1990s⁶²⁵ French Navy Rafale aircraft entered service in 2001,⁶²⁶ and the first French Air Force Rafale squadron only became operational in mid-2006.⁶²⁷ Due to these delays, interim solutions were required. In particular, two aircraft, the Mirage 2000 D for attack missions and the Mirage 2000-5 air-superiority fighter, have bridged the conventional force capability-gap. The Mirage 2000 D is the French Air Force's first conventional aircraft to offer an all-weather-precision-strike capability.⁶²⁸ Its importance in bridging the capability gap pending introduction of the Rafale was formally acknowledged in the Military Planning Law 1997-2002. A total of 86 units were planned to be procured.⁶²⁹ The Mirage 2000-5 is basically a modified Mirage 2000C with improved air-to-air radar and fire-and-forget Matra MICA missiles. The first converted aircraft out of thirty-seven were delivered in December 1997.⁶³⁰

With regards to computer-aided command and control systems, Operation Desert Storm revealed major shortfalls. In the early 1990s, the French Air Force hinged upon a thirty-year-old system. Improvements were expected by the introduction of the successor system, the SCCOA (*système de commandement et de conduite des opérations aériennes*). This system was conceived to automate most command and control and detection functions as well as to facilitate the conduct of defensive and offensive missions,⁶³¹ by fusing data of various sensors. SCCOA encompasses a deployable component and is fully interoperable with its NATO equivalent. The deployable component of SCCOA can support a combined joint force air component command headquarters in deployed operations.⁶³² This allows France to accept lead-nation status in combined operations.

France's push towards enhanced interoperability has also been underlined by its prominent role in the multi-national MIDS (multi-functional information distribution system) development programme, covering 26.5 percent of the cost involved.⁶³³ The programme has been aimed at developing a small, lightweight Link-16 terminal, which is to become standard in US and Western European combat aircraft.⁶³⁴

Enhanced interoperability on a technical level enabled the French Air Force to take on a lead role on the international scene. For instance, it has recently been in charge of

the NATO Response Force air component command alongside the Royal Air Force.⁶³⁵ French structures and national procedures were fully interoperable with NATO and hence allowed smooth integration of allied air forces.⁶³⁶ Without this shift of emphasis upon interoperability and conventional forces, the French Air Force could have impossibly been in a position to swiftly plug into Operation Enduring Freedom. Compared to French performance in Desert Storm, French participation in Enduring Freedom meant a quantum leap. As such, the post-Cold War era basically led to an emancipation of French conventional forces.

Not only did the French Air Force make significant steps in improving its command and control capabilities, but so did the German Air Force. During the Cold War era, the German Air Force had no means at its disposal to conduct air combat operations above the wing level and fully hinged upon NATO command and control structures. In the post-Cold War era, with an increasing German commitment to out-of-area operations, a national capacity for the planning, conduct, and command of air combat operations became necessary. In late 2001, the German Air Force established its operations command (*Kommando Operative Führung Luftstreitkräfte*). For the first time in its history, the German Air Force received an autonomous capacity for the tactical and operational planning of air operations. The GAF Air Operations Command had been primarily designed as a national nucleus for a multi-national combined joint force air component command headquarters against the backdrop of NATO or EU operations.⁶³⁷ As such, the GAF Air Operations Command will enable Germany to act as the lead nation AIR in multi-national operations.⁶³⁸

Development of a European F-16 Expeditionary Air Wing

The Royal Netherlands Air Force is among the main architects of supra-national defence ventures in Europe. In particular, it was the driving force behind the establishment of the above-mentioned European Participating Air Forces' Expeditionary Air Wing, which is basically a multi-national European F-16 wing.

The European Participating Air Forces' Expeditionary Air Wing has its roots back in the early 1990s when the air operations over the former Yugoslavia were in full steam. In October 1994, the Royal Netherlands Air Force and the Belgian Air Force signed a Memorandum of Understanding. They intended that the Belgians would take on about one-third of the Royal Netherlands Air Force's efforts in Operation Deny Flight. Yet the first Belgian pilots were deployed to Italy only in October 1996, well after operations Deny Flight and Deliberate Force.⁶³⁹ This bilateral co-operative venture was called Deployable Air Task Force (DATF), and co-operation was particularly enhanced through participation

in combined exercises, such as Red Flag in the US and NATO Air Meet.⁶⁴⁰ In 1999, DATF enabled close co-operation in Operation Allied Force.⁶⁴¹ Co-operation between the two air forces helped to reduce redundancies in area such as logistics and operational planning. For instance, DATF incorporated a combined planning cell for the preparation of contingency plans.⁶⁴² Moreover, the Luxembourg army provided a tailored ground security force for deployed operations.⁶⁴³ Strengthening the concept was the fact that both air forces operated the F-16 fighter-bomber, and it was fully in line with NATO's combined joint task force concept, endorsed by the Alliance in January 1994.

Prior to DATE, the Royal Netherlands Air Force together with the Belgian, Danish and the Norwegian air forces established EPAF (European Participating Air Forces). All EPAF members were F-16 customers, and the concept was originally conceived for procurement purposes in order to pool national requirements and to gain bargaining leverage. EPAF particularly laid out the common requirement for the mid-life update of the European F-16 Block 15 A/B.⁶⁴⁴

With a Dutch, Danish, and Norwegian EPAF deployment to Central Asia in 2002, DATF concepts transferred into an EPAF context for the first time. Together with the Danish and Norwegian air forces, the Royal Netherlands Air Force participated in the air operations over Afghanistan. The combined EPAF deployment was reportedly effective despite some legal and procedural obstacles. In order to further improve co-operation between the European F-16 users, General Berlijn, then Commander-in-Chief, took the initiative to approach his Belgian, Danish, Norwegian and Polish Air Force counterparts to ask for their view upon a possible expansion of the DATF concept. This finally resulted in the European Participating Air Forces' Expeditionary Air Wing (EPAF EAW). The participating air forces intend to make optimum use of available and complementary assets in out of area operations, in order to increase efficiency. For instance, during the operations over Afghanistan, the Netherlands and Denmark provided targeting pods free of charge for common use, while Norway provided a hangar and a deployable communication module.⁶⁴⁵

EPAF EAW allows for deployments involving two or more air forces, depending on the particular circumstances. Through this approach, national sovereignty is respected, with each participating nation defining its level of commitment.⁶⁴⁶ During the NATO summit in Istanbul on 28 June 2004, the defence ministers of Belgium, Denmark, the Netherlands, Norway, and Portugal finally signed the EPAF EAW Memorandum of Understanding.⁶⁴⁷ Its essential benefit is synergy. Through their combined commitment, EPAF nations as a group can deliver more robust and sustainable force packages than autonomous national efforts would allow for.

EPAF EAW is inherently flexible as it allows for different participation levels. It is possible to make arrangements with two or more countries, depending on the situation and on the countries that want and can contribute to a particular deployment. It is a prerogative of each participant to define its level of commitment in each particular operation. With regard to aircraft maintenance, partner air forces can arrange to perform maintenance on each other's aircraft and ground equipment.⁶⁴⁸ This combined approach to air power has allowed European F-16 users a sustained presence in Central Asia.

Distinct Doctrinal Features of the Royal Netherlands Air Force

With regard to the development of distinct doctrinal features, exploiting air power's inherent flexibility to the maximum, the Royal Netherlands Air Force has been at the leading edge of European air power.

When Operation Deny Flight commenced on 12 April 1993, Dutch F-16s, together with US Navy F/A-18s, flew the first combat air patrol missions over Bosnia on the very same day, and a mere ten days later, Dutch F-16s were among the first to fly night combat air patrol missions. The Dutch detachment accounted for roughly ten percent of the overall allied commitment and consisted of eighteen F-16s, which were configured for three roles – air defence, air-to-ground strikes, and tactical reconnaissance. 21 November 1994 saw the first air strikes against ground targets by Dutch F-16 aircraft. The strikes were directed at the airfield at Udbina in the Krajina region. In the planning process, Royal Netherlands Air Force personnel played a key role and a Dutch Major acted as the overall mission commander during the attack itself.⁶⁴⁹

During Operation Deliberate Force, Dutch F-16s conducted air defence, air-to-ground strike, as well as reconnaissance missions. Of a total of 3,515 sorties flown and 1,026 bombs dropped, the Royal Netherlands Air Force accounted for over ten percent of these figures.⁶⁵⁰ Throughout the campaign, Dutch F-16s dropped exclusively unguided Mk.82 and Mk.84 bombs.⁶⁵¹ Given that the American air component commander put a premium upon the avoidance of collateral damage and considered dumb bombs unnecessarily risky to use,⁶⁵² this must have required a great degree of trust in Dutch skills. According to the account of a high-ranking RCAF officer, Dutch F-16 were able to place unguided bombs accurately by diving below the minimum flight altitude,⁶⁵³ a measure that was considered as too risky by other allies.⁶⁵⁴

Apart from employing unguided bombs with accuracy, the Royal Netherlands Air Force displayed further distinct national approaches to air power in the air campaigns over Bosnia. Towards the end of the Cold War, the Royal Netherlands Air Force introduced the so called swing-role concept. According to this concept, aircraft and pilot can execute

multiple tasks in on one and the same sortie⁶⁵⁵ All Dutch F-16 pilots are trained in both the air-to-air and air-to-ground role.⁶⁵⁶ Due to this concept and its inherent flexibility, the Royal Netherlands Air Force detachment was the only unit capable of carrying out all three missions in the course of Operation Deny Flight. The fact that Dutch F-16s could be re-tasked while executing a mission gave the combined air operations centre at Vicenza some extra leeway.⁶⁵⁷ During Operation Deliberate Force, it happened at several occasions that Dutch F-16s were flying air defence missions with bombs attached to their underwing pylons and minutes later, they were re-rolled for an air-to-ground mission.⁶⁵⁸ Since swing-role not only requires multi-role capable combat aircraft but also versatile aircrews, the Royal Netherlands Air Force is willing to meet the demands of a very intensive and costly yearly training programme. From a Dutch point of view, there is no doubt that this approach pays off. Moreover, the Royal Netherlands Air Force has retained its capability of operating at low-level altitudes. Although air operations over the Balkans were executed at medium-altitude, the Chief of the Air Staff argued in the wake of Operation Allied Force that this would not mean that low-level missions were no longer part of the equation, as situations might arise in the future, requiring such a capability⁶⁵⁹

