ROYAL AIR FORCE

Air Power Review

Volume 16 Number 1 Spring 2013

Centre for Air Power Studies

Royal Air Force Air Power Review

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ISSN: 1463-6298

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Photographs Courtesy of: Air Historical Branch

Print: Williams Lea

Avro Lancasters of 50 Squadron based at Skellingthorpe, Lincolnshire, flying in loose formation on a daylight raid in July 1943. The nearest aircraft, a B.III, DV197/VN-T, was hit by flak during a raid on Remscheid, Germany, and written-off after crash-landing near Corby, Northamptonshire, on 31 July 1943

Aerial reconnaissance image taken over Dresden, Germany, following the two devastating attacks on the city by aircraft of Bomber Command on the night of 13/14 February 1945. Large fires still burn fiercely in the vicinity of the central goods depot and marshalling yards south of the River Elbe

Wrecked U-boat hulls litter the dockyard at the Blohm and Voss works, Hamburg

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Winston Churchill M.P., circa 1940

Civil Defence personnel clearing up damage to flats in Stepney, East London, after a German raid

Foreword

By Group Captain Peter Squires

This Spring edition of Air Power Review follows on from our 95th Anniversary Special Edition, which hopefully has provided a valuable single reference point for some important primary source material and served to remind us all of the events that led to the birth of the Royal Air Force. With the Spring edition we return to our traditional format and we are pleased, once again, to be able to publish a combination of both serving and civilian authors, including three articles from recipients of support under the Chief of the Air Staff's Fellowship Scheme which enables selected members of the Royal Air Force to conduct their academic study at the highest levels.

Continuing on from the model that we started in our last Autumn/Winter edition, we will also be taking the opportunity to showcase some articles that we think are likely to be of interest to our readers. Articles in the showcase will only be described in an abstract but a hyperlink will be provided to the full version where it is freely available. Where we are showcasing work that has not previously been published, the full version will be available from the associated website of the RAF Centre for Air Power Studies **www.airpowerstudies.co.uk**. As ever, these articles represent the individual views of the authors and in signposting them for our readers we do not necessarily endorse the views therein.

This edition begins with a pair of articles from Chief of the Air Staff Fellows, both challenging the status quo in their own way. Our opening article by Group Captain Stringer addresses the always challenging issue of the operational level of war with a particular interest in how practitioners and commanders in the air environment interact with the operational level. Group Captain Stringer's focus is on how the UK could and should maximise national influence from the combination of the two. His self-declared intent is to 'provoke further discussion on an area where we might not be as engaged – or as good – as we might like to think' and so responses are certainly welcomed by the editorial team. Group Captain Stringer highlights the centrality of influence in recent national strategies but also challenges our collective understanding of what it actually is and how we go about achieving it. Recent operations, particularly in Libya, provide a useful backdrop for the article and the author uses them to explore the nature of the UK's relationship with the US, France and NATO; arguably our three most militarily important commitments. He offers some justified challenges to the nature of our engagement with all three and more widely to the manner in which the British military have historically interacted with our partners across government. Throughout, Group Captain Stringer challenges his fellow airmen more than any other audience, inviting us to consider or reconsider our own understanding of our environment, the manner in which we seek to both command and control within it and our prowess, or lack thereof, at the operational level. Ultimately, he argues for greater investment in the moral and conceptual components of power, as a necessary compensation for the inevitable reduction

in the physical component. However, like many such 'calls to arms' in recent months, he does not offer any answers as to how such an investment would be resourced.

Wing Commander Grimshaw takes a more controversial perspective on the future for UK air power and prompts me to remind readers that the views expressed are those of the author and do not necessarily reflect the views of Air Power Review or the Royal Air Force. He presents a coherent argument for a fundamental change in the organisation of British air power, calling for a new model that is an amalgam of those employed by the US Marine Corps and the Israeli Defense Forces. His views will doubtless upset supporters of both the Army Air Corps and Fleet Air Arm and are probably unlikely to find favour with any but the most zealous supporters of the Royal Air Force. However, his central argument that British air power is not currently organised, commanded or controlled in a manner which truly optimises the benefits for the joint force may ring true for many. Wing Commander Grimshaw suggests that the current paradigm on which British military strategic planning is based is no longer valid but believes that we have collectively failed to recognise the paradigm shift. Further, he argues that our ends are defined for us and are thus beyond our control. Our means are similarly constrained, largely beyond military influence at all bar the strategic level. He thus contends that it is only our ways of warfare that are truly ours to control and that these must, therefore, change to reflect what he asserts is a new defence and security paradigm. Ultimately, though, it is not clear that Wing Commander Grimshaw's proposed environmental approach to the capabilities of the three Services would make any significant difference to the perceived problem of inter-Service competition for limited resources. Moreover, he does not address the obvious corollaries of his own proposal, most obviously including the option to hand control of the Royal Air Force Regiment and the Royal Marines to the Army; both of these options would stimulate much debate.

In his summary of air power's contribution to the British anti-shipping campaign in the Mediterranean, Dr Hammond provides a wealth of statistics and facts to underpin his analysis of the campaign. He recounts a familiar tale of a British force initially ill-suited to its task in almost every respect that nonetheless was transformed throughout the course of the campaign into a highly effective contributor to success in the Mediterranean theatre of war. Dr Hammond has produced a thorough historical summary of the anti-shipping campaign and his article offers an interesting window into an aspect of wartime air power that is often overlooked.

In tackling the issue of Sir Arthur 'Bomber' Harris' moral responsibility for the area bombing of German cities, particularly Dresden, Dr Peter Lee seeks to contribute to the re-opened debate on one of the Second World War's most controversial figures. As a specialist in the ethics of war, Dr Lee is certainly well placed to address this question and he presents a compelling argument as to the real attribution of moral responsibility for the controversial bombing of German cities. Indeed, Dr Lee's assessment that: 'from a moral perspective Churchill's actions are more damning: they indicate a willingness on the part of Britain's great war-time leader to

abdicate moral responsibility for acts that he co-authored and on whose authority they rested' will doubtless challenge many people's opinion of a cherished national figure; as will his view that: 'the subsequent isolation of Harris and his moral scapegoating over Dresden was both cowardly and reprehensible on the part of those senior to him in the chain of command, up to and including Churchill'. Nonetheless, Dr Lee supports his arguments with a clear exposition of the case for and against Harris and succeeds in producing an article that places Harris's actions in a more appropriate context without simply exonerating the man of any moral culpability.

Our final full article in this edition is an interesting exploration of the history of the original procurement of the Nimrod Maritime Patrol Aircraft by Flight Lieutenant Yonge. The author has the advantage of professional experience with the subject of his paper and was granted a Chief of the Air Staff's Fellowship as part of the Maritime Patrol Aircraft capability seedcorn initiative. With the cancellation of the Nimrod MRA4 as a result of the 2010 Strategic Defence and Security Review, the aircraft has become the subject of many column inches of media coverage and still polarizes opinions. Flight Lieutenant Yonge's article helpfully steps back from the recent politics of the Nimrod MRA4 programme and neatly summarizes the events and decisions that led to the original procurement of the Nimrod to meet Britain's maritime patrol requirements. He presents a thorough analysis of the underlying political and economic conditions that formed the essential backdrop to the decision making and in so doing offers the chance to draw parallels with contemporary austerity-driven defence procurement.

The five articles in our Spring Air Power Review are complemented by two personal viewpoints that are intended to stimulate debate. The editorial team would welcome comments in response to either viewpoint and would be delighted to consider publishing constructive comments in the form of a simple letter or even a counter viewpoint.

The first of our viewpoints has been provided by Lieutenant Colonel Colin Weir, who offers a personal reflection on the employment of air power in COIN from the perspective of a battlegroup commander in Afghanistan. His article is a fascinating read that is at times challenging and yet succeeds in neatly summarizing what air power can and cannot do to contribute to the success of a ground-centric 'war amongst the people'. Lieutenant Colonel Weir does not shy away from exposing what he perceives to be the weaknesses of air power in this context, particularly its transience and its lack of positive resonance with the warrior culture of Afghanistan. However, he also identifies and gives due credit to those effects that air power can and did contribute, noting the significant savings in both time and lives that were dependent on effective use of air power. Perhaps the key observation that Lieutenant Colonel Weir make is his concern that the bulk of his air power education relied on learning 'on the job', despite his deployment being the 13th iteration of Operation HERRICK. It is difficult to imagine that future battlegroup commanders will get any greater level of pre-deployment education than that afforded to him and history would suggest that once the immediate pressure of operations in Afghanistan is relaxed then Air Land Integration will once again take

more of a back-seat. Perhaps, therefore, the real message of Lieutenant Colonel Weir's article is an exhortation for us all to make more of an effort to understand each other a little better even when our lives do not depend on it.

Our second viewpoint, by Dr Sebastian Ritchie of the Air Historical Branch, is an unclassified summary of the official Air Historical Branch record of Operation BOLTON. Dr Ritchie has compiled a narrative that will doubtless prove to be an excellent resource for scholars of air power theory looking for an authoritative reference source for the Royal Air Force contribution to the operation. He takes the opportunity to lay out the build-up to BOLTON with a clear chronology that allows him to counter some of the widely held misconceptions about the context of the operation and its relative success or failure. The examination of Operation BOLTON also allows Dr Ritchie to consider the ongoing debate about the utility of carrier borne aircraft versus land-based air power and offer his own personal perspective on the realities.

With the 2013 Chief of the Air Staff's Reading List shortly due for publication, we have only included one book review in this edition. Group Captain Chris Luck has provided an excellent review of Colin Gray's 'Airpower for Strategic Effect'. Group Captain Luck asserts that 'this book is essential reading, as a whole, in part or even just the dicta dipped into, as air power is better directed and commanded by people who understand profoundly the tactical "grammar" of their instrument and the logic of its role in strategy and warfare'. An opinion that the Air Power Review is happy to endorse.

Notes on Contributors

Group Captain Johnny Stringer started his Royal Air Force career with the Jaguar Force at RAF Coltishall and flew operationally over the Former Yugoslavia, and enforced the Northern Iraq No Fly Zone. His staff experience includes tours in the Equipment Capability area, HQ 1 Group, and as Military Assistant to Director General Typhoon. He has also commanded No 29 Squadron, the Typhoon Operational Conversion Unit at RAF Coningsby and spent 2 years as the senior airman in the J3 Division of the UK Permanent Joint Headquarters at Northwood, supporting UK operations in Afghanistan, Libya and globally. He is a graduate of the UK Advanced and Higher Command and Staff Courses and holds Masters degrees from Oxford and KCL London. He returned to New College as a Trenchard Fellow in Autumn 2011 and assumed command of RAF Coningsby in October 2012.

Wing Commander Richard Grimshaw was the 2011/12 Spaatz Fellow and graduated from the School of Advanced Air and Space Studies, Maxwell AFB having been awarded an MPhil in Military Strategy. He is currently the MA to the COS, Supreme Allied Command Transformation, Norfolk, VA.

Dr Richard Hammond recently completed his doctorate on 'The British Anti-Shipping Campaign in the Mediterranean, 1940-1944' at the History Department of the University of Exeter. This article is based on research undertaken during the PhD. In 2010 he was elected an Associate of the Higher Education Academy and was awarded the 'Effective Researcher Award for Excellence' by the University of Exeter. He also holds a BA(Hons) in War Studies and an MA in Conflict Studies from the University of Wolverhampton, where he is currently working as a Visiting Lecturer.

Dr Peter Lee is a Portsmouth University Principal Lecturer in Military and Leadership Ethics based at Royal Air Force College Cranwell, where he specialises in the politics and ethics of war and military intervention, and the politics and ethics of identity: with particular interest in Foucauldian conceptions of truth and subjectivity. In November 2012 Dr Lee transferred from King's College London after four years in the Air Power Studies Division and continues to lecture across a range of diverse subjects, from international relations to terrorism and insurgency. In 2012 he published his first book entitled *Blair's Just War: Iraq and the Illusion of Morality*. He is regularly invited to lecture on this and other subjects to military, academic, political, religious and wider audiences. From 2001 to 2008, Dr Lee served as a Royal Air Force chaplain.

Flight Lieutenant Tomas Yonge joined the Royal Air Force from university after completing a degree in Modern History in 2006. He is a navigator, currently serving with No.13 (Reaper) Squadron at Royal Air Force Waddington. Prior to this he flew on the Nimrod MR.2 maritime reconnaissance force and has recently completed an MPhil in Modern European History at the University of Birmingham as part of the Maritime Patrol Aircraft CAS Fellowship programme. The focus of this research was on the evolution of the driving forces behind Royal Air Force maritime patrol aircraft procurement from 1945 onwards.

Air Power, Influence and the Operational Level

By Group Captain Johnny Stringer

This paper is intended to provoke further discussion on: the Operational Level, the Air environment's interaction with it, and how the UK could maximise national influence from the two. An acceptance of the influence that can be generated from the Service's conceptual (re)investment in the Operational Level also underlines the fundamental importance of Air C2, a core element of environmental expertise in the understanding and employment of air and space power. Command and control are linked terms but are not synonymous: our processes and structures for the latter are only understood and exploited by the former. The term 'Influence' also has resonance across government, appearing twenty-five times in the thirty-seven pages of the UK National Security Strategy; a document that rejects any diminution in Britain's role in the world. Indeed, senior Ministers have insisted that there would be 'No strategic shrinkage' and that the UK would remain a global player, honouring and strengthening commitments, alliances and partnerships. Yet the financial backdrop to this ambition remains an age of austerity. As a result, this paper argues that influence will increasingly be at the heart of our activity.

'The National Security Council has reached a clear conclusion that Britain's national interest requires us to reject any notion of the shrinkage of our influence'.[1]

Introduction

The genesis for this paper came from a tour as the senior Airman in PJHQ J3 (Current Ops), and earlier thoughts on reinvigorating the Conceptual Component of (Air) Fighting Power. Originally conceived as a study into how best to maximise influence for the UK from the Military Instrument, a term at Oxford as a Visiting Research Fellow on a Chief of the Air Staff Fellowship demonstrated how wild had been that particular ambition. However, both Oxford and the Higher Command and Staff Course provided exceptional environments in which to actually think about our business, rather than coping with the challenges of the next 5 minutes. Most importantly, it provided an opportunity to assess and reflect on that with which I had been most closely involved as both 'Joint Officer' and Airman: the Operational Level, the Air environment's interaction with it, and how the UK could maximise national influence from the two. My intent is to use some informed subjectivity, a dash of fact, and a bit of contentious analysis to provoke further discussion on an area where we might not be as engaged – or as good – as we might like to think.

Influence matters to the UK coalition government: the National Security Strategy, published in October 2010, uses the term 25 times in a 37 page document that rejects any diminution in Britain's role in the world. The Prime Minister and senior Ministers insisted that there would be 'No strategic shrinkage': the UK would remain a global player, honouring and strengthening commitments, alliances and partnerships. The 3 instruments of national power – the Diplomatic, Economic and Military – would be employed to support the national interest within an 'Integrated Approach' across the Whole of Government. Yet the financial backdrop to this ambition was hardly encouraging. Debt reduction would be the Government's number one priority: without a sound financial basis, wider questions of national security were deemed moot. Accordingly, the Defence Vote would reduce by 8% over 4 years, albeit with increases scheduled from 2015 – a less swingeing cut than envisaged by many, but one that has necessitated significant force reductions, and with freedom for manoeuvre further limited by the ongoing involvement in Afghanistan and a heavily committed Equipment Programme.

Criticism was swift, vociferous and pointed. The near-simultaneous release of the Strategic Defence and Security Review (SDSR) provided little breathing space to consider the tenets of the NSS against revised and reduced force structures: 'despite the rhetoric, the internal process was clearly running in the opposite direction: first budgets, then capabilities, then – in any time left over – a hastily retro-fitted strategy..the process rapidly changed into the familiar dynamic of a spending review'.[2] The subsequent Comprehensive Spending Review and '3 Month Exercise' have driven further force reductions, most obviously affecting the Army. There has been considerable debate over whether UK ambition is matched by resource – whether the 'Ends, Ways and Means' of Strategy are unbalanced – and calls for the SDSR to be

reopened. The House of Commons Defence Committee was blunt in its analysis: the UK would inevitably enter a period of 'strategic shrinkage'[3], regardless of the Government's protestations to the contrary.

Yet the Afghan backdrop to SDSR and NSS has been altered by the (militarily) successful campaign in Libya; the PM for one believes his critics have been proved wrong[4] and that the conclusions of both NSS and SDSR have been vindicated. President Obama's decision to 'lead from behind' on Libya and the strategic 'pivot' to the Pacific adds further texture to the debate and – importantly – provides a counterpoint to the Iraq and Afghan campaigns in assessing the influence the UK is still able to achieve. This paper will contend that the UK can retain that level of influence required to support the national interest, and that this influence is most obviously achieved and exercised at the operational level. However, limited resources dictate innovation and imagination in how the UK military instrument is employed: the moral and conceptual components of fighting power will assume even greater significance. UK military influence has no fixed value: it alters, depending on context and between the strategic, operational and tactical levels. It should be the servant of 'national strategy', fully integrated with Diplomatic and Economic levers. And it cannot be linked simplistically to the amount of equipment (and the people to man it) that we have. For too long, the private and public Defence debate has been skewed by inappropriate comparison, historical baggage and single interest (and Service) agendas: all hindering the utility of, and influence achieved from, the military instrument. We need to do better.

Influence and 'National Strategy'

The authors of a Chatham House report defined Influence as 'A systematic programme of interventions designed to alter the beliefs and actions of others so as to deliver concrete outcomes against a clearly defined strategic objective'.[5] Whilst this is usefully short, it does not include the maintenance of current positions or the variety of possible audiences. Any definitions of influence must speak to notions of will, power and adoption through a variety of cognitive and physical actions. Accordingly, military influence might be defined more broadly as:

'The maintenance of, or change in, the beliefs or actions of friendly, neutral or hostile audiences by kinetic or non-kinetic military activities in order to support or further the UK's national interest and core values'.

The UK's interest in the notion of influence can be seen as recognition of the competitive and increasingly diverse nature of the contemporary foreign policy and security environment, set against increasingly limited national resources. Harnessing 'soft' as well as 'hard' power was not merely appealing – it recognised financial realities and a shift in geopolitics. Additionally, definitions in the abstract benefit from examination in context: the UK seeks to exert influence at both the 'grand strategic'/political level, and the military strategic, operational and tactical ones. The notion of Influence is at the heart of the NSS and is matched

in the UK's doctrinal foundations for the employment and utility of hard and soft military power. It is also hard to measure, observed in hindsight as well as the present, and may well be illusory or ultimately unattainable. As operations in Iraq, Afghanistan and Libya have shown, the amount of influence attainable is variable and dependent on numerous factors, including relative contributions, campaign duration and complexity, political and military advocacy and leadership, physical and political risk, and demonstrable success.

What influence cannot be is an end in itself: it must serve a purpose, objective or end state. The NSS links influence with securing outcomes aligned with the national interest; it provides as clear a public statement of UK strategic 'Ends' as could be expected in an unclassified document, accepting the lack of clear geographical focus,[6] and offers the context against which to test the 'Means' provided by SDSR and subsequent revisions. 'No strategic shrinkage' implies that the UK will seek to retain P5 membership on the UN Security Council, maintain a key role within NATO and the EU, and continue to work alongside G20 and Commonwealth partners and within other global trading economic alliances and partnerships. The extent of these commitments and relationships requires the UK to retain the ability and the options to operate both within coalitions and unilaterally, defending national security (homeland and overseas territories) whilst able to be a (or the) significant minority partner in US-led coalitions, or assume a lead role within other coalitions or alliances. Explicit in this is the utility of all levers of national power, with the military instrument operating alongside the Diplomatic and Economic: hard and soft power in play, the ratio dependent upon the situation, but all levers in use.