Not only with regard to the swing-role concept did Dutch aircrew put a premium upon flexibility, but also with regard to force packaging. When it was announced in November 1994 that all missions had to be escorted by SEAD aircraft, some allies, including Dutch pilots, expressed doubts about this far-from-flexible way of operating.⁶⁶⁰ Instead of over-reliance upon SEAD and stand-off jamming assets, Dutch pilots preferred to make their flight patterns as unpredictable as possible⁶⁶¹

Despite the fact that the air operations over Bosnia represented the first real operations for Dutch fighter pilots, some aircrews served as leaders of large multi-national formations which were to perform difficult missions. According to Lieutenant General Manderfeld, Commander in Chief from 1992 to 1995, factors for this outstanding performance were sound training and education.⁶⁶²

For Operation Allied Force in 1999, a total of twenty Dutch F-16s and two KDC-10 tanker aircraft were made available to NATO. Transport aircraft were flying almost around-the-clock carrying the right type of munitions on schedule to Amendola air base in Southern Italy. Through these efforts, a high operational tempo could be achieved and an average degree of readiness of over 95 percent could be sustained. Throughout Operation Allied Force, Dutch F-16s flew 700 air-to-air, approximately 450 air-to-ground and 50 reconnaissance and battle damage assessment sorties over the Federal Republic of Yugoslavia. The Royal Netherlands Air Force delivered more than 800 air-to-ground weapons, of which 32 percent were precision guided. Given these figures, the Royal

Netherlands Air Force played a substantial role in Operation Allied Force and provided, according to Dutch sources, approximately 7.5 percent of the offensive NATO sorties.⁶⁶³ Overall, it released slightly more precision guided munitions than the Royal Air Force.⁶⁶⁴ On top of this, a Dutch F-16 downed one of three Serb MiG-29s taken out by allied aircraft during the first night of the operation. Indicating the sensitivity of this incidence, the Dutch Chief of Defence, Admiral Luuk Kroon, expressed concern to General Wesley Clark about too much publicity⁶⁶⁵

The Royal Netherlands Air Force's performance over the Balkans in the 1990s was indeed appreciated by the Allies. When General Charles A Horner was asked by a Norwegian air power expert to comment upon the Royal Netherlands Air Force, he highlighted outstanding qualities including professionalism, equipment, training and attitude. Moreover, he took the view that in the course of Allied Force, the Royal Netherlands Air Force proved to be highly interoperable and able to cover a broad panoply of air power missions, including offensive air combat missions. As such, the air component commander could rely upon the Royal Netherlands Air Force to execute difficult missions, with other NATO allies being relegated to more supporting roles due to deficiencies in equipment, training or attitude.⁶⁶⁶ Air operations over the Balkans in the 1990s were key to shape the Dutch approach to air power. This experience put the Netherlands Air Force into an excellent position to take on a lead role in establishing a European F-16 wing and to contribute to operations over Afghanistan.

As implied in Horner's statement, sound doctrinal concepts do not have an effect without the political will to use military force. The Netherlands are indeed ready to commit their armed forces across the entire spectrum of force, initial phases of an operation included. Experience gained in the mid-1990s taught the Netherlands government that all deployed units must have sufficient escalation potential. This also applies to operations at the lower end of the spectrum of force.⁶⁶⁷ In early 2004, the Dutch Defence Minister emphasised that allied solidarity must not only be apparent from a country's military capabilities, but also from its willingness to share risks. Therefore, the ability to conduct war and to make a contribution of political as well as of military significance has become an important pillar of Dutch foreign and security policy.⁶⁶⁸ Although the Netherlands defence budget is below NATO average, from a Dutch perspective the nature and the scope of the defence effort cannot be measured in purely financial terms. The military contribution and the willingness to actively deploy forces across the full spectrum of force are considered of equal importance.⁶⁶⁹

European Airlift Co-operation

When in late 2002 the European F-16 contingent replaced the French Mirage 2000 D detachment that had participated in the early stages of Operation Enduring Freedom, the

European Airlift Co-ordination Centre (EACC) in the Netherlands began co-ordinating European transport and air-to-air refuelling aircraft. EACC is part of a process that is about to lead to a common European Transport Command.

In the late 1990s, German Defence Minister Scharping had particularly supported the setting up of a common European transport command in order partially to remedy European shortcomings highlighted in the context of NATO's Defence Capabilities Initiative and the European Headline Goal.⁶⁷¹ At the Franco-German summit in November 1999, France and Germany declared their intention to transform their co-operation in the field of military airlift into a European Air Transport Command (EATC). The setting up of EATC has been pursued in an evolutionary way so far. A European Air Group air-lift study laid the foundation for the European Airlift Co-ordination Cell (EACC) in Eindhoven.⁶⁷² Although EACC had been very successful in co-ordinating air transport and AAR activities among European Air Group members, in terms of both operational and financial aspects, the need to further develop EACC soon became obvious. As a result, the EACC transformed into the European Airlift Centre (EAC) on 1 July 2004. In contrast to EACC, the EAC has a broader scope of planning authority and responsibilities including conceptual developments and training.⁶⁷³

Unlike other European states, for which transferring national sovereignty into a multi-lateral framework is a more sensitive issue, Germany would have been prepared immediately to transfer national authority in the field of airlift and directly to establish an independent European Air Transport Command.⁶⁷⁴ In May 2007, Germany, France, Belgium and the Netherlands finally signed an agreement. The air forces of these countries will participate in the European Air Transport Command, which is supposed to reach initial operational capability in early 2009.⁶⁷⁵ This multi-lateral approach will provide each of these countries with an unprecedented surge capability, as it will pool more than one hundred Airbus A400Ms from Germany, France, and Belgium.⁶⁷⁶ Given its participation in the European Air Transport Command, the Netherlands might join the A400M programme as well. While critics argue that the A400M is not really a strategic air-lifter,⁶⁷⁷ it has a truly strategic range of up to 6,500 kilometres and can operate from semi-prepared strips. Its cargo compartment can load – apart from main battle tanks – a variety of large vehicles as well as medium-sized helicopters such as the Cougar.⁶⁷⁸ Against the backdrop of sustained out-of-area operations in Afghanistan and elsewhere, co-operation in the field of military airlift will significantly enhance European power projection capabilities.

Conclusions

The rapid deployment and the sustained presence of European air power detachments show that Europe can make relevant contributions to current operations in Afghanistan

and elsewhere. Next to distinct doctrinal features such as the ability rapidly to deploy joint contingents over large distances or the ability fully to exploit air power's inherent flexibility by the so-called swing-role concept, European co-operation is key to creating relevant European air power. By overcoming fragmented approaches to air power, it draws upon the synergies of the various air forces. The establishment of a common European Air Transport Command will create unprecedented surge capacities for out-of-area operations. Moreover, the establishment of the European F-16 wing exemplifies how operations in Central Asia accelerated Europe's thrust towards more integrated air power.

Yet meaningful and relevant contributions not only hinge upon sound doctrinal and increased co-operation, but also on state-of-the-art hardware, which is interoperable and allows plugging into American-led operations. The importance of hardware is particularly clear from the French case study. While the French Air Force encountered significant difficulties during Desert Storm, the ensuing emphasis upon enhanced quality of its conventional forces led to a seamless integration into an American-led campaign against the backdrop of Operation Enduring Freedom. In this regard, European air forces have placed a particular emphasis upon command and control as well as communications systems such as the Link 16 terminal MIDS. Finally, for air power to be relevant, European nations need to be willing to employ it. While the so called "War on Terror" is not Old Europe's war, various nations have nevertheless been willing to make a contribution within certain boundaries.

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- ULTIMUM ADDRESSED TO THE QUTEIBIS ORDER.
- To: Sheikh HASLAN ALI AL AKHRAM the Quteibi Sheikh
- Whereas on the night of the 21st and 22nd February, 1934 = 6th and 7th Zill Qi'da 1352, a caravan passing through your country on a main route was attacked by three of your tribesmen, and two donkeys were killed or wounded and a quantity of goods looted.
- And whereas the Resident C.-in-C. is determined drastically to put a stop to such outrages on trade routes,
- The Resident and C.-in-C. hereby orders as follows:-
- The three culprits must be handed over for custody to H.H. the Sultan of Lahej, namely, Jabir Muhsin' Absari, Muthanna Salih Al Harbi Al As-hafi, Salim Ghalib al Ghazali.
- If you fail to hand over the said three culprits you must hand over three hostages in their stead, namely:-
- Hasan Murshid' Absari, Haidera Ghalib al Ghazali, Sa'd bin Muhammed As-hafi.

Twice the value of the killed and wounded donkeys and of the looted property, namely, Rs 500/- in all must be paid to the Residency Office, Aden.

Note. - Although the Resident and C.-in-C. is properly entitled to demand ten times the value of animals and loot in accordance with the Road Security Agreement made by Ahl Quteib on the Rabi' Thani 1351 (August, 1932), on this occasion he demands only twice the value.

3. If the terms of this order have not been fully complied with by noon on the 22nd March 1934 = 6th Zill Hijja 1352, air action will be taken against all the uteibi territory generally thereafter.

Dated: 3rd March, 1934.