However, if the Comprehensive Approach and securing influence represented potential 'Ways' within which the military would contribute, there has been increasing disquiet regarding the overarching strategy within which they could be employed. In his RUSI address of December 2009, the then CDS's remarks on the UK's lost capacity for strategic thinking resonated with a wide audience both in Whitehall and beyond, prompting examination by Parliamentary Committee[7] and a continuing public debate and discussion. It also brought sharply in to focus a sense of unbalanced 'Ends', 'Ways' and 'Means', despite the explicit inter-relationship stated in the NSS :

"A national security strategy, like any strategy, must be a combination of ends (what we are seeking to achieve), ways (the ways by which we seek to achieve those ends) and means (the resources we can devote to achieving the ends).[8]

A cynic could contend that this has been a recurring problem for British politicians and the UK Military since the withdrawal from Empire after the Second World War. Successive UK Defence Reviews have sought to manage relative decline, refocusing resources where appropriate and if possible against the highest priority threats. However, the process was accidental rather than deliberate: exempting the 'SDR New Chapter' of 2002, the UK did not conduct a rigorous examination of its defence and security needs for 12 years, until the publication of the NSS

in October 2010. The enduring reality of unevenly matched ambition and resource has not dampened British political appetite to remain a global player and actor, although it is perhaps fortunate that post-Cold War crises have been relatively close to home and thus logistically 'do-able'.[9] Throughout this period, UK military capability has been benchmarked against the US; an almost wistful longing for past imperial glories has only reinforced this trait.

Strategic Influence with the US?

Successive post-War UK administrations have viewed influence through the prism of the 'Special Relationship': to a greater or lesser extent, all have sought to be Macmillan's Athens to Washington's Rome. This has had unfortunate and unintended consequences, blinding many to the fact that the US has become an increasingly unhelpful single frame of reference or comparator for UK Defence. It is also where the disconnect between perceived and actual Influence has become most acute: the strategic relationship between the UK and the US.

If Suez finally established the limits of independent UK freedom of action without US acquiescence, the recent campaigns in Iraq and Afghanistan have underlined to contemporary audiences the further limits on UK influence. At the strategic level, the UK's close relationship with the US has delivered Insight[10] rather than Influence: not an unhelpful outcome and certainly useful, but it should not be confused for what it is not. A senior UK commander in Iraq believed he could introduce novel ways of conducting business, but that he had never managed to change American minds.[11] This may be inevitable in a US-led coalition where the majority of forces committed are American: it recognises the reality of political and resource equity and risk, translated into campaign leadership and ownership.

The nature and dynamics of the UK/US relationship have evolved over the past 70 years, but the centrality of this relationship to UK Foreign Policy and the British Military is unlikely to change, given the shared appreciation and liberal democratic principles that underpin it: 'Our relationship with the US will continue to be essential to delivering the security and prosperity we need and the US will remain the most powerful country in the world, economically and in military terms'.[12] Indeed, it is almost unthinkable to imagine the UK opting out of the 5-Eyes intelligence community and the more specific UK/US intelligence sharing agreement. Interoperability with US Forces will remain a guiding principle for British military capability.[13] Taken together, maintaining this relationship will remain a cornerstone of British 'national strategy', even if it can never been one of equals. However, American global responsibilities, and the ability to meet the resource bill that comes with them, has provided the US with a breadth and depth of capabilities well beyond that fielded by the UK. The shared Atlanticist perspective is altering as the US looks to the Pacific and the East, at least if not more than she does to the West. Palpable frustration with the failure of European nations to invest adequately in individual and collective defence and security, and the sense of this being outsourced to a financially indulgent US, has only compounded this. Additionally, the generations of Anglophile US military personnel, fondly recalling Cold War tours in the UK focused on the Soviet threat, are being replaced by those without that same shared heritage and experience:

'If current trends in the decline of European defence capabilities are not halted and reversed, future US political leaders - those for whom the cold war was not the formative experience that it was for me - may not consider the return on America's investment in NATO worth the cost.'[14]

Taken together, the utility of the US as a comparator for our national analysis is at best questionable, and at worst actively unhelpful. Jack Fairweather and Frank Ledwidge quote the frustration (bordering on anger) of senior US officers with UK ambition falling short of reality. The then CGS recognised as much in a speech to Chatham House in 2009: '..there is recognition that our national and military reputation and credibility, unfairly or not, have been called into question in the eyes of our most important ally as a result of some aspects of the Iraq campaign. Taking steps to restore this credibility will be pivotal – and Afghanistan provides an opportunity'.[15] Ignoring the unwitting hostage to fortune offered up in the final sentence, the sense is of a nation still seeking to 'punch above its weight' at the strategic level, but increasingly failing to hit its target. It is time for the UK to look elsewhere for a meaningful comparator.

Une Nouvelle Entente?

'France and Britain..share the same set of strategic problems: preserving their international influence within the Western family in general, and vis-a vis the US in particular; assuming occasional leadership for European missions as framework nations; and doing all that at an affordable cost'.[16]

The answer may well lie across the Channel: France provides a far more credible peer comparator for the UK, with formal and full re-entry in to NATO under President Sarkozy removing the final barrier to meaningful comparison. Despite differing perspectives on the European Project, UK and French interests and outlooks are the more striking for their similarity than their differences: both nations retain post-colonial responsibilities and outposts, have long-established military and diplomatic institutions and machinery, are P5 UN Security Council members, maintain nuclear deterrent forces and are committed to supporting and operating within key international bodies and alliances. From Bosnia to Afghanistan, UK and French forces have operated alongside each other: the recent Libyan campaign provided a level of shared political ownership and direction that both reinforced these similarities and provided some convergence. Any sense that the Anglo-French Accord of November 2010 would be honoured more in the breach has been challenged by the strong cooperation over Libya, although it is still early days for the agreement and its outcomes. For those who feared that closer UK/French integration would fundamentally alter and damage the UK/US relationship, the positive US reaction reflected the American desire and need for European NATO members to take greater responsibility for their security and defence needs.

Clearly, the Franco-American relationship has enjoyed something of a roller-coaster ride ever since the Suez debacle. The consciously independent path that France chose after

1956 denied her membership of the 5 Eyes intelligence sharing club and hampered interoperability with the US and other NATO allies. However, this generated a strategic perspective based on a different calculus and with different outcomes to those of the UK: arguably, the French stance over the invasion of Iraq in 2003 has not harmed French interests or reputation over the longer term. Until recently, France committed forces to ISAF in Afghanistan, but her level of forces deployed were roughly a third of the UK contribution. One could contend that the French had maintained greater strategic balance and thus spare capacity than the UK through a more limited deployment: indeed, the French were also engaged in Cote d'Ivoire whilst simultaneously configuring for Libya. Malcolm Chalmers has also questioned what a greater UK contribution has actually generated: 'The UK has chosen to contribute substantially and disproportionately (compared with other US allies) to these missions. It is an open question as to whether these interventions have added commensurately to the UK's security or Influence'.[17]

Post-SDSR, the UK military has retained its expeditionary ethos and capability, albeit with reduced outright capacity. Importantly, it remains able to operate alongside the US, or to be a lead nation in alternate operational frameworks, such as Libya. In so doing, the military instrument has preserved political options as well as military ones, and hence supported wider UK influence. However, there remains both opportunity and threat in balancing means and ends: an answer may lie in more innovative and imaginative 'Ways'.

The Same with Less: Squaring the Circle

The fiscal drivers for the SDSR provided an easy and familiar backdrop for commentary and critiques of the review itself; it also ensured that discussion followed a traditional pattern, with the possibility of existential threats to capabilities generating considerable heat, if correspondingly and depressingly little light. As Paul Cornish has written, the tendency for the military to see things in 'input', rather than 'output' terms,[18] ensured a quantative rather than qualitative focus. Arguably, it also prevented an assessment of military capability set against the risk-based approach established in the NSS, setting 'Means' at odds with 'Ends' and denying any developed analysis of capabilities from the viewpoint of 'options offered'. The need to resource and support operations in Afghanistan during the period of the review further restricted the opportunity for bold and iconoclastic thinking. Lastly, the recent phenomenon of the sentimentalising of military service and sacrifice[19] provided an emotive edge to proceedings, especially with regard to the future size of the Army.

The Allure of the 'Niche'

In the aftermath of an Air and Maritime-centric Libyan campaign, with the specific UNSCR clause 'excluding a foreign occupation force of any form on any part of Libyan territory'[20], pre-SDSR public debate over the future roles and structure of the UK Armed Forces appears particularly jejune. As previously noted, an obsession with 'inputs' and the single Service agendas that this nourishes is in part to blame, as is a failure to accept that the present is an unreliable guide to the future.[21] The one certainty is uncertainty. Mindful that successful

military campaigns are fertile territory for retrospective counter-factual analysis, there is value in assessing what political and military options UK Armed Forces 'Configured for COIN' would have been able to deliver for Operation UNIFIED PROTECTOR...but not in this paper.

The prioritisation of 'niche' capabilities, supposedly of greater individual value, and the conscious move away from the retention of a balanced range of capabilities across all three environments, is often cited as an, or even the answer to cash-strapped Defence departments. Unfortunately, the allure of the niche is a meretricious one, resting largely on an analysis of 'What would the US like us to offer?'. As Libya has shown, the Government was provided with policy and military options from the decision to opt for an 'Adaptable Britain' posture in SDSR; absent expected US leadership and deployed capability, the balanced range of air and maritime ISR, Strike and C2 capability afforded the UK a level of Influence from the Grand Strategic to the Tactical that a more limited and partial contribution would not have provided. Configuring on the apparent value-added nature of niche capabilities represents a gamble on an uncertain future and may substantially limit UK influence. An unattractive option in the abstract, in the context of NSS and its attendant risk-based approach to potential threats, it may actively undermine national policy through denial of strategic choices and options.

Reinvigorating the Reserves Contribution

The 'Future Reserves 2020' report provides a compelling case for the military contribution that Reserve Forces can and should provide, and especially in a time of austerity. The rather snobbish and off-hand 'Dads Army' view is lazy and inaccurate: the challenges and complexity of the current and likely future operational environment places a premium on access to the broadest possible pool of talent. One could contend that the systematic failure to understand the complex and multi-faceted character of both the Iraqi and Afghan theatres[22] is indicative of profound failings in our existing full-time structures and processes. Used intelligently, the specific qualities offered by 'domain experts' (eg in the realm of Cyber) would be force multipliers. Augmentation of the 'analytical trades' - intelligence staffs, cultural advisers, imagery and communications analysts - by reservists drawn from academia, industry and the many diasporas resident in Britain would both broaden and deepen our understanding of key nations or regions, and of the various 'flows' generated by globalization. It will be essential if the UK is to meet the stated requirement[23] to conduct up to three concurrent operations where intelligence capability and capacity will be the foundation stone. This would be absolutely aligned with the NSS intent to identify early threats and problems, and thus prevent Tier 2 and 3 risks from being realised. It would also be extremely cost-effective. For the RAF, the potential within the A2 Branch is obvious, supporting national and coalition operations and offering much-needed capacity and resilience within constrained budgets.

Organisational Reform

'Too often … we have placed influence on the periphery of our operations, failing to understand that reinforcing, or changing, the attitude and behaviour of selected audiences can have equal, if not greater, utility than force in securing our operational objectives'.[24]

The 'Ways' in which the UK could maximise influence from the military instrument have been inadequately assessed, poorly integrated with other levers of national power and optimised largely for (mainly kinetic) warfighting. An emphasis on 'inputs' based advocacy for 'vital ground' equipment of the separate Services has ensured that key enabling capabilities have suffered in comparison. The provision of sufficient Communications and Information Systems capacity, and investment in associated networks, is an obvious example. Unsexy and lacking overt sponsorship (although the creation and remit of Joint Forces Command should change this), the communications architecture and the connectivity it affords is vital to the direction and exploitation of the combat power of all three Services.

The creation of a National Security Council and National Security Adviser broke new ground for the UK Executive: it was an overt demonstration of the new Administration's determination to provide focus and direction for the nation's security, including defence. The selection of Sir Peter Ricketts[25] could not have been coincidental either, reflecting the centrality of Foreign Policy to the coalition's approach. Chaired by the PM, the composition of the NSC reflects the cross-Departmental approach to national security, ensuring the FCO, MOD and DfiD are collectively engaged, and drawing in other departmental and specialist advice as required. The NSC(Officials) group meets both before and after NSC meetings, with the remit to enact decisions taken at Ministerial level. However, whilst the NSC and NSC(O) have provided welcome coherency across the key departments of State, the mechanisms and processes to integrate lower level working remain a work in progress. Importantly, the operational level for the MOD has no clear equivalents in other departments and thus no obvious sockets with which to connect. An early 'win' would be to institutionalise cross-departmental linkages and fora, ensuring alignment vertically and horizontally from the NSC downwards. The House of Commons Defence Committee report in to the Comprehensive Approach recognised the cultural and organisational changes required: 'There is a need for more cross-departmental working with secondments between the [MOD, FCO and DfID] to enhance the skill sets of relevant staff and to increase the mutual understanding of the different cultures in each Department'.[26]

The utility of the military instrument outside of operations, and its integration with other government departments (OGDs), has also been inadequately employed in pursuance of UK interests and influence. It may be that the almost singular emphasis on the 'Main Effort' of Afghanistan has prevented a sufficiently rigorous examination of what the military instrument can contribute, outside of current operations. Equally, the command and control of the softer elements of military power should be scrutinised. Whilst PJHQ commands all UK units employed on overseas operations, linking deployed forces with the strategic level, there is no such single ownership of those forces on overseas exercise. The significant resources committed, and the opportunities to support wider UK national policy objectives, should drive a more coherent and integrated approach. Encouragingly, the International Policy and Plans (IPP) directorate within MOD has drafted an outline Defence

Engagement Strategy, intended to map across to similar engagement planning within the FCO, DfiD and BIS.

Libya: Exception or Norm?

The successful and relatively swift interventions in Kosovo and Sierra Leone stand in contrast to the drawn out and inconclusive campaigns in Iraq and Afghanistan: furthermore, the lack of demonstrable military success has seen political risk realised back home. On first examination, it is no surprise that a key conclusion drawn by both those in uniform and civilians alike from the NSS and SDSR was that the UK would not indulge in military intervention operations for a generation – a conclusion rudely challenged by the Arab Spring. Yet an alternative analysis of the NSS would have signposted the potential for continued UK intervention overseas, despite the sobering experiences of the previous 10 years. Although a comprehensive description of the 'UK National Interest' does not exist, the NSS provides a brief summary of the central tenets: global engagement, the ability to trade freely, the importance of alliances and partnerships within a rules-based international system, and the importance of our national values: 'Our security, prosperity and freedom are interconnected and mutually supportive. They constitute our national interest'.[27] Moreover, the NSS noted that the national interest would be engaged if core values were seen to be at threat from the actions of others: 'Our national interest requires us to stand up for the values our country believes in – the rule of law, democracy, free speech, tolerance and human rights. Those are the attributes for which Britain is admired in the world and we must continue to advance them, because Britain will be safer if our values are upheld and respected in the world'.[28]

As such, the Government's decision to press for a UNSCR authorising military intervention in Libya was entirely consistent with the NSS and its (admittedly broad) definition of the UK's national interest. Arguably, the political and Prime Ministerial calculus has only been apparent in hindsight and was in part shaped by American unwillingness to assume the traditional and expected leadership role. Libya was a war of the Prime Minister's choice, rather than one he had inherited, and in Qadhaffi the PM was provided with a figure who could be seen as the very embodiment of a threat to 'the values our country believes in'. Close alignment with French analysis and shared political appetite provided an opportunity for overt European leadership, and a central UK role. Finally, a successful military campaign would serve to justify the findings of the NSS, support the conclusions of SDSR and attendant reshaping of the British Military, and demonstrate the determination to work with the UN in securing legitimacy for intervention.

However, testimony to the House of Commons Defence Select Committee in early/mid-2011 highlighted an intriguing and previously unappreciated difference of opinion between the PM and Service Chiefs as to the nature of the UK's military capabilities post-SDSR: were they 'full spectrum' or not? The disagreement is as interesting for what it says about an absence of shared vocabulary and understanding, as it is for the specific issue. One senses a Prime Ministerial assessment in relative terms (the full spectrum of capabilities required to service

or meet UK policy and security objectives), and that of the Service Chiefs in absolute ones. Healthy debate and honestly-held divergences of opinion are natural and welcome; disagreement on a fundamental issue is surprising and may be indicative of strained civil-military relations after a decade of land campaigns in the Middle East.

UK Civil-Military Relations

'I think the relationship between a Prime Minister and the defence chiefs should be quite a robust one...but in the end it has got to be a relationship where the politicians and the military are able to have a frank and clear discussion'.[29]

Arguably, current UK Civil-Military Relations are at a low ebb and have not – until recently - been afforded the internal and external scrutiny or analysis that they deserve. That which had occurred lacked the breadth and vigour attendant to that same debate in the US; Michael Clarke's and Matthew Parris's recent comments indicate renewed and welcome interest. For the latter, 'It's time we started to ask whether the leadership of Britain's Armed Forces is actually any good…Advice offered to ministers is consistently wrong'.[30]

All wars are political, but those of the last 10 years have been particularly so, creating significant tensions between the military and the political class. The result has been a less than shared appreciation of the utility and limits of the military instrument, and the geopolitical environment within which it is employed. Prime Ministerial frustration with senior military comments during Libya was exposed in July 11 at a Downing Street press conference: 'You do the fighting, I'll do the talking'. At a recent RUSI symposium, an official close to Downing Street revealed his and others surprise that the Libyan operation had taken 215 days, whereas Kosovo had only taken 78: 'And Libya was an easier problem than Kosovo'. The somewhat questionable analysis here is not the issue in itself; rather, it is the worrying lack of an agreed assessment against which British military force was committed. The implications for UK influence, reputation and credibility are clear; perhaps less so but equally profound are those for the regard in which military advice is held.

The 'zero sum' nature of Defence Review analysis, a tendency to count platforms, and unhelpful comparison with the US may have blinded the UK to one of our most influential contributions to coalition operations: the intellectual edge provided by our people. Set against reduced physical resource, their contribution at the operational level in coalition HQs provides leverage, gearing and influence for the UK. Indeed, the innovation in Ways noted earlier puts a premium on them: they could be seen as 'Force Elements' in their own right. More broadly, the reduction in UK military 'mass' dictates a changed appreciation of the value and warfighting contribution of the conceptual and moral components. Allied to this should be a re-evaluation of the contribution of the Reserve Forces to UK defence capability.

A more recent phenomenon has exacerbated the problem: confusion over the operational level itself. If the operational level is that which plans and orchestrates tactical activities to

service strategic/policy ends, there is a palpable sense – in fighting insurgencies in both Iraq and Afghanistan - that it has somewhat lost its way: 'It is thus very easy, in the continuing absence of strategy – of political goals to which the military effort is to be adapted – for counter-insurgency doctrine to fill the gap, for operations to double as strategy'.[31] Far from 'Strategic Compression', Strachan identifies what might be termed 'Operational (Level) Expansion' in the absence of clear strategy: the clear linkage between the tactical, operational and strategic levels has been lost, and the levels themselves have been conflated. Equally, the conduct of tactical level operations as an end in themselves or to no higher intent, design or purpose – memorably described by a Task Force Helmand Brigade Commander as 'mowing the lawn' – has allowed the notion of 'operating' to become confused with the operational level.

UK Air Power and the Operational Level

The RAF has traditionally and understandably prized the Physical Component: kit, equipment...'stuff'. As a technological Service where success at the tactical level is rooted in the optimum exploitation of our aircraft, it could hardly be otherwise. But in our recent past, we have too often confused 'operating aircraft' with 'being operational', and configured in peacetime for the routine business of the former, rather than for the more important latter. Arguably, the aftermath of the loss of Nimrod XV230 has accentuated this trend: the primary peacetime concern is to ensure compliance with the regulations whilst conducting flying activity. In operational theatres, this mindset has contributed to a tendency to default to Measurement of Activity at the Tactical level, rather than the more difficult but more instructive Measurement of Effectiveness. We have mistaken the 'inputs' of sorties and hours flown, fuel off-loaded, weapons dropped and targets struck for 'outputs': what our tactical activity has achieved in furthering the operational design or campaign in order to achieve strategic success and policy objectives. The distinctive yet different character of operations in the 1990s and the first years of this century may provide some clues.