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114. David Kilcullen, "Counter-insurgency Redux," *Survival*, Vol. 48, No. 4, Winter 2006-07, p. 111.
115. John Newsinger, *British Counter-insurgency: From Palestine to Northern Ireland* (Basingstoke: Macmillan, 2002), p. 31. Also see John Nagl, *Learning to Eat Soup with a Knife: Counter-insurgency Lessons from Malaya and Vietnam*, New Edition (Chicago: University of Chicago Press, 2005).
116. John Newsinger, *British Counter-insurgency*, p. 40.
117. Two days before the Emergency was declared, Lieutenant-Colonel John Dalley, head of the Malayan Security Service, wrote a memo stating: "At the time of writing there is no immediate threat to internal security in Malaya". National Archives, CO 537/6006, "Internal Security – Malaya," Malayan Security Service report by Director John Dalley, 14 June 1948.
118. Corum and Johnson, *Airpower in Small Wars*, p. 179.
119. National Archives, Kew, UK (hereafter NAUK), PREM 8/1406 (Part I) "War Office Memorandum," 18 August 1948.
120. NAUK, CAB 21/1681, "Director of Operations, Malaya: Directive No. 2, 2 May 1950".
121. NAUK, PREM 4/1406 (Part II); WO 106/5990, "Director of Operations, Malaya: Review of the Emergency in Malaya from June 1948 to August 1957," September 1957.
122. NAUK, AIR 20/10663, "Firedog: Miles Flown by FEAF Aircraft Under Units," 1960.
123. Jay Gordon Simpson, "Not By Bombs Alone: Lessons From Malaya," *Joint Forces Quarterly*, No. 22, Summer 1999, p. 95.
124. NAUK, AIR 20/10663, "RAF Hands Malaya Jungle Ops Centre to RMAF," 1960.
125. NAUK, AIR 23/8743, "A Statistical Analysis of the Effects of Harassing by Bombing in the Malayan Emergency (Memo 15)," 1955.
126. NAUK, AIR 23/8739, "Force Requirements for Pinpoint Bombing in the Malayan Emergency (Memo 11)," 1955.
127. NAUK, AIR 20/10663, "Commonwealth Teamwork in the Twelve Years 'Firedog' Malay Emergency Air Campaign, 1948-60", 1960.
128. NAUK, CAB 21/1681, "Cabinet Malaya Committee – MAL.C (50) 8th Meeting," 17 July 1950.
129. Sorties were limited to one per day given the gruelling temperatures over the jungle and the expense involved in introducing cockpit air-conditioning to alleviate the effects of heat exhaustion on the crew. Simpson, "Not By Bombs Alone," p. 94.
130. Ibid.
131. Corum and Johnson, *Airpower in Small Wars*, p. 195.
132. Simpson, "Not By Bombs Alone," p. 96.
133. NAUK, AIR 20/10663, "RAF Hands Malaya Jungle Ops Centre to RMAF," 1960.
134. Anthony Kemp, *The SAS: Savage Wars of Peace, 1947 to the Present* (London: Penguin, 2001), p. 29.
135. Alan Hoe and Eric Morris, *Re-Enter the SAS: The Special Air Service and the Malayan Emergency* (London: Leo Cooper, 1994), p. 120.
136. Simpson, "Not By Bombs Alone," p. 97.
137. NAUK, AIR 20/10663, "Firedog: Miles Flown by FEAF Aircraft Under Units," 1960.
138. Instances and recollections of the medical evacuation of SAS personnel can be found in Kemp, *Savage Wars of Peace*, Chapter 2; and Hoe and Morris, *Re-Enter the SAS*, Chapters 9 and 10.
139. Corum and Johnson, *Airpower in Small Wars*, p. 196.

140. John Nagl, *Learning to Eat Soup with a Knife: Counter-insurgency Lessons from Malaya and Vietnam* (Chicago: University Press of Chicago, 2005), p. 95.
141. NAUK, AIR 20/10663, "RAF Hands Malaya Jungle Ops Centre to RMAF," 1960.
142. For information on the use of propaganda leaflets in Malaya see Susan Carruthers, *Winning Hearts and Minds: British Governments, the Media and Colonial Counter-Insurgency, 1944-1960* (London: Leicester University Press, 1995), pp. 91-92.
143. Ronald F. Stuewe Jr, "One Step Back, Two Steps Forward: An Analytical Framework for Airpower in Small Wars," *Air and Space Journal* (Spring 2006): <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj06/spr06/stuewe.html>
144. The two most recent and notable additions to Mau Mau scholarship are Caroline Elkins, *Britain's Gulag: The Brutal End of Empire in Kenya* (London: Pimlico, 2005), and David Anderson, *Histories of the Hanged: Britain's Dirty War in Kenya and the End of Empire* (London: Phoenix, 2006).
145. Anderson, *Histories of the Hanged*, p. 263.
146. NAUK, AIR 20/9041, "Message from Air Ministry to HQ. MEAF," 18 December 1953.
147. NAUK, WO 276/233, "Operations Against the Mau Mau: RAF Bombing Raids."
148. Ibid.
149. Ibid.
150. Alan Rufus Waters, "The Cost of Air Support in Counter-Insurgency Operations: The Case of the Mau Mau in Kenya," *Military Affairs*, Vol. 37, No. 2, October 1973, p. 98.
151. Ibid., p. 97.
152. Ibid., p. 96.
153. Ibid., p. 99.
154. Especially see Alfred F Hurley, *Billy Mitchell: Crusader for Air Power*, revised ed. (Bloomington: Indiana University Press, 1975).
155. Major Ross E Rowell "Annual Report of Aircraft Squadron, Second Brigade, US Marines Corps, July 1 to June 20, 1928." *Marine Corps Gazette*, December 1928, p. 248.
156. "Assignment of army officers to duty with Marine Corps," 13 April 1928; National Archives and Records Administration (NARA), Records of the United States Marine Corps, Record Group 127, Entry 204, Box 2, Folder 55. Hereafter referred to as NARA , RG 127, E #, followed by the Folder and Document.
157. Colonel Robert Heintz, *Soldiers of the Sea*, p. 289.
158. Johnson, "Airpower and Restraint in Small Wars," p. 40.
159. "Bush Brigades," *Marine Corps Gazette*, March 1921, p. 10.
160. The experiences in Nicaragua and the earlier interventions helped shape the writing of the Marines' Small Wars Manual which was first published in 1935, after the end of these operations.
161. "The Nicaragua Situation," *Marine Corps Gazette*, November 1930, pp. 19-20.
162. Intelligence Report, R-2 Ocotol, 24 February 1929; NARA, R G 127, E 209.
163. US Department of State [DOS] 1927, NARA, microfilm 817.00/5854.
164. Macaulay, *The Sandino Affair*, p. 76.
165. Ibid., p. 81. Heintz also calls this "the first combat dive-bombing" (p. 269). Johnson suggests that dive-bombing had been developed by the Marines during their earlier campaign in Haiti. Rowell had received instructions in this techniques before his deployment to Nicaragua. Johnson, p. 35. Perhaps this was the first use of dive bombing in an urban setting.
166. Heintz, p. 289.
167. Ross Rowell, "Experience With The Air Service in Minor Warfare," Lecture delivered on 12 January 1929; United States Marine Corps Historical Center (USMCHC), personal papers Ross Rowell, p. 8.

168. Heintz, p. 290.
169. Rowell, "Experience," p. 11.
170. Ibid., p. 13.
171. "Extract From Weekly Operations Report, Aircraft Squadrons, Second Brigade, 21 June 1930; NARA, RG 127, E 220, Box 2, Folder: 815, Commander Special Service Squadron.
172. Rowell, "Experience," p. 10.
173. Ibid., p. 11. Lieutenant Christian Schilt, the pilot who airlifted out the wounded, was awarded the Congressional Medal of Honor.
174. Grossman, "Hermanos en la Patria," pp. 158, 170.
175. "Report of Air Mission," 12 April 1928. NARA, RG 127, E 220, Box 2: Folder 816.2 "Air Service Reports".
176. "Report of Air Mission," 20 April 1928. NARA, RG 127, E 220, Box 2: Folder 816.2 "Air Service Reports".
177. "Memorandum for All Officers of the Marine Corps and Guardia Nacional in the Northern Area". 23 May 1928; NARA, RG 127, E 220.
178. Memorandum, 20 December 1928; NARA, R G 127, E 206, Box 2, Folder: Bandit Leaders and Descriptions.
179. Rowell, "Annual Report of Air Squadrons," p. 254.
180. Rowell, "Professional Notes: Aviation in Nicaragua," p. 288.
181. NARA, RG 127, E 220, Box 2, Folder: 815.
182. Patrol Report, Captain Arthur C Small, 9 January 1932; NARA, R G 127, E 202, Folder: Patrol Reports 1932.
183. Contact Report, Captain Arthur Kingston, 10 April 1928; NARA, R G 127, E 204, Box 3, Folder: #56, Contacts.
184. Report of Air Mission, 21 November 1928; NARA, R G 127, E 220, Box 2, Folder: 816 (5), Air Service Reports. This is the same Remongon which the Marines had burned and made "uninhabitable" in April 1928 and which they had repeatedly bombed.
185. "Report of Air Mission," 3 March 1928. NARA, RG 127, E 220, Box 2: Folder 816(1) "Air Service Reports". Concordia had a population of a little over 300.
186. R-2 Report, 12 February 1929. NARA, R G 127, E 209, Intelligence Reports, 1929. p.187. 1993: pp. 464, 459.
188. Rowell, "Aircraft in Bush Warfare," *Marine Corps Gazette*, September 1929, p. 181. In 1928 the Marine Commander actually made a formal request for the approval of "tear gas bombs" which "would produce tremendous results toward absolutely clearing up the so-called 'Bandit Situation'" The Acting Secretary of the Navy, C F Hughes, refused permission. (NARA, DOS 817.00/5890).
189. Great Northern News, 5 October 1930, Folder: Coppage, A.O., Personal Papers, USMCHC.
190. Macaulay, p. 116.
191. Patrol Report, Captain Arthur C Small, 14 December 1931; NARA, R G 127, E 202, Folder: 57.0, Patrol Reports 1931.
192. Personal interview with José Eulogio Espinales López, 14 August 1990.
193. The Instituto de Estudio de Sandinismo (IES) conducted over 100 interviews in the early 1980s. The Instituto de Estudio de Sandinismo changed its name in 1990 to the Instituto de Historia de Nicaragua. Since the research was conducted and published under the old name of the Instituto de Estudio de Sandinismo, I will continue to use that name for this chapter. Cassette # 065, pp. 1-2.
194. For an expansion on this argument see Grossman, 1996.
195. Most Marine historians now agree with this assessment that the war ended in a stalemate. See Moore, p. 34.
196. Grossman, "The Hero Never Dies: Augusto Sandino of Nicaragua".