'We do No Fly Zones'

The 1990s could be seen as the high water mark for Air Power, especially in its Fast Jet form. From DESERT SHIELD and DESERT STORM, to the No Fly Zones over Former Yugoslavia (and the coercive Air Campaign of Autumn 1995) and ALLIED FORCE over Kosovo and Serbia, Air Power seemed to provide all the answers. Yet the NFZs imposed east of the Adriatic and over northern and southern Iraq were in response to different geo-political and strategic circumstances. Save for the relatively short kinetic air campaigns of 1991, 1995 and 1999, could the air policing of the 1990s be described as any real form of campaign? Or was the Air Component conducting linked tactical activities, overseen by an Air C2 node (the CAOC), by coalition members following national, coalition and UN agendas and instructions? In Churchillian shorthand, it was the 'KBO' school of air operations, conducted in the expectation of a maintained international political consensus, and/or the hope that there might be a shift in the strategic landscape. For our airmen, it provided excellent tactical experience and exposure whilst 'on operations', but it might not have been illuminating as to Air Component

employment at the Operational Level. Nor might it have expanded and developed our associated operational thinking, and imbued in us a better developed appreciation for what one senior airman has termed 'the grubby business of campaigning'.

'The Supporting Arm'

The military and political contexts of the Iraq and Afghan conflicts have discouraged much in the way of operational level thinking as to the employment of the Air Component. Despite Air and SF being the UK's only 'Theatre level' contribution[32] to the ISAF Campaign, the default UK view through the 'Helmand Lens' has informed political, media and commentariat analysis; in particular, the popular sentimentalisation of military service, and a re-heated 'lions and donkeys' backstory, has made dispassionate analysis difficult and seemingly disloyal. It is only with recent HCDC inquiries, investigative writing and the testimonies of key high level officers and officials that both campaigns are undergoing broader and overdue scrutiny. Within the Services, the dominant and expected 'Khaki narrative' has seen all deployments outside the Land Component as assessed often only in terms of the support provided to the British Army in the 3 Districts.

The impact has been profound. The notion of 'Main Effort' has seen capacity and capability for wider global tasks reduced, and a generation of servicemen for whom their military frame of reference is essentially singular. For the RAF, the emphasis has been on tactical excellence – almost solely in support of the Land Component in a limited if vicious type of conflict – with a few individuals in Air C2 billets in either Kabul or the CENTCOM CAOC in Al Udeid. The Arab Spring and renewed tension in the South Atlantic, alongside the usual sources of global tension and disharmony, ought to act as wake up calls for the requirement to retain balance and resilience for our wider national responsibilities. Indeed, whilst the character of the Libyan campaign is of considerable interest, the headline for Defence should be that these campaigns are not exceptional: they happen, and Defence needs to be able to provide military options in support of national policy objectives. A prolonged and difficult slog in Afghanistan has not overwritten Macmillan's emphasis on 'Events, dear boy, events'.

'The Moral is as Three to the Physical': Lessons from Libya

'It is also important to ask what the UK is planning to achieve by exercising increased influence over multilateral operations. British influence is most likely to be nationally productive where there is a strong national interest in the success of a coalition effort, and where a failure to provide a substantive contribution would substantially damage its chances of success. This in turn is most likely to be the case in circumstances where the UK constitutes a relatively large part of the potential coalition, and where the US (for whatever reason) is reluctant to provide the forces necessary for a particular task'.[33]

Malcolm Chalmers' prescient assessment of early 2009 predated both SDSR and the intervention in Libya, and envisaged operations outside of the extant Iraqi and Afghan template. The UK military contribution to Operation UNIFIED PROTECTOR (OUP) provides a

useful example against which to assess how effectively the UK used the military instrument to achieve influence at the strategic and operational levels. Deliberately, individual Influence Operations – those military activities designed to influence both Pro- and Anti-Qadhaffi forces in Libya – will not be assessed.[34]

Context

The uncompromising political stance of Her Majesty's Government in seeking and securing UNSCRs 1970 and 1973 dictated that any military contribution would be relatively sizeable, and would de facto be almost exclusively from the air and maritime environments. Equally, the – to some – muted American enthusiasm for the operation and limited (but vital) contribution of men and materiel ensured that UK elements would have a disproportionate value within the Alliance's ORBAT. Importantly, this would be true of the contribution of UK personnel within various key HQs, yet posed an early dilemma: the prioritisation of the UK/US Military Relationship over the more multi-lateral one within NATO had required conscious disinvestment in the latter, and especially in the Southern Region. The UK would need representation and presence, but this would be from a standing start: indeed, prior to OUP, every UK post within Combined Air Operations Centre 5 (CAOC 5) at Poggio Renatico in Northern Italy had been gapped. In addition, at the Combined Joint Task Force HQ at Naples, built in part from the 'Peacetime Establishment'-provisioned Joint Force Command Naples HQ, the UK had no senior Airman in a coalition post.

From the outset, the UK needed to establish credibility in the eyes of NATO partners whilst simultaneously re-learning how to operate within, and speak the language of, NATO. The sizeable UK Air and Maritime contribution undoubtedly provided equity from mass, but significant military diplomacy was required at SHAPE, Naples and Poggio to enable the UK to place personnel in key staff appointments. Equally, it was apparent that the lack of expected US leadership, capability and capacity had caught many off guard, and that peacetime planning assumptions regarding relative contributions had been torn up. Against this backdrop, the provision of experienced analytical, operational and other support staffs generated early, disproportionate (to actual numbers deployed) and enduring influence for the UK, most obviously at CAOC 5 but to a lesser extent at CJTFHQ Naples as well: a genuine coalition force multiplier.

MOD, PJHQ and Air Command staffs had identified early the importance of the Air Component HQ[35] and the requirement to put high quality UK officers into key appointments. The Air Component would be central to operations over Libya and would be in control of the significant UK equity deployed on OUP: as such, it was also central to UK reputation and the management of military risk with political consequences. However, and potentially due to the unique command and leadership framework for OUP generated by US decisions, the UK had not conducted a formal 'Influence Estimate' for the operation in general, and HQs in particular. To a great extent, the UK commanders on the spot were left to conduct their own analysis and back-brief the UK on their findings; the UK ACC conducted both 'Influence' and 'C2' Estimates

upon arrival at Poggio in early April. By the end of June, 97 UK personnel would be employed there in support of OUP, representing a fifth of all CAOC 5 personnel. In reality, one could argue that this is not surprising and recognises that campaigns develop their own dynamics; any initial estimate would only have been overtaken by events. But it does point to a failure to adequately think through scenarios and potential requirements in peacetime, the more so given the risk taken by disinvestment in NATO. With the conclusion of OUP and the benefit of hindsight, UK influence through the Air Component HQ can be seen in three main areas.

Firstly, through the professional and personal relationship between the 3* CFAC OUP (Lt Gen Jodice USAF) and the UK 1* Air Component Commanders. The considerable and deep shared operational experience of the RAF and USAF over 20+ years generated a level of trust and confidence that allowed UK thinking on the Libyan air campaign at the operational level to be exposed and debated. Interestingly, it offers an alternative viewpoint to ex-SECDEF Gates' comments noted earlier: genuine capacity and competence serving to maintain and underpin US confidence and trust. Additionally, all UK operations were conducted within the NATO framework – there were no 'national only' operations that would have tested alliance cohesion and damaged UK influence within both the CAOC and at Naples.

Secondly, through UK leadership of, and key staff within, the CAOC Strategy Division.[36] The 'Strat Div' was central to the planning of the Air Campaign, generating options for the Commander and developing a Campaign Plan that sought to maximise the resources available whilst minimising risks. It placed the protection of the Libyan population at its heart, whilst seeking to write down the capacity of the Regime to kill and injure its own people. Again, the UK was able to deploy high calibre individuals with the necessary skills and experience to influence the design of the Air Campaign, safeguarding national equities whilst reinforcing other Alliance perceptions of the UK contribution – a virtuous cycle.

Thirdly, the UK provided people to the Intelligence, Surveillance and Reconnaissance Division (ISRD) who were able to 'join the dots' of an often confused and partial intelligence picture, including the Head of Division for the second half of OUP. The important lesson here is that of the pivotal contribution of UK personnel to the successful prosecution of coalition campaigns, and thus the influence that is generated for the UK beyond the deployment of physical kit. Amongst a blizzard of dictums, we sometimes forget Napoleon's understanding that the 'Moral is as three to the Physical' – the more so when the 'physical' is limited by choice or austerity.

Configuring for Influence: An Alternative Framework

Having outlined the context and challenges the UK military faces in maximising influence, it would be somewhat feeble to dodge making some recommendations; in short, how UK Defence could be configured better for influence. At the risk of attempting to win this year's 'Appalling Alliteration' prize, there are five specific themes that should be addressed. All speak to a final 'C' word, namely 'Credibility'. As the UK demonstrated in Iraq after 2003,

lack of credibility is a rapid route to reputational damage and negative influence – and is readily apparent to all audiences.

Coherency

The military instrument cannot operate in a vacuum or independently. Limited Defence means should drive closer routine integration with sister Government departments: it cannot await a crisis before individuals and teams are thrown together. The role of the NSC should be self-evident, and the potential has been shown by its performance during the Libyan crisis. However, it should be supported by a reinforced Cabinet Office that directs subsequent activity.

Communications

There is little point in integrating the Diplomatic, Military and Economic instruments if the UK is unable to explain – to all audiences – our actions and our beliefs. The importance of Strategic Communications has (albeit belatedly) impressed itself upon the Government, including the MOD; indeed, it is a key element of the institutionalised strategic capacity that the UK is seeking to regenerate and not merely 'military spin'. The 'Future Character of Conflict' paper noted that 'To win the battle of the narratives, UK Defence must be able to wield influence at all levels, across multiple media, within joint, multinational and interagency environments at much higher tempo than now'.[37] More bluntly, Professor Lawrence Freedman has stated that '..superiority in the physical environment is of little value unless it can be translated into an advantage in the information environment'.[38] Strategic Communications are a key requirement for Influence, yet the UK has only recently published a Joint Doctrine Note on the topic; even then, it speaks purely to military STRATCOM. If credibility is central to Influence, then our ability to speak with clarity to numerous audiences is of equal importance: we should ensure there is no 'Say-Do' gap between our words and our actions.[39]

Capability

The UK has the opportunity to transform the intellectual and conceptual backdrop for the 2015 SDSR. UK military operations over the last 10 years have demonstrated the requirement for balanced forces that are able to provide policy options and choices: in essence, to enable the UK to conduct independent or coalition action to support our national interest. But 'Main Effort' can all too easily become 'Sole Effort', threatening to distort our analysis, bending ourselves out of shape and limiting choices. It has also failed to generate the strategic influence that we have sought. Additionally, true capability should be seen in our people at least as much as in our equipment, and in the conceptual underpinning for their actual or threatened employment.