197. Small War Manual, 1-8-13.
198. Ibid., 1-31-46.
199. Johnson, p. 39.
200. Moore, "Small War Lessons Learned," *Marine Corps Gazette*, February 1993, pp. 35-6.
201. Corum and Johnson, *Airpower in Small Wars*, p. 428.
202. The best accounts remain E C W Myers, *A Greek Entanglement* (London: Cassell, 1955); Nigel Clive, *A Greek Experience, 1943-1948* (Wilton: Michael Russell, 1985); N Hammond, *Venture into Greece* (London: 1983); Bickham Sweet-Escott, *Baker Street Irregular* (London: Methuen, 1965); C M Woodhouse, *Struggle for Greece, 1941-1949* (London: Hurst and Company, 1976); *Something Ventured* (London: Grenada, 1982); *Apple of Discord: a Survey of Recent Greek Politics in their International Setting* (London: Hutchinson, 1948). ee also: Christina Goulter-Zervoudakis, "The Politicisation of Intelligence: the British Experience in Greece, 1941-1944" Martin Alexander, ed., *Knowing Your Friends: Intelligence Inside Alliances and Coalitions from 1914 to the Cold War* (London: Frank Cass, 1998), pp. 165-194.
203. EDES (Ethnikos Demokratikos Ellinikos Syndesmos, or National Republican Greek League).
204. ELAS (Ethnikos Laikos Apeleftherotikos Stratos, or National Popular Liberation Army).
205. Myers, op. cit.; Clive, op. cit.; Woodhouse, *Apple of Discord*; Goulter-Zervoudakis, op. cit.
206. Air Historical Branch (RAF), *RAF Narrative: RAF in the Maritime War, Vol. VII, Part 2, Mediterranean, 1944-45*, p. 769.
207. National Archives, WO 204/1985. Message from Mideast to Freedom, 11 September 1944; L Baerentzen, ed., *British Reports on Greece, 1943-44* (Copenhagen Museum Tusculanum, 1982), p. 140 (Report by Wallace to Leeper, 31 July 1944).
208. The relationship between ELAS and EAM has its more modern parallel in the IRA and Sein Fein.
209. RAF Narrative, pp. 767-778; War Office, British Historical Section, Central Mediterranean, Operations of British Troops in the Insurrection in Greece, December 1944-January 1945, pp. 2-3.
210. EAM (Ethnikon Apeleftherotikon Metopon, or National Liberation Front).
211. Operations of British Troops in the Insurrection in Greece, December 1944-January 1945, pp. 6-8.
212. *RAF in the Maritime War*, pp. 831-832.
213. This has a direct parallel with the "Green Zone" in Baghdad, where in 2003 friendly coalition forces were compelled to establish a secure zone around the principal government buildings. The means of re-supply down a single roadway between the centre of Athens and the airfield at Hassani has direct equivalence to "Route Irish" between the Baghdad Green Zone and the international airport.
214. Ibid., pp. 780-806. See also: Operations of British Troops in the Insurrection in Greece, December 1944-January 1945, Appendix A-7, Message from 3 Corps HQ, 8 December 1944, p. 2.
215. The Air HQ was located in Kifissia because this was adjacent to the principal Greek Air Force base at Tatoi. The Germans had also used the Air HQ during the occupation, and most of the infrastructure left behind was still serviceable. This location would not have created any difficulties had the Greek involvement been one of Peace Enforcement and stabilisation, as originally envisaged.
216. Ibid., pp. 788, 791-832.
217. War Office, British Historical Section, Central Mediterranean, Operations of British Troops in the Insurrection in Greece, December 1944-January 1945," Appendix A-18, "HQ LF and ML (Greece): Directive No. 3, 19 Dec 1944"; *RAF in Maritime War*, p. 837. The insurgents used concentrated Light and Medium calibre AAA and German MG42s.

218. HUMINT (Human Intelligence), intelligence derived from operatives or local populace.
219. *RAF in Maritime War*, pp. 791-793, 824-843. See also Foreign Office, *Documents Regarding the Situation in Greece, January 1945* (London, HMSO, 1945), "Greece No. 1, 1945".
220. "Operations of British Troops in the Insurrection in Greece, December 1944-January 1945," p. 52. See also: Appendix A-20, "Future Operations to Clear Athens and Piraeus," 25 December 1944; Appendix C, p. 83; E Smith, *Victory of a Sort: the British in Greece, 1941-46* (London, Robert Hale, 1988), p. 213.
221. "Operations of British Troops in the Insurrection in Greece, December 1944-January 1945," op. cit., Appendix A-20, "Future Operations to Clear Athens and Piraeus," 25 December 1944. See also RAF Narrative, p. 831.
222. RAF Narrative, pp. 830-846.
223. Interview with author J Zervoudakis, Athens, December 2005.
224. *RAF in Maritime War*, pp. 837-840.
225. Ibid., pp. 844-845; Operations of British Troops, Appendix A-20, "Future Operations to Clear Athens," 25 December 44. See also pp. 45-46.
226. Operations of British Troops, Appendix A-20, "Future Operations to Clear Athens," 25 December 44. See also: pp. 49-50, and *RAF in Maritime War*, pp. 852-853.
227. *RAF in Maritime War*, pp. 863-868.
228. Ibid., p. 868.
229. The unclassified nature of this chapter precludes reference to most of the current "lessons" documentation. Although the latest USAF Irregular Warfare doctrine is not as comprehensive as anticipated, some sections incorporate findings from the American "lessons identified" process, with particular reference to operations in Iraq and Afghanistan. USAF Air Force Doctrine Document 2-3, *Irregular Warfare*, 1 August 2007.
230. Quoted in Smith, *Victory of a Sort*, p. 220.
231. Ibid.
232. The records for the Democratic Army of Greece (DSE), formerly ELAS, are held by the Greek Communist Party (KKE) and are closed to the public. However, the KKE has reprinted all 21 issues of the DSE's journal, *Democratic Army*. An article published in April 1948 describes this transition from a guerrilla force into a regular army. See *Democratic Army*, April 1948, pp. 107-112.
233. For the best discussion of British influence in Greek doctrinal development, see Tim Jones, "The British Army, and Counter-Guerrilla Warfare in Greece, 1945-49," *Small Wars and Insurgencies*, Vol. 8, No. 1, Spring 1997, pp. 88-106. See also: M Campbell, E Downs and L Schuetta, *The Employment of Airpower in the Greek Guerrilla War, 1947-1949* (Concepts Division, Aerospace Studies Institute, Air University, Maxwell AFB, 1964), pp. 62-63; National Archives, AIR 46/62. "Report on Anti-Bandit Operations," 15 May 1947; WO 202/951. "Report 38, Period 21 Nov 1948-20 Feb 1949".
234. Air Historical Branch (RAF), *Report by the Supreme Allied Commander Mediterranean to the Combined Chiefs of Staff: Greece, 1944-1945* (London, HMSO, 1949), p. 10.
235. General Charles Krulak, former Commandant US Marine Corps, articulated a notion of "3 Block War," whereby friendly forces would be faced with high-end warfighting and "hearts and minds" activity, and everything else in between, all within the space of three urban blocks.
236. For example, Seymour M Hersh, *Chemical and Biological Warfare: America's Hidden Arsenal* (London, 1968). J B Neilands, *Harvest of Death: Chemical Warfare in Vietnam and Cambodia* (New York, 1972). I will use the term "defoliant" throughout this chapter, since the Kennedy administration often used "defoliant" instead of "herbicide" when discussing this initiative, particularly in the programme's early stages. However, the chemicals used in South Vietnam often acted as de facto herbicides, regardless of how they were intended, and the crop interdiction was generally premised on killing rather than defoliating. Using the less-loaded term does not change the conclusions of the chapter. In fact, considering the chemicals as herbicides makes their disadvantages even more marked and the failure of Ranch Hand even more striking.

237. Robert A Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996). Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966).
238. Jonathan Kirschner, "The Microfoundations of Economic Sanctions," *Security Studies*, Vol. 6, Spring 1997, p. 208.
239. 20 July 1961 Memorandum from Robert W Komer to Walter W Rostow, Department of State, *Foreign Relations of the United States, 1961-1963 - Vietnam, 1961*, ed. Department of State (1988), pp. 234-6.
240. Department of Defense, *United States: Vietnam Relations, 1945-1967*, ed. Department of Defense (1971), pp. 5, IV.B.1.
241. April 12, 1961 Memorandum from Walter W Rostow to John F Kennedy, State, *Foreign Relations of the United States, 1961-1963 - Vietnam, 1961*, p. 68.
242. Corum and Johnson, *Airpower in Small Wars*, p. 228.
243. Status Report on the Presidential Program for Vietnam, 8 August 1961, p. 8; Status Report on the Presidential Program for Vietnam, 10 July 1961, p. 6, National Security Files, Countries, Vietnam – General, Presidential Program Status Reports, Box 195a, John F. Kennedy Presidential Library, Boston, MA (JFKL)
244. Status Report on the Presidential Program for Viet-Nam, 10 July 1961, p. 7.
245. Tab S, Summary of Suggested Courses of Action (1961), National Security Files, Countries – Vietnam, Box 203, JFKL.
246. Telegram from the Department of State to the Embassy in Vietnam, 22 September 1961, State, *Foreign Relations of the United States, 1961-1963 - Vietnam, 1961*, p. 307.
247. Memorandum from Roswell Gilpatric to John Kennedy, 21 November 1961, JFKL, www.jfk.org; accessed through JFKL site March 2005.
248. Memorandum: Crop Destruction in South Vietnam, from Roger Hilsman to Averell Harriman, 28 July 1962, Roger Hilsman Chapters, Countries, Philippines-Vietnam, Box 3, Folder: Vietnam, 28 July 1962 – 31 January 1963, Document 1, JFKL.
249. 26 November 1962 telegram from Frederick Nolting to Dean Rusk, National Security Files, Countries, Vietnam-General, 29 November 1962-30 November 1962, Box 197, Document 2, JFKL.
250. Memorandum of telephone conversation between Dean Rusk and David Bell, State, *Foreign Relations of the United States, 1961-1963 - Vietnam, 1961*, p. 359.
251. Defense, *United States - Vietnam Relations, 1945-1967*, pp. 143, IV.B.
252. J B Neilands, "Vietnam: Progress of the Chemical War," *Asian Survey*, Vol. 10, March 1970, p. 219.
253. Department of Defense, *United States-Vietnam Relations, 1945-1967*, ed. Department of Defense (1971), p. 425.
254. Telegram from United States Embassy in Saigon to Secretary of State McGeorge Bundy, 30 April 1963, JFKL, www.jfk.org
255. William A Buckingham, Jr, *Operation Ranch Hand: The Air Force and Herbicides in Southeast Asia, 1961-1971* (Washington DC: United States Air Force Office of Air Force History, 1982), p. 54.
256. Chapter prepared for the Taylor Mission, 18 October 1961, State, *Foreign Relations of the United States, 1961-1963 - Vietnam, 1961*, p. 389.
257. Memorandum from Chalmers B Wood to John M Steeves, 14 November 1961, *Ibid.*, p. 596.
258. Final Report of Vietnam Task Force, 1 July 1962: www.state.gov/www/about_state/history/vol_ii_1961-63/t.html
259. Roger Hilsman, *To Move a Nation: The Politics of Foreign Policy in the Administration of John F. Kennedy* (New York, 1967), p. 443.
260. Neilands, "Vietnam: Progress of the Chemical War," p. 220.
261. 21 July 1961 Memorandum from Walter W Rostow, State, *Foreign Relations of the United States, 1961-1963 - Vietnam, 1961*".

262. Memorandum from Roswell Gilpatric to John F Kennedy, 21 November 1961
263. Hilsman, *To Move A Nation*, p. 443.
264. Roswell Gilpatric to John F Kennedy, 21 November 1961.
265. Airgram from Department of State to US Embassies in Vietnam and Cambodia, December 8, 1961.
266. 18 April 1963, Memorandum for Mr. Mc George Bundy, prepared by the Department of State, National Security Files, Countries-Vietnam, General, 1 April 1963-18 April 1963, Box 197a, Document 29, JFKL.
267. Russell Betts and Frank Denton, *An Evaluation of Chemical Crop Destruction in Vietnam*, Vol. RM-5446- ISA/ARPA (Santa Monica, CA, 1967).
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269. Neilands, "Vietnam: Progress of the Chemical War," p. 223.
270. Gerhard Grümmer, *Accusation from the Jungle* (Berlin: Vietnam Commission of the Afro-Asian Solidarity Committee of the German Democratic Republic, 1972), pp. 32, 46, 5.
271. *American Use of War Gases and World Public Opinion* (Hanoi: Foreign Languages Publishing House, 1966), p. 16.
272. *Ibid.*, p. 19.
273. Pape, *Bombing to Win*, p. 177.
274. *Ibid.*, p. 182.
275. *Ibid.*, pp. 56-57.
276. *Ibid.*, p. 209.
277. *Ibid.*, p. 175.
278. Schelling, *Arms and Influence*, p. 200.
279. *Ibid.*, p. 16.
280. *Ibid.*, p. 84.
281. Kirshner, "The Microfoundations of Economic Sanctions," pp. 39-40.
282. Kirshner, p. 42.
283. Corum and Johnson, *Airpower in Small Wars*, p. 268; Pape, *Bombing to Win*, pp. 191, 200.
284. Hilsman, *To Move A Nation*, p. 443.
285. Corum and Johnson, *Airpower in Small Wars*, p. 426.
286. *Ibid.*, p. 270.
287. For a recent account, see John Lee Anderson, "Letter from Afghanistan: The Taliban's Opium War," *New Yorker*, 9 July 2007, p. 60+.
288. L W Grau and M A Gress, *The Soviet-Afghan War: How a Superpower Fought and Lost* (Lawrence: University Press of Kansas, 2002), p. 209.
289. *Ibid.*, p. 12.
290. Soviet Air Force Transport Aviation.
291. D R Nelson, "Soviet Air Power: Tactics and Weapons used in Afghanistan": <http://www.airpower.maxwell.af.mil/airchronicles/aureview/1985/jan-feb/nelson.html>
292. "The Air War," S R McMichael, *Stumbling Bear: Soviet Military Performance in Afghanistan*, (Brassey's, 1991), pp. 80-81.
293. *Ibid.*, p. 81 and Nelson.

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295. A Mladenov, "Mil Mi-8/17," *International Air Power Review*, Vol. 21, p. 54.
296. McMichael, p. 84.
297. Grau and Gress, p. 220.
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300. "Hind in Afghanistan":
<http://www.faqs.org/docs/air/avhind1.html#m4> McMichael, p. 81.
301. *Ibid.*, p. 87.
302. Y Gordon and Komissarov, *Mil Mi-24 Hind Attack Helicopter* (London: Airlife, 2001), p. 54.
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304. *Ibid.*, pp. 59-60.
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310. Y Gordon and D Komissarov, pp. 59-60.
311. McMichael, p. 95.
312. T Gusinov, "Soviet Special Forces (Spetsnaz): Experience in Afghanistan":
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313. Grau and Gross, p. 172.
314. McMichael, p. 83.
315. Y Gordon and A Dexter, "Sukhoi Su-24 'Fencer': Sukhoi's 'Suitcase,'" *World Air Power Journal*, Vol. 39, Winter 1999, p. 80.
316. *Ibid.*, p. 81.
317. Interview with Lester W Grau, Military Analyst at the Foreign Military Studies Office, Fort Leavenworth, Kansas, 19 March 2004. G Endres and M Gething, *Aircraft Recognition Guide* (Jane's, 2002), p. 362 and McMichael, p. 83.
318. McMichael, pp. 82-83.
319. *Ibid.*, p. 96.
320. Gordon and Komissarov, p. 57.
321. Grau and Gross, p. 81.
322. McMichael, p. 82 and Interview with Lester W. Grau.
323. Nelson.
324. Gordon and Dexter, p. 83.
325. T Cooper and K Ali, "Afghanistan 1979-2001": <http://www.acig.org>
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Also see Nelson.
327. McMichael, pp. 82-88.
328. Grau and Gross, p. 229.

329. McMichael, pp. 93-94.
330. Ibid., p. 96.
331. Ibid., pp. 84-86.
332. Grau and Gress, p. 210.
333. McMichael, p. 81.
334. Ibid., p. 92.
335. "Pakistan – Afghanistan Civil War":
<http://users.accesscomm.ca/magnusfamily/afghpak.htm>. See also McMichael, p. 93. and Cooper and Ali.
336. C Bishop, ed, *The Aerospace Encyclopedia of Air Warfare: Volume Two: 1945 to the Present* (London: Aerospace, 1997), p. 143.
337. McMichael, p. 98.
338. Ibid., p. 98.
339. Ibid.
340. Gordon and Komissarov, p. 61.
341. McMichael, p. 89.
342. Ibid.
343. Ibid., p. 91.
344. Nelson.
345. L W Grau, *The Bear went over the Mountain: Soviet Combat Tactics in Afghanistan* (Frank Cass, London), p. 105.
346. "Lessons from the War in Afghanistan," Army Department Declassification Release, May 1989:
<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB57/us11.pdf>
347. Grau, p. 105.
348. Ibid., p. 105.
349. Interview with Dr Mark Galeotti, 26 March 2004.
350. Ibid.
351. Former IDF Chief Dan Shomron reported that the threat of rockets coming from southern Lebanon was as serious after the war as before because many of the targets had not been destroyed. See Gideon Alon, "Ex-IDF chief: Lebanon war was fought without clear objective," *Ha'aretz*, 16 January 2007.
352. Matthias Gebauer, "War turns Nasrallah into Cult Status," *Der Spiegel*, 18 August 2006:
<http://www.spiegel.de/international/spiegel/0,1518,432406,00.html>
353. Matan Vilna'I, quoted in David Horovitz, "An Insult to our Intelligence," *The Jerusalem Post*, 29 August 2006, p. 13.
354. General Halutz has since been criticised for waiting until late in the conflict to consider seriously the possibility of launching a ground invasion of Lebanon. See, for example, Yaakov Katz, "Levine war probe places blame on Halutz's shoulders," *The Jerusalem Post*, 7 December 2006; Ilene R Prusher, "Israeli unease grows over conduct of war," *The Christian Science Monitor*, 1 September 2006.
355. Ze'ev Schiff, "The Foresight Saga," *Ha'aretz*, 16 August 2006.
356. Yaakov Katz, "Two soldiers killed in Clash with Hezbollah inside Lebanon," *The Jerusalem Post*, 20 July 2006.
357. Yuval Steinitz, "The War that was Led Astray," *Ha'aretz*, 17 August 2006.
358. Anshel Pfeffer, "Shifting Strategy: Is it Time for a Major Ground Offensive?" *The Jerusalem Post*, 13 July 2006, p. 2. See also Efraim Inbar, "How Israel Bungled the Second Lebanon War," *Middle East Quarterly*, Vol. 14, No. 3, Summer 2007.
359. Daniel L Byman and Matthew C Waxman, "Kosovo and the Great Air Power Debate," *International Security*, Vol. 24, Spring 2000, pp. 5-38.