Capacity

The UK is not 'strategically shrunk' merely as a function of a reduction in deployed forces. Operation ELLAMY was almost a perfect (air- and maritime-heavy) fit for the 2000-strong non-enduring complex operation assumed under SDSR. It achieved for the UK a level of influence

within the coalition equal to that of France and well-matched to associated Diplomatic and Economic activity. For some, it may stand in stark relief to the enduring and costly enterprises in Iraq and Afghanistan. However, the need to meet both enduring and contingent operations highlights the importance of not over-reaching ourselves: even the US is facing the realities of reduced resource and the implications for appropriate but not excessive commitment.[40] Novel use of Reserve Forces, academia and diasporas may offer a way ahead here for the UK, especially with regard to our national Intelligence capacity; all would appear aligned with NSS intent to identify and deal with issues before they become problems and crises.

Culture

If all instruments of national power are to contribute to maintaining UK influence, generating the improved coherency noted above, there will need to be a change in departmental and wider Whitehall culture – both by and within organisations. The MOD has often, if unintentionally, distanced other departments by engendering an overtly military feel to business[41]; equally, it has at times been difficult for MOD staff to identify where they connect with their opposite numbers. There have been improvements: in Afghanistan, where the DfID-led Provincial Reconstruction Team and Task Force Helmand work hand in glove, and with the role of the NSC(L) during the Libyan crisis. However, this should become the norm, requiring all parties to more readily engage and, when necessary, compromise.

Enhancing Air at the Operational Level

The revised strategic landscape, and a reduced and re-shaped UK Defence, will drive significant change in the way we do business. This paper has argued that comparisons with the US as to military capability and capacity are imperfect, and that the UK will not possess the physical size of force to expect influence through size of contribution. In large scale coalition warfighting, influence for the UK at the strategic level has for some years been more a factor of shared political risk than of size of forces contributed. At the operational level, the UK has sometimes lost its way, fixating on tactical activity and the equipment to conduct it, rather than asking ourselves the 'in order to' questions. Why are we doing this? What is the linkage of 'Strategy to Task'? What campaign objective is this supporting?

Yet there are examples and insights from the last two decades of RAF operational experience that might point the way for enhancing our thinking at, and contribution to, the operational level.

Our prowess in kinetic targeting must move into the non-kinetic domain and beyond the rather loosely-termed 'Information Operations'. If everything we do is geared to influencing opponents, allies and the home front, through multiple conduits and always against competing narratives, then the notion of Influence will be central to our conceptual development. In Libya, it was often what we chose not to do kinetically that maintained strategic breathing space and options: I would argue that we are at the point where our kinetic activity supports the Information campaign, rather than the other way round.

Generating and maintaining Influence is not a part-time activity. The Service's Engagement Strategy should be sophisticated in development but simple and clear in execution. Air Power has always been about providing options, both singly and in concert with our sister Services. Our engagement in policy debates and thinking should reflect this; hence, our understanding of political thinking and attendant risk/benefit calculus must always be well-honed. And we need to be upfront about what we can and cannot do.

A premium will need to be placed on enhanced education: we need to broaden the intellectual base of our servicemen and women earlier, to complement the excellent, tactically focused training of which we are rightly proud. There is the danger in the latter of producing superb SMEs who struggle when confronted by an operational and political context that demands more sophisticated analysis and understanding. Alongside the programmed professional development for Officers and Airmen, there is a mentoring and educating role at station and unit level to identify and bring on our most able across all branches and trades. We should assess our current collective, Joint and Coalition training to ensure it provides more than just high quality tactical training. Participation in demanding Air C2 training should become the norm, rather than the exception. Too much reliance is placed on 'OJT'[42], rather than proper, focused pre-deployment training and education; this applies equally to those personnel nominated as augmentees to other national or coalition HQs against contingency requirements. By dint (or otherwise) of innate talent, ability and commitment, most will swim, some will sink and a few will really shine. I would argue that those in the last category are the intellectually and professionally curious – the autodidacts in the Service that have flourished at least as much by their own efforts as by the mandated, formal RAF and Joint education that they have experienced. For example, our Qualified Weapons Instructors may be supremely impressive tactical operators, but we need to develop them (and their talented non-QWI peers) to think and thrive at the operational level: it is not a pre-ordained progression.

Conclusion

The political appetite for use of the UK military instrument is unlikely to be lost anytime soon, even if that usage might be more finely calibrated in the wake of the campaigns in Iraq and Afghanistan. Equally, the military mass that the UK can employ in support of national objectives has reduced steadily over the last two decades. Budgetary pressures in the US and a switch in emphasis to the Asia/Pacific region has shown that old certainties regarding American support may no longer apply: the Libyan campaign and reluctance to become militarily engaged over Syria support this, at least in part. As such, the Anglo-French Accord may well have to deliver tangible and enduring outputs for both partners, quite apart from the implications for the rest of NATO.

The reduction in Means has been and is palpable: the air campaign over Kosovo generated well over a 1000 sorties a day, whilst strike missions in Libya were less than a tenth of that figure. Sophisticated employment of limited assets will be essential in all environments, not just in the Air and Space domains, and that can only be rooted in the conceptual horsepower

brought to bear before and during that employment. For the RAF, this should force us to examine the education we provide (and the widest possible engagement that informs it) to ensure that we have both breadth and depth in the human aspects of our capability. As our size reduces, we should aspire to be the broadest possible church, continually challenging convention, process and thinking. Our brightest and most thoughtful should be at the heart of this, understanding the nuances and complexities of strategic and operational contexts to maximise the contribution offered by the air component. However, our wider education and training should be targeted and tailored to develop this ethos across the Service and thus generate the required capacity as well as capability. The Operational Level is where the Service can best achieve leverage, gearing and influence for the UK from its air force: we should be identifying, nurturing and cherishing our talent, such that it can be deployed and employed for real effect in orchestrating tactical actions for strategic effect and hence desired policy objectives. Increasingly, influence will be at the heart of our activity, both 'on ops' and routine: we will deploy on exercise, as well as in anger, to reassure and deter, providing strategic messaging from our presence whilst honing our tactical capability.

An acceptance of the influence that can be generated from the Service's conceptual (re) investment in the Operational Level would also serve to underline the fundamental importance of Air C2. Command and control are linked terms but are not synonymous: our processes and structures for the latter are only understood and exploited by the former. When set in terms of joint and coalition campaigning, effective operational level Air C2 – analysis, planning, orchestration and execution – is the force multiplier sans pareil. It also underlines the need for, and is a core element of, environmental expertise in the understanding and employment of air and space power: the rationale for an independent air service.

Notes

[1] *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, 2010, 10.
[2] Matt Cavanagh. 'Missed Opportunity: How failures of leadership derailed the SDSR'. RUSI Journal Oct/Nov 2011 Vol 156 No 5 pg 9.
[3] House of Commons Defence Committee. 'The Strategic Defence and Security Review and the National Security Strategy', 6th Report of Session 2010-11, HC 761.
[4] 'David Cameron: Armchair Generals Were Wrong On Libya'. **http://www.huffingtonpost.co.uk/2011/09/02/cameron-armchair-generals_n_947042.html**
[5] Alex Evans and David Steven, 'Organizing for Influence: UK Foreign Policy in an Age of Uncertainty', Chatham House, London, June 2010, 14.
[6] However, the Foreign Secretary's speech of 8 Sep 2011 outlines his intent for renewed global diplomatic engagement and enhanced presence for the FCO.
[7] *House of Commons Public Administration Select Committee: Who Does UK National Strategy?*,12 Oct 2010.
[8] *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, 2010, 10.

[9] Albeit at a price: Ledwidge quotes an estimate of the cost of keeping a single soldier in Afghanistan for one year of £400 000.
[10] Where 'insight' is defined as knowing why something has happened or is happening, Joint Doctrine Publication 2-00, Development Concepts and Doctrine Centre, 2011, 1-7.
[11] Oxford Seminar presentation, Nov 2011.
[12] *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, 2010, 15.
[13] A RAF 'Strategic Priority' is to 'Harmonize our air power capability, concepts and doctrine with those of the US Forces'.
[14] Then US Secretary of Defense Bob Gates. NATO speech 9 Jun 2011.
[15] General Sir Richard Dannatt. 'Perspectives on the nature of future conflict' lecture, Chatham House, 15 May 2009.
[16] Etienne de Durand. 'Entente or Oblivion: Franco-British Defence Co-operation'. RUSI pg 95.
[17] Malcolm Chalmers. 'Keeping Our Powder Dry' RUSI Journal Feb/Mar 2011. No 156 Vol pg 20.
[18] 'What is required is a shift in emphasis from defence 'inputs' – weapon systems, equipment and force postures – to strategic 'outputs' – the functions required to ensure national security and defence in a challenging and changing environment'. Paul Cornish 'Strategy in Austerity' CH paper pg vii.
[19] Rob Fry has referred to the 'excessive reverence' with which the UK military are held by the British public; Michael Clark has referred to the phenomenon of 'recreational grief'.
[20] UNSCR 1973 para 4.
[21] Sir Michael Howard: "(The past is) an inexhaustible storehouse of events (that could be used to) prove anything or its contrary". Quoted by Echevarria: 'The Trouble with History'. 'Parameters', Summer 2005.
[22] As recounted in Jack Fairweather's 'A War of Choice' and Frank Ledwige's 'Losing Small Wars'.
[23] *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review*, 2010, 19.
[24] Joint Doctrine Note 1/12: 'Strategic Communication: The Defence Contribution', Development Concepts and Doctrine Centre, 2012, v.
[25] Previously Permanent Secretary for Foreign Affairs in the FCO.
[26] HCDC Report: 'The Comprehensive Approach'. Seventh Session 2009/10.
[27] *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, 2010, 22.
[28] ibid,4.
[29] HCDC Report on SDSR and NSS 6th Report para 61
[30] 'These buffoons don't deserve our salutes'. The Times 25 June 2011.
[31] 'Strategy or Alibi? Obama, McChrystal and the Operational Level of War'. Hew Strachan, 'Survival' vol 52 no.5 October-November 2010 pg 168
[32] Of note, the SF contribution has been discussed in term of 'strategic effect' and influence, whereas that of the Air component has been seen only (and erroneously) in terms of support to the British Army in Central Helmand, rather than to the ISAF mission across Afghanistan.
[33] Malcolm Chalmers. 'A Force for Influence? Making British Defence Effective'. RUSI Journal 153:06 pg 22.
[34] For clarity, the initial UK Non-Combatant Evacuation Operation (NEO) to recover Entitled

Personnel from Libya was termed Operation DEFERENCE and was complete by late February 2011. The initial and deconflicted kinetic operations conducted by nations immediately following UNSCR 1973 were under the banner of Operation ODYSSEY DAWN (OOD); upon handover to NATO for command of Libyan operations, the Alliance intervention was named Operation UNIFIED PROTECTOR (OUP). For both OOD and OUP, the UK national contribution was known as Op ELLAMY.