360. Amos Harel, "IAF chiefs admit air power can't subdue rocket fire," *Ha'aretz*, 4 August 2006.
361. Max Boot, "The Second Lebanon War," *The Weekly Standard*, 4 September 2006.
362. Yuval Steinitz, "The war that was led astray," *Ha'aretz*, 17 August 2006.
363. The idea is similar to "coercion by punishment," or targeting population centres with the intent of wearing down the civilians' will and commitment to fight. See Pape, *Bombing to Win*. For coercion specific to Lebanon, see Thom Schanker, "To Disarm Shadowy Guerilla Army, Israeli Air Power May Not be Enough," *New York Times*, 20 July 2006, p. A10.
364. Steinitz, "The War That Was Led Astray."
365. The official Israel Defense Forces website suggests that Operation Change of Direction was intended to achieve these two strategic objectives. See the July 2006 summary of IDF events: <http://www1.idf.il/DOVER/site/mainpage.asp?sl=EN&id=7&docid=59888.EN>
366. Ari Shavit, "A Spirit of Absolute Folly," *Ha'aretz*, 16 August 2006.
367. Ibid.
368. Clausewitz, *On War*, Michael Howard and Peter Paret, eds, (Princeton, NJ: Princeton University Press, 1976), pp. 75-76.
369. Shavit, "A Spirit of Absolute Folly."
370. Daniel Byman and Steven Simon provide an excellent account of the Lebanon campaign in "The No-Win Zone: An After-Action Report from Lebanon," *The National Interest*, Vol. 86, November/December 2006, pp. 55-61.
371. A central theme of Thomas Schelling's *Strategies of Conflict* is the idea of commitment, which he argues is key to promises, threats, bargaining, and deterrence and creating an expectation about how the actor will behave in a particular setting. In this sense, the IDF's retaliation served to reinforce the expectation that it will respond when attacked militarily. *Strategies of Conflict* (Cambridge, MA: Harvard University Press, 1960).
372. As of December 2006, the two soldiers had not been returned and it was not clear that they were actually still alive. See Donald Macintyre, "Israeli Soldiers 'seriously injured' in Kidnapping that Sparked War," *The Independent*, 6 December 2006, p. 38.
373. David Makovsky and Jeffrey White note that Israel strikes did little to neutralise Hezbollah's rocket launching capabilities. See "Lessons and Implications of the Israel-Hezbollah War: A Preliminary Assessment," *Policy Focus*, 60, October 2006 (A publication of the Washington Institute for Near East Studies). For an additional perspective on whether Israel achieved these objectives, see Jim Quilty, "Israel's War against Lebanon's Shi'a," *The Middle East Report*, 25 July 2006: <http://www.merip.org/mero/mero072506.html>
374. The main findings of the Winograd partial report on the Second Lebanon War, *Ha'aretz*, 1 May 2007: <http://www.haaretz.com/hasen/spages/854051.html>
375. According to the Army journal, irregular warfare is a broader and looser term that includes a subset of operations such as small wars, asymmetric warfare, insurgency, and low intensity conflict. See Huba Wass de Czege, "Traditional and Irregular War," *Army*, March 2006.
376. Joint Staff J-3 proposed definition of "irregular warfare."
377. SAE # 4 Irregular Warfare; Special Areas of Emphasis, Military Education Co-ordination Council, 2007: http://www.dtic.mil/doctrine/education/mecc06_07saenoms.ppt
378. Ibid.
379. Israel's National Security Doctrine suggests that these successes result in part because of Israel's better training and higher sophistication of resources. See David Rodman, "Israel's National Security Doctrine: An Introductory Overview," *Middle East Review of International Affairs*, Vol. 5, No. 3, September 2001. Israel's success rate against asymmetric adversaries such as Hezbollah has been more mixed. For an account of this history, see Dan Byman, "Israel and the Lebanese Hezbollah," *Democracy and Counterterrorism: Lessons from the Past* (Washington DC: United States Institute of Peace press, 2007).
380. Middle East expert Ray Takeyh points out that Hezbollah was better able to defend itself than "lions of Arab nationalism such as Gamal Abdul Nasser and Mr Hussein

- defended Cairo or Baghdad - the seats of Islamic civilisation." See "The rising might of the Middle East superpower," *Financial Times*, 11 September 2006, p. 11.
381. Asymmetric here is a specific characterization of the irregular warfare employed. In traditional terms, Israel's military is overwhelmingly more powerful than that of Hezbollah, but Hezbollah operates from within civilian areas and made Israel's conventional capabilities less relevant.
382. See *The Economist's* critique of the use of air power in Lebanon, entitled "An enduring illusion—Air Power," 26 August 2006, special report.
383. Associated Press, "Lebanon Sees More than 1,000 War Deaths," 28 December 2006.
384. There is some evidence to suggest that international media outlets were complicit with pro-Hezbollah individuals who staged or posed pictures intended to imply a high rate of IDF-inflicted civilian casualties. See, for example, Dave Kopel, "Were Front-page Photos Staged?" *Rocky Mountain News*, 12 August 2006, p. 12C.
385. Robert F Worth, "UN says Somalis helped Hezbollah Fighters," *New York Times*, 14 November 2006.
386. Office of the Director of National Intelligence News Release, 2-05, 11 October 2005: <http://www.fas.org/irp/news/2005/10/dni101105.html>
387. Seymour M Hersh, "Watching Lebanon," *The New Yorker*, 14 August 2006.
388. Peter Spiegel and Laura King, "Israel Says Syria, Not Just Iran, Supplied Missiles to Hezbollah," *Los Angeles Times*, 31 August 2006, p. 1. Vali Nasr writes of these religious regional dynamics in "Old blood feud drives the Mideast's new power play," *Los Angeles Times*, 27 August 2006, Part M; Ehsan Ahrari notes that these, "A Dummy Run against Hezbollah," *Asia Times*, 16 Aug 2006.
389. Clausewitz, p. 77.
390. Anthony Shadid, "Hezbollah Chief Defiant at Huge Rally," *Washington Post*, 23 September 2006, p. A1.
391. Lionel Beeher, "Israel and the Doctrine of Proportionality," The Council on Foreign Relations, 13 July 2006: http://www.cfr.org/publication/11115/israel_and_the_doctrine_of_proportionality.html
392. Foreign Ministry Director of Public Affairs, Amir Gissin, admitted to the public relations failures that resulted from hitting civilian assets in Lebanon. See, for example, Tovah Lazaroff, "Photos of Despair Trump Sound Bites," *The Jerusalem Post*, 14 November 2006: <http://www.jpost.com>
393. Peter Baker, "Crisis Could Undercut Bush's Long-Term Goals," *Washington Post*, 31 July 2006, p. A1.
394. Baker, *ibid.*
395. Air Force Doctrine Document 2-1, 22 January 2000.
396. Corum and Johnson, *Air Power in Small Wars*, p. 8.
397. Alan J Vick, Adam Grissom, William Rosenau, Beth Grill, Karl P Mueller, *Air Power in the New Counter-insurgency Era*, 112; Benjamin S Lambeth, *Air Power Against Terror: America's Conduct of Operation Enduring Freedom* (Santa Monica: RAND Corporation, 2005), p. 226; Anil Pustam, "Close Call for Close Air Support?" *Air and Space Power Journal*, 14 September 2001.
398. Vick et al., *Air Power in the New Counter-insurgency Era*, p. 113.
399. Eric Margolis, "America's Ace," *Toronto Sun*, 30 July 2007.
400. Guy Chazan, Karby Leggett, and Neil King, "Troubled Foray: Why Israel's Plans to Curb Hezbollah Went So Poorly," *Wall Street Journal*, 19 August 2006, p. 1.
401. Vick et al., *Air power in the New Counter-insurgency Era*, p. 45.
402. Clausewitz, *On War* (Harmondsworth, Penguin, 1968), p. 102.
403. Air Staff Cabinet Chapter, "On the Power of the Air Force and the Application of that Power to Hold and Police Mesopotamia," March 1920, AIR 1/426/15/260/3, PRO.