[35] The CAOC was originally expected to operate from Izmir, Turkey, in accordance with peacetime NATO C2 structures. The early move forward to Poggio was directed by the 3* USAF Combined Joint Air Component Commander.

[36] Lead by an RAF Group Captain, supported by two Wing Commanders: all had previous CAOC experience and immersion in air campaign planning. Of note, the Group Captain had current NATO experience.

[37] *Ministry of Defence Strategic Trends Programme: Future Character of Conflict*, 12.

[38] Lawrence Freedman. 'The Transformation of Strategic Affairs', pg20.

[39] For a senior US view, see Admiral Mullen's piece at: http://www.jcs.mil/newsarticle.aspx?ID=142

[40] See the Centre for New American Security report: 'Hard Choices: Responsible Defence in an Age of Austerity'. Oct 2011.

[41] It could be that wider use of the acronym PAG – 'Partners Across Government' – would help, rather than the MOD's use of 'OGD'.

[42] On the Job Training. In the mid-90s, RAF officers were seconded or posted to 3 CAOCs on separate but simultaneous operational duties, not including CAOC9 in the UK; we now have Al Udeid alone.

A New Paradigm for British Air Power?

By Wing Commander Richard Grimshaw

This article presents an argument for a fundamental change in the organisation of British air power, calling for a new model that is an amalgam of those employed by the US Marine Corps and the Israel Defense Forces. It contends that British air power is not currently organised, commanded or controlled in a manner which truly optimises the benefits for the joint force as the current paradigm on which British military strategic planning is based is no longer valid. Moreover, this article will argue that we have collectively failed to recognise that paradigm shift. Our ends are defined by the government of the day and our means are similarly constrained, largely beyond military influence at all bar the strategic level. Therefore, it will be argued that only our ways of warfare are truly within the control of the nation's military leaders and these must, therefore, change to reflect the new defence and security paradigm.

Introduction

The only thing harder than getting a new idea into the military mind is to get an old one out.

- B.H. Liddell Hart

The (Fiscal) Problem

How should the UK make the most of its air power with limited resources to meet national interests?[1] This challenge is not one of change in threats to national security or in national perspective, nor is there a need to respond to a dramatic change in national circumstances. The challenge is how to balance the national economy while maintaining position in the world both today and in a future full of uncertainty. Fundamentally, the country cannot afford to keep organising for defence in the way it has been doing. From the military perspective, change is not through choice but necessity. No individual Service is calling for these changes; no one believes reduction in strength will improve overall capability, but change is nonetheless required. This is not about changes in equipment or, in many respects, personnel. Instead, the potential paradigmatic shift is in the way people and equipment are put together into a coherent package. For some this may represent unpalatable, radical change, but it is ever thus with a shift in paradigm. Fiscal pressure has put the UK military at the edge of chaos, where the old way of doing things may no longer provide the answers to the current and projected set of problems.[2] Fiscal pressure, rather than any new doctrinal reasoning or military development, is the driver.

In the past, attempts to resolve similar problems have resulted in decisions made with good intentions, but the necessary changes in thinking by military leaders have seldom followed suit. Inter-Service tensions and parochialism have prevented the good intentions from being implemented. However, the UK has now reached a time when the gradual reductions in force, culminating in those of the Strategic Defence and Security Review (SDSR), can no longer sustain single-Service thinking as far as the organisation of the UK military is concerned. The issue is not about existence of Services, but rather how they utilise the domains for which they are specialists and how the other domains can use their expertise, resources, and capabilities to obtain the very best capability to meet national requirements. The difficulty has not been how the UK has trained or, in most respects, what it has been equipped with, but rather how it has organised and employed the grand enabler of air power.

Difficulties with the Current Paradigm

In his discussion on scientific revolutions, Thomas Kuhn describes how individuals work to develop new ways of understanding while clinging to existing paradigms. Eventually, a better way of explaining observed phenomena is accepted by the wider body of experts and this idea or theory becomes the new paradigm. Over time, further research explores related areas using that paradigm as the reference point.[3]

The current paradigm in question is best understood from the aspects of ends, ways, and means. The *ends* are the national security requirements for which military action is desired. The *ways* have become entrenched, leading to three Services competing for resources for their particular ways of warfare. For the UK, as with the US, the accepted paradigm for its armed forces is for independent Service entities to organise themselves separately, while each uses organic air power to enhance the effects it seeks to produce. Cross-Service support can and does occur when requested to provide capabilities that cannot be implemented organically. The provision of fixed-wing close air support to the Army is a prime example. This paradigm leads to each Service pressing for its own way of winning conflicts, thus generating intense competition when resources are scarce. The existence of three separate future operating concepts, each considering the same strategic problem from three independent directions bears this out.[4] This leaves the *means* as the principle method for governments to control spending. Provision of platforms becomes key to Service interests, albeit how those items should be employed together is of less interest; there is an innate Service drive and wish for Big Navy, Big Air Force, and Big Army. Some resource merging occurred under the Strategic Defence Review (SDR). The emergence of various Joint organisations such as Joint Force Harrier are examples, but these initiatives have been more administrative rather than an integration of air power effects.[5] Nevertheless, when the means remain sufficient for the ways to meet the end, there is little need for change.

Paradigm Failure Through Lack of Means

Kuhn describes the crisis that occurs when the accepted paradigm no longer produces satisfactory answers to the circumstances presented to it. It is then no longer feasible to merely adjust the paradigm. Instead, it is time for a new one. Few in the scientific community actually look for the new theory; they merely come to the point where the old one no longer works.[6] For the air power paradigm, and for the employment of the UK's armed forces in general, fiscal pressure has fundamentally changed the circumstances.

The SDSR has been significantly criticised. Many argued the review was accomplished too hastily, but this criticism tends to be motivated more by political bias than genuine substance.[7] More effective criticism has raised doubts over the strategy contained in the strategic review. Paul Cornish in particular has been forthright in explaining why the SDSR failed to meet the requirements of the National Security Strategy (NSS).[8] In trying to place air power described in the SDSR *within the way the UK military operates (the current paradigm)*, it is difficult to disagree. With the forces left after the SDSR, it would be challenging to retake the Falkland Islands should Argentina seek a decision by force of arms and it would not be possible to match the fast jet commitment made in support of operations in Iraq in 2003.[9] The stated opinion of all the Chiefs of Staff is that the UK no longer possesses a full-spectrum capability.[10] The UK armed forces are already assuming significant risk. The capability gaps in maritime surveillance and fixed-wing ASW announced in the SDSR reflect these issues. Everett Dolman claims that each Service should use air power to win the battle of its domain, but this is a very US perspective and the UK can no longer afford to do this.[11] US forces are unrivalled in their use of air power,

and are able to tap into a well of resources that has left all other nations behind; they retain the ability to excel within the current paradigm. Unfortunately, the UK has reached a point at which the accepted paradigm no longer produces effective results. It is now forced to look through a lens of reduced size and fiscal pressure.

Returning to the ends, ways, and means described above, if the ends and ways remain the same, the reduction in means puts pressure on the use of the ways to meet the ends. Although the SDSR was merely one of a series of reductions over time, it signalled the point at which the *means* can no longer support the extant *ways* of meeting the desired *ends*. With the *means* now the limiting factor, it is necessary for either or both the *ways* and *ends* to be adjusted in order to balance the ends, ways, and means equation. The categorical statements of intent for balancing the UK defence budget within the NSS, SDSR and other statements by the government, make it very clear that there is no chance of an increase in spending in the foreseeable future.[12] Kuhn's description of a point at which the old way of explaining things no longer seems to marry with empirical observation has arrived for the UK armed forces.

Changing the Ends?

The SDSR and NSS straightforwardly describe the UK's national ends. They both call for a proactive approach to ensure the UK's interests are met in an uncertain world, and they discount the option for the country to retire from its historical role as a leader in international affairs. The national *ends* are summed up as: "Our country has always had global responsibilities and global ambitions. We have a proud history of standing up for the values we believe in and we should have no less ambition for our country in the decades to come."[13]

Although these statements appear to signify no change from the past, a close examination of the background documents that drove them reveals the potential for change. In effect, the threat previously facing the UK is no longer there. During the Cold War, the UK understood that being able to contribute to the collective NATO response to invasion of Western Europe was its biggest and most important priority. However, as partly recognised in the SDR, and fully articulated in the SDSR and NSS, the most dangerous possibility today - inter-state warfare involving peer-level, force-on-force combat - is highly unlikely. Any rise of a threat in this category should be identified sufficiently early to allow for a change in force levels.[14] Any involvement in a conflict of choice involving this degree of force and commitment will most likely be undertaken with the US, as happened in Iraq and Afghanistan. The advantage of choosing to fight in these situations is the ability to match one's contribution with one's own way of operating. If the UK is to maintain its prestige and influence, it will be expected to deploy and be effective in smaller-scale influence operations. The potential for large-scale conflict with a peer-competitor may still exist, but it has now become remote. *Strategic Trends, The Defence Green Paper*, and *the Future Character of Conflict (FCOC)* suggest that the actual priority for the future force is to be coherent at small and medium efforts against either

non-state or state actors in limited conflict.[15] The recent intervention in Libya serves as a useful model of the scale and type of activities envisaged. It would thus seem productive to change the dominant requirement for military activity from the most dangerous to the most likely conflict scenarios. While this may appear to be a high risk approach, it remains a logical extension of Gen Richards "Trading the Perfect for the Acceptable" speech.[16] To remain secure in a world of uncertain and unpredictable threats requires the Services to operate, train and organise accordingly. With the means as limited as they are, a new understanding of what the ends actually represent gives greater latitude to changing the ways.