404. Leith-Ross, "Tactical Side of I (a)," pp. 8-9
405. Charles Townshend, "Civilisation and 'Frightfulness'," pp. 149 -150.
406. *Journal of the Central Asian Society*, Vol. 12, 1925, p. 211.
407. Trenchard's maiden speech to the House of Lords, 1930. Quoted in Townshend, "Civilisation and Frightfulness," p. 155.
408. Trenchard to Young, 22 August 1921, 39645, CO 730/2, PRO.
409. F H Humphreys to Sir John Simon, 15 December 1932, AIR 8/94, PRO.
410. Basil Liddell Hart, *The British Way in Warfare* (New York, 1933), p. 159
411. Quoted in David Omissi, *Air Power*, p. 154.
412. Kent Roberts Greenfield, *American Strategy in World War II: A Reconsideration* (Baltimore, John's Hopkins Press, 1963), p. 6.
413. Ronald Schaffer, "American Military Ethics In World War II: The Bombing of German Civilians," *Journal of American History*, Vol. 67, No. 2, September 1980, p. 321.
414. Raymond H Willcocks, *The Ethics of Bombing Dresden*, Strategy Research Project, US Army War Collage, p. 20.
415. Memo, Winston Churchill to General Ismay, Reference D83/5 dated 28 Mar 45.
416. Letter from Father Stephen Bedale to Cosmo Lang, Archbishop of Canterbury, 23 May 1939. Lambeth Palace Library, C Lang Chapters, 80.
417. Dr Cyril Garbett, Archbishop of York, The Times, 25 June 1943. Quoted in D I Hall, "Black, White and Grey," *Canadian Military History*, Vol. 7, No. 1, Winter 1998, pp. 7-19.
418. William Temple, Archbishop of Canterbury writing to Ashley Sampson, 5-10 December 1942. Lambeth Palace Library W. Temple Paper, 57.
419. Around 2000, mostly women and children, in the Italian town of Marzabotto were killed by the SS in response to Partisan attacks against the Germans and the French village of Civatella witnessed the murder of more than a hundred men, including their priest, whilst attending Mass.
420. Stanley Baldwin, British PM, 1932. Quoted in: George Quester, *Deterrence before Hiroshima* (New York, 1966), p. 67.
421. *Through Our Enemies' Eyes* (Washington DC, 2002) p. 7.
422. D I Hall, op. cit., p. 10.
423. Thomas Hegghammer, Osama bin Laden Interview with Nida' al-Islam, 1996. Published in *Norwegian Defence Research Establishment Report: FFI/Rapport – 2002/01393*.
424. Ibid.
425. Quoted in Gerrard J De Groot, "Why Did They Do It?" *Times Higher Education Supplement*, 16 October 1992, p. 18.
426. Abu Hafs, "Mauritaneren" intervjuet på al-Jazira, 30 November 2001.
427. Diane T Putney, *Airpower Advantage: Planning the Gulf War Air Campaign, 1989-1991* (Washington: Air Force History and Museums Program, 2004), p. 332; Thomas A Keaney and Eliot A Cohen, *Revolution in Warfare? Air Power in the Persian Gulf* (Annapolis: Naval Institute Press, 1993), pp. 92-93.
428. Michael R Gordon and Bernard E Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little Brown, 1995), pp. 283-88.
429. General Merrill A "Tony" McPeak made this claim in his DoD news briefing of 15 March 1991. A copy of that briefing can be found in Merrill A McPeak, *Selected Works 1990-1994* (Maxwell AFB: Air University Press, 1995), pp. 15-50.
430. It is an oft-told tale that the Thanh Hoa bridge south of Hanoi was a distressingly difficult target to hit. Over a period of three years the US Air Force flew 873 sorties against the bridge, losing eleven aircraft, and never dropping a span. In April 1972, laser-guided bombs were used for the first time: five aircraft dropped

- the bridge with no losses. Wayne Thompson, *To Hanoi and Back: The USAF and North Vietnam, 1966-1973* (Washington: Air Force History and Museums Program, 2000), pp. 234-35.
431. JDAM and the new Small Diameter Bomb – a glide bomb with a 250 lb, warhead – are both GPS guided and can be individually targeted from the cockpit. The latter is reported to have better than three-metre accuracy.
432. General Wesley K Clark, *Waging Modern War* (New York: Public Affairs, 2001), p. 183. In decrying those who complained that too many Iraqi soldiers died in Desert Storm, Harry Summers wrote a trenchant editorial with the heavily sarcastic title, "Bambifying War: A Virus from the Ideological Swamp," *Washington Times*, 19 September 1991, p. G1.
433. To track this decline, see the Gallup Poll website: <http://www.poll.gallup.com/>.
434. Walter J Boyne, *Operation Iraqi Freedom* (New York: Forge, 2003), pp. 95-106.
435. See constantly updated casualty figures by phase of operation: <http://www.icasualties.org/oif/> and <http://www.defenselink.mil/news/casualty.pdf>. The RAF also lost a C-130 to ground fire in the aftermath of major combat operations.
436. In his memoirs, Bremer claims this decision had been made in Washington before he was appointed; nonetheless, he agreed with it and convinced Defense Secretary Donald Rumsfeld not to institute the policy until he arrived in his new post and could issue it himself. L Paul Bremer, *My One Year in Iraq* (New York: Simon & Schuster, 2006), p. 39.
437. Larry Diamond, *Squandered Victory: The American Occupation and the Bungled Effort to Bring Democracy to Iraq* (New York: Times Books, 2005), p. 39.
438. US Army, Field Manual 1, "The Army," June 2005, paragraph 3-35.
439. The US Army's Strategic Studies Institute warned in January 2003 that such planning was essential, see "Restructuring Iraq: Challenges and Missions for Military Forces in a Post-Conflict Scenario": <http://www.strategicstudiesinstitute.army.mil/pdf/files/PUB183.pdf>. See also Michael R Gordon and Bernard E Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York: Pantheon, 2006), chapter 8.
440. Jeffrey Record and W Andrew Terrill, "Iraq and Vietnam: Differences, Similarities, and Insights," *US Army Strategic Studies Institute Monograph*, 1 May 2004, p. 23.
441. Thomas Ricks, *Fiasco: The American Military Adventure in Iraq* (New York: Penguin, 2006), pp. 158-65.
442. Bremer states that he cleared this decision through Rumsfeld and "discussed" it with "the appropriate Coalition military commanders and civilians, including McKiernan in Baghdad and CENTCOM forward headquarters in Qatar." He gives no indication that any of the ground commanders on the scene disagreed with his decision. (US Army Lieutenant General David McKiernan was the land component commander at the time.) Later, Bremer would continue to maintain that this was one of his best decisions. Bremer, pp. 57-58. The chairman of the Joints Chiefs of Staff, General Dick Myers, said he was not consulted on the decision. Bob Woodward, *State of Denial: Bush at War, Part III* (New York: Simon & Schuster, 2006), p. 198.
443. Ricks, p. 144.
444. Evan Thomas and John Barry, "Anatomy of a Revolt," *Newsweek*, 24 April 2006, pp. 28-32; Michael Duffy, "The Revolt of the Generals," *Time*, 24 April 2006, pp. 41-42. An exception was retired General Anthony Zinni, Franks's predecessor at USCENTCOM, who opposed the war from the beginning and said so openly. For a perplexing article that attempts to portray these failed commanders and staff officers as tragic heroes, see "The Night of the Generals," *Vanity Fair*, April 2007, pp. 247-51, 274-80.
445. Ricks, p. 150. A bit disturbingly, the only building that US troops were ordered to protect was the Oil Ministry, leading some Iraqis to believe the war was not about liberation but about "stealing their oil." Bremer, p. 19. It appears that the decision not to stop the looting was made by retired US Army Lieutenant General Jay Garner, Bremer's predecessor in Baghdad.
446. Ricks, pp. 198-200.
447. *Ibid.*, p. 139.
448. Ricks, pp. 133, 267.

449. For an excellent overview of US Army doctrine after the Vietnam War that featured a wholesale turn away from COIN and towards major conventional operations in Europe, see Harold R Winton, "An Ambivalent Partnership: US Army and Air Force Perspectives on Air-Ground Operations, 1973-90," Phillip S Meilinger, ed., *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell AFB: Air University, 1997).
450. For an excellent discussion of how this paradigm succeeded in Afghanistan, see Richard B Andres, Craig Wills and Thomas E Griffith, Jr, "Winning With Allies: The Strategic Value of the Afghan Model," *International Security*, Vol. 30, Winter 2005/2006, pp. 124-60. For how air power plus SOF plus indigenous Kurdish forces overcame twelve Iraqi divisions in northern Iraq, see Richard Andres, "The Afghan Model in Northern Iraq," *Journal of Strategic Studies*, Vol. 29, June 2006, pp. 395-422.
451. The first American combat death in Afghanistan did not occur until 4 January 2002. The fall of Kabul had occurred the previous November. Robin Moore, *The Hunt for bin Laden* (NY: Random House, 2003), p. 294; Rebecca Grant, "The Echoes of Anaconda," *Air Force Magazine*, April 2005: <http://www.afa.org/magazine/april2005/0405anaconda.asp>.
452. There are some voices of reason on this issue, but far too few. See "Analysts Question Need for Boost in Combat Troops," *Boston Globe*, 5 March 2007, p. 1.
453. Diamond, p. 51.
454. "Four Years Later, Iraqis Split on Occupation," *Chicago Tribune*, 20 March 2007, p. 7.
455. Robert D. Heinl, Jr, *Dictionary of Military and Naval Quotations* (Annapolis: Naval Institute, 1966), p. 29.
456. Thomas R Phillips, ed., *The Roots of Strategy* (Harrisburg: Military Service Publishing, 1940), p. 22.
457. The definitive work on the history of principles of war, and on which this section draws heavily, is John I Alger, *The Quest for Victory* (Westport: Greenwood, 1982).
458. *On War*, Howard and Peter Paret ed., p. 258.
459. *Ibid.*, pp. 259-60, 262. Also note that in Book I, Chapter 1 (the only chapter Clausewitz considered finished) he repeats his warning that "kind-hearted people may think there is some ingenious way to disarm or defeat an enemy without too much bloodshed ... [but] it is a fallacy that must be exposed." *Ibid.*, p. 75.
460. US Army, Field Manual 1, "The Army," June 2005, paragraph 3-27. Emphasis in original.
461. US Army, Field Manual 3-0, "Operations," June 2001, paragraph 1-36.
462. US Marine Corps, Fleet Marine Field Manual 1, "Warfighting," March 1989, p. 11.
463. Adapted from Alger, pp. 22-23.
464. J L Harsh, "Battlesword and Rapier: Clausewitz, Jomini, and the American Civil War," *Military Affairs*, 38, October 1974, pp. 133-38. The best treatment of Jomini is by John Shy in Peter Paret, ed., *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986).
465. For a good overview of the development of the staff, see J D Hittle, *The Military Staff* (Harrisburg: Military Service Publishing, 1961); for the managerial and administrative revolutions, see Walter Millis, *Arms and Men: A Study of American Military History* (New York: Putnam, 1956).
466. Alan Clark, *The Donkeys* (New York: William Morrow, 1962).
467. J F C Fuller, *The Army in My Time* (London: Rich and Cowan, 1935), p. 53.
468. Alger, pp. 232-33.
469. *Ibid.*, p. 241.
470. *Ibid.*, p. 253.
471. *Ibid.*, pp. 255-56.
472. Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960*, 2 Vols. (Maxwell AFB: Air University Press, 1989), Vol. 1, p. 369.

473. US Air Force, Air Force Doctrine Document 1, "Air Force Basic Doctrine," 17 November 2003, pp. 19-26. For the evolution of USAF basic doctrine, see appendix 1 of the 1984 AFM 1-1.
474. This is a factoid much quoted by USAF leaders, although purists would argue that the US Army did not quite have air superiority in New Guinea in early 1944.
475. The continuing problems of IEDs – improvised explosive devices – in Iraq has led to an increased use of airlift so as to avoid the truck columns that are favourite targets of terrorists.
476. Amy Butler, "Holistic Approach: USAF Crafts Plans to Operate its Own Cyberspace Command," *Aviation Week & Space Technology*, 22 January 2007, p. 46. Eighth Air Force, headquartered at Barksdale AFB in Louisiana, has assumed these responsibilities.
477. Steven T Ross, *European Diplomatic History, 1789-1815: France against Europe* (Malabar, FL: Krieger, 1981), chapter 11; Christopher D Hall, *British Strategy in the Napoleonic War, 1803-15* (Manchester: Manchester University Press, 1992), passim.
478. See the 2006 QDR report online at: <http://www.defenselink.mil/qdr/report/Report20060203.pdf>.
479. Norman H Schwarzkopf, *It Doesn't Take a Hero* (New York: Bantam, 1992), p. 479. Horner related this anecdote to me when he visited the School of Advanced Airpower Studies in 1993.
480. This is articulated in a classic work that still makes valuable reading today for any military officer: Basil H Liddell Hart, *The Way to Win Wars: The Strategy of Indirect Approach* (London: Faber & Faber, 1929).
481. Heinl, p. 17.
482. I owe this idea to the insightful Australian air theorist and historian, Alan Stephens.
483. For the definitive account of this legislation's history, see James R Locher III, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon* (College Station: Texas A & M University Press, 2004).
484. In my experience, most senior AF leaders dislike the idea of "integrated" staffs, fearing that they will be dominated by the army. As a result, they much prefer "functional" staffs – more specifically, an air operations centre – so as to ensure that at least in the air realm the air point of view will predominate.
485. Phillip S. Meilinger, *Ten Propositions Regarding Airpower* (Washington: Air Force History and Museums Program, 1995).
486. The Chief was General John Jumper, and for his explanation of "one time of flight" – around sixty seconds was his goal, see: http://www.afa.org/Media/scripts/FourStar_Conf.asp.
487. For a good discussion, see Robert P Haffa, Jr, and Jasper Welch, "Command and Control Arrangements for the Attack of Time-Sensitive Targets," Northrop Grumman Analysis Center paper, November 2005: http://www.analysiscenter.northropgrumman.com/files/TST_Paper_Final.pdf.
488. Vice Admiral Arthur K Cebrowski and John J Garstka, "Network-Centric Warfare: Its Origins and Future," *US Naval Institute Proceedings*, 124, January 1998 : <http://www.usni.org/Proceedings/Articles98/PROcebwski.htm>.
489. All statistics come from the data tables in the 15 January 2007 issue of *Aviation Week & Space Technology*. I define "large" cargo aeroplanes as those with a payload capability greater than that of the Lockheed "Hercules" or Anatonov AN-12, both of which have a max payload of around 44K tons.
490. Eliot A Cohen, ed., *Gulf War Air Power Survey*, 5 Vols. (Washington: Government Printing Office, 1993), Vol. III, pp. 177-86.
491. The latest advance is the Focused Lethality Munition whose goal is to not cause "any significant damage" outside 100 feet of detonation. This new weapon relies almost entirely on blast effect rather than fragmentation to neutralise its target. Amy Butler, "Sharpening Focus," *Aviation Week & Space Technology*, 26 February 2007, p. 28.
492. Moreover, it is the nature of PGMs that they are more accurate when dropped from medium to high altitude, above enemy ground fire.

493. William Arkin, Damian Durrant and Marianne Cherni, *On Impact: Modern Warfare and the Environment, a Case Study of the Gulf War* (London: Greenpeace International, May 1991), p. 46; John G Heidenrich, "The Gulf War: How Many Iraqis Died?" *Foreign Policy*, 90, Spring 1993, pp. 108-25. Arkin also notes (p 15) that at least 50,000 Kurds and Shiites were killed by Saddam in the abortive uprisings of summer 1991.
494. Robert C Owen, ed., *Deliberate Force: A Case Study in Effective Air Campaigning* (Maxwell AFB: Air University Press, 2000), p. 161. For Kosovo, see *Civilian Deaths in the NATO Air Campaign* (New York: Human Rights Watch, February 2000), p. 5.
495. J F C Fuller, *The Foundations of the Science of War* (London: Hutchinson, 1926), Chapter X.
496. Aamer Madhani, "Army's Credibility Takes 2 Hard Hits," *Chicago Tribune*, 25 April 2007, pp. 1, 20.
497. Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, August 2006. Definition: The strategic level of war: The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, and develops and uses national resources to achieve these objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; fine limits and assess risks for the use of military and other instruments of national power; develop global plans or theatre war plans to achieve those objectives; and provide military forces and other capabilities in accordance with strategic plans.
498. FM 3-24 Counter-insurgency (December 2006).
499. See James S Corum, "Building the Malayan Army and Police: Britain's Experience During the Malayan Emergency 1948-1960," *Security Assistance: US and International Historical Perspectives*, ed. Randall Gott Leavenworth: Combat Studies Institute Press, 2006) pp. 291-314.
500. Good overviews of Britain's relationship with Cyprus and the origins of the insurgency are found in Robert Holland, *Britain and the Revolt in Cyprus 1954-1959* (Oxford: Clarendon Press, 1998). For a good general history of the insurgency see Nancy Cranshaw, *The Cyprus Revolt* (London: Allen and Unwin, 1978) and Charles Foley and W I Scobie, *The Struggle for Cyprus* (Stanford: Hoover Institution Press, 1975).
501. For a study of Templer's and Harding's leadership in counter-insurgency operations see James Corum, *Training Indigenous Forces in Counter-insurgency: A Tale of Two Insurgencies* (US Army War College, Strategic Studies Institute, March 2006).
502. I have polled students at the US Army Command and General Staff College, talked with Philippine officers fighting insurgents on Luzon and the southern Philippines, and talked with NATO officers dealing with insurgents in Afghanistan. All single out our weakness in using the media to get across the government message to the population.
503. Richard McKenna, *The Sand Pebbles* (1962 Reprint: Annapolis: Naval Institute Press, 2000) p. 343.
504. Chair, Seán MacBride, *Israel in Lebanon: Report of the International Commissions to Enquire into Reported Violations of International Law by Israel during its Invasion of Lebanon* (London: The International Commission, 1983), p. 147. The international commission noted that the PLO had placed flak guns on top of civilian building, but said that attacks on such targets were illegal as the guns posed no threat. In fact, the Israeli Air Force lost several aircraft to AA fire.
505. *Ibid.*, pp. 104, 146, 190-91.
506. For examples of the broad agitation in the west to ban cluster bombs, see: Editorial, "No Place for Cluster Bombs" *New York Times*, 26 August 2006; "Norway Plans Talks on Cluster-Bomb Ban" *Washington Times*, 18 November 2006.
507. In 2004 the US Army changed its views on the importance of media operations. The interim counter-insurgency doctrine published that year stated that in counter-insurgency the psychological operations officer is now to be considered as a primary staff officer. See FM 3.07.22 (2004) Chapter 5, pages 5-1 to 5-5, deal with psychological operations. These are described as "an integral part" of the commander's plan and operations.
508. FM 3-24 Counter-insurgency (2006), Chapter 1, paragraph 153.
509. On the campaign of the Royal Laotian Air Force against the Ho Chi Minh trail see Jacob van Staaveren, *Interdiction in Southern Laos* (Washington: Center for Air Force History, 1993), pp. 209, 214. Supported by the USAF 606th Composite squadron, and flying ten A-26s and ten T-28s, between July 1966 and February

- 1967 the Laotians flew 2004 sorties, claimed 246 trucks, 47 gun positions and 27 boats. Losses were not high when considering the sortie rate: Communist AA fire destroyed three aircraft, and one was lost to an accident.
510. A good overview of the early years of the US advisory mission to the VNAF is Robert Futrell, *The United States Air Force in Southeast Asia: The Advisory Years to 1965* (Washington, DC: Office of Air Force History, 1981).
511. My brother, 1LT Michael Corum, served in Vietnam in the delta region from 1967 to 1968. He called for close air support several times, and received support from VNAF units flying A-1 Skyraiders.
512. James Willbanks, *Abandoning Vietnam* (Lawrence: University Press of Kansas, 2004).
513. For an overview of this campaign and the role of air power see James Corum, "The Air War in El Salvador," *Airpower Journal*, Summer 1998.
514. FM 3-24 Counter-insurgency (December 2006) Annex E, paragraphs E-17-18, E-31.
515. When using the words "Western" or "West" in this chapter I defined these as the states of Northern America and the western part of Europe; in short the member countries of NATO prior to its expansion after the fall of the Berlin Wall.
516. Robert Pape, "The True Worth of Air Power," *Foreign Affairs*, Vol. 83, No. 2, 2004, pp. 116-130.
517. For examples see: *Off Target: The Conduct of the War and Civilian Casualties in Iraq* (Washington: Human Rights Watch, 2003) and *Fatally Flawed: Cluster bombs and their Use by the United States in Afghanistan* (Washington: Human Rights Watch, 2002); Anthony Cordesmann, *The Lessons of Afghanistan: War fighting, Intelligence, and Force Transformation* (Washington: CSIS Press, 2003), pp. 35-42. A recent example is documented in Carlotta Gall, "British Criticize U.S Air Attacks in Afghan Region," *New York Times*, 9 August 2007 and Charles Haviland, "US probes Afghan civilian deaths," *BBC News*, 30 June 2007.
518. Headquarters of Department US Army / Headquarters Marine Corps Combat Development Command Department of the Navy (2006): FM 3-4/ MCWP 3-33.5, Counter-insurgency. Fort Leavenworth, p. E-1 – E-2.
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