Changing the Ways - Changing the Paradigm

The current paradigm creates a way of thinking in peacetime that divides assets into particular environments. On operations it is wasteful of air resources because it restricts the ability to shift assets across the battlespace to where they are most needed. Considering platforms as either "ours" or "theirs" prevents a holistic utilisation of increasingly scarce air power capabilities. It also tends to restrict capabilities to particular environments. If we were to look for alternatives then there are two extant organisations available for immediate comparison. The US Marine Corps (USMC) and the Israeli Defence Force/Israeli Air Force (IDF/IAF) reverse the paradigm by bringing all air power capabilities under the control of a single entity which, in a way that emulates the thinking of Jan Smuts in 1917, puts air power capabilities in the hands of an air power specialist for the common good.[17] From a UK perspective, both models have pros and cons.

The USMC and the UK Model

The Marine Air Ground Task Force (MAGTF) construct makes the Marine Corps different from any other military force. It brings a coherent, balanced entity under a single commander.[18] Scaleable in size and equipment it consists of four parts: the Command Element (CE), the Ground Combat Element (GCE), the Aviation Combat Element (ACE) and the Combat Service Support Element (CSSE). The CE provides the C2 support to the MAGTF commander and his force. The GCE is organised to conduct ground operations, project combat power, and contribute to battlespace dominance in support of the MAGTF's mission. It is formed around an infantry organisation reinforced with artillery, reconnaissance, assault amphibian, tank, and engineer forces. The ACE is organised to conduct air operations, project combat power, and contribute to battlespace dominance in support of the MAGTF's mission. It performs some or all of the six functions of Marine aviation: anti-air warfare, assault support, electronic warfare, offensive air support, air reconnaissance, and control of aircraft and missiles. It is formed around an aviation headquarters with air control agencies, aircraft squadrons or groups, and Combat Service Support units. The ACE and GCE are co-equal within this organisation; both exist to provide effects to fulfill the commander's intent. The CSSE provides the logistic support for the whole force linking the deployed MAGTF with national logistic support systems.[19] When viewed as a wiring diagram, the MAGTF appears to be a mini version of the classic Joint Task Force structure; the CE is the JTF command HQ with the ACE, GCE and CSSE the air, land and logistics components respectively.[20] However, the four

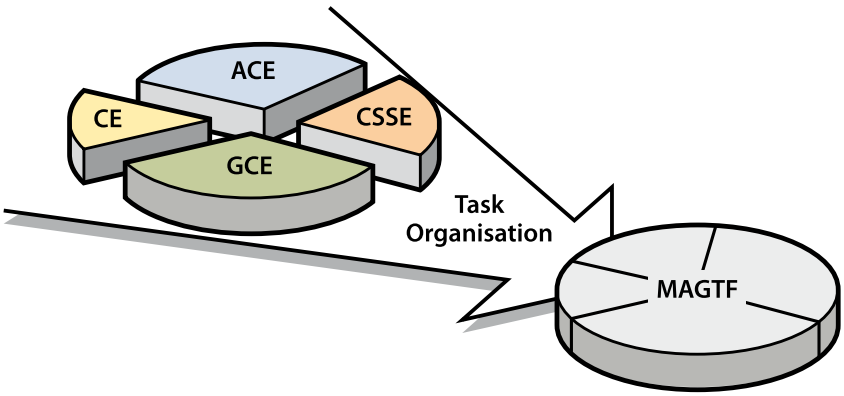

Fig 1: MAGTF Organisation
Source: MCDP1-0 p3-13

elements are far more integrated than any components in their outlook and function, as shown above in Fig 1.

Marine Corps manuals describe air power as a capability supporting the whole of the Force's task as an integrated player.[21] The ACE commander is the MAGTF commander's principal adviser and subject-matter expert on all aviation matters. In effect, the ACE Commander acts as an all-encompassing environmentally specific air component commander (ACC) for the MAGTF and controls the aviation assets using similar processes and tools as a theatre Joint or Combined ACC (JFACC/CFACC).[22]

As a single, fully integrated force, the USMC model represents the more significant departure from the current paradigm. The benefit of integrating air assets into the deployed MAGTF is its potential to fully utilise what is available. Such integration focuses all effort on achieving effects rather than on any particular way of accomplishing the mission. All elements are part of one team.[23] This way of thinking, inherent in the USMC psyche, means elements are integrated doctrinally and conceptually. The result is that equipment and systems are considered, procured, and introduced under a construct of operating together. Interoperability across the force ensures the MAGTF scalable concept works at short notice to meet any challenge. Fig 2 (page 38) depicts how the USMC model for its total force can be brought together for different scales of mission within different readiness states:

The USMC concept for air power similarly avoids duplication of resources and effort. Equipment is procured to meet the requirements of the mission and operated by the pertinent element, ground or air; there is no competition between the two as they are both part of a single team. The MAGTF ensures the most is made of what is available.[24]

The description above depicts a deployable force achieving expeditionary effect. The Marine Corps has spent many years enhancing how to harness all capabilities to meet its mission.

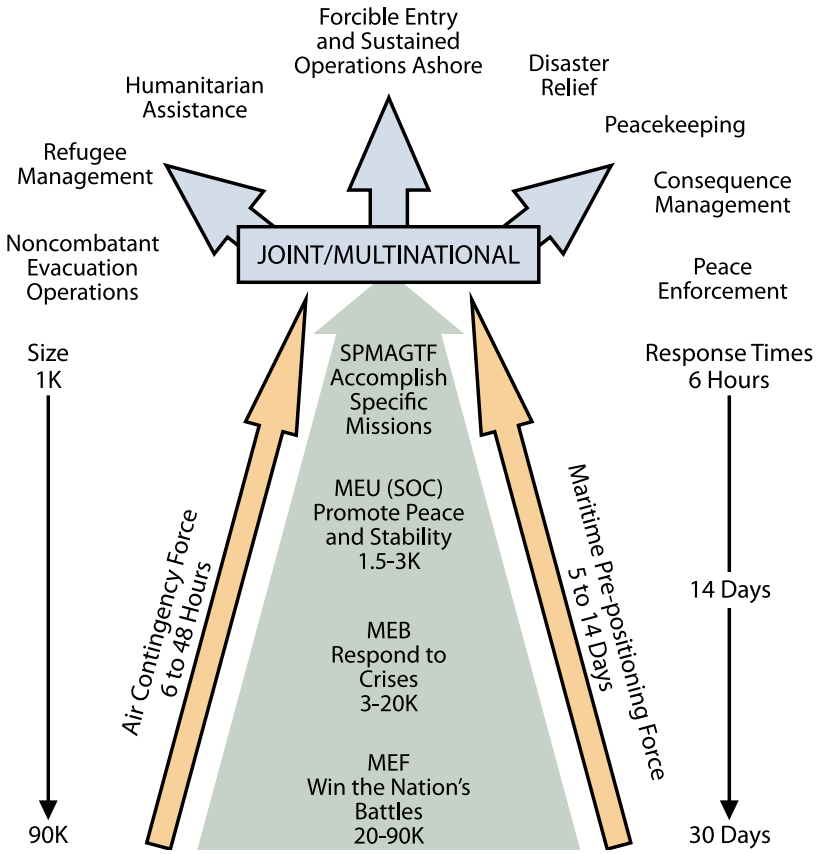

Fig 2: USMC Scales of Effort and Response Times for Deployment
Source: MCDP 1-0 p2-12

But, in considering this model as a new paradigm for the UK armed forces, there are other issues which must be addressed.

Firstly, the MAGTF is tactically focused on a single area of operations. This is not a problem for the US as the Army, the Navy, and the Air Force operate on a broader scale.[25] A MAGTF is configured to meet an operational mission, which may not represent the entire strategic requirement. As an example, Marine aviation is required to provide air superiority over the MAGTF but it is not capable of doing so over an entire theatre. Similarly, the MAGTF exists to project power from the sea, but it still requires the Navy to secure the sea itself and transport it to the scene of action. The MAGTF can operate in its own part of any conflict, but it does so as part of a wider and larger military system. Furthermore, UK Services have single-environment prescribed tasks that the USMC will never be called upon to provide, to include the air defence of the UK and the submarine-based nuclear deterrent.[26] These missions could perhaps be incorporated within a USMC concept of air power, but doing so would require

independence for certain areas. While not insurmountable, the situation would probably lead to the development of independent forces and the subsequent degradation of the coherence of a USMC-type model.

Secondly, the USMC has no inherent inter-Service rivalry or environmental prejudice, because it is effectively a single-Service operating within its own carefully defended and nurtured niche of the current paradigm. It has no history of its constituent parts being separate entities. The only Western nation that has tried to unify its armed forces is Canada in 1968. This move was not made to bring the Canadian Forces into a single operating unit but rather as a way for the Minister of Defence Paul Hellyer to gain control over three very independent Services. The benefits Canada had hoped to achieve through unification are already in place within the UK system. The policy change was unpopular in Canada at the time and, although still officially part of a single structure, Service-specific uniforms were reintroduced in 1986, and single-Service chiefs appointed in 1997.[27] For a country like the UK, whose Services have very proud and long traditions, unification would be badly received and offer little benefit. The UK would appear to be better served by a single defence structure with separate elements responsible for different aspects of military capability. The USMC works within the wider US military structure rather than representing how the whole military organisation should or could be modelled.

Third, and most significantly, the root problem with the USMC model is that it addresses a tactical-, and perhaps operational-, level need. The NSS and SDSR reiterate the UK stance that it regards itself as being able to operate at both the operational and strategic-levels of war.[28] The USMC MAGTF does not provide this capability. When viewed from these higher levels of war, it becomes apparent that the MAGTF fits within the current paradigm of separate Services operating in their own environments rather than any new paradigm that is plausibly applicable to the UK. There may be some benefits for the UK in incorporating some of these ideas, but the USMC model does not really meet national security requirements.

The IDF/IAF and the UK model

With a defence establishment slightly larger than the UK's, the IDF illustrates another way of using air, ground and maritime forces.[29] Israel's armed forces were created 65 years ago from virtually nothing. Without the heavy weight of tradition to hamper them, they became highly respected and capable forces organised along environmental lines. The IAF operates all air platforms on behalf of the IDF, including those operating in the maritime environment and all UAVs other than the very small platoon-level vehicles. Despite degeneration when the IDF's focus became blurred from the late 1990s and through to 2006, the IAF successfully developed the use of all aspects of air power as a coherent Service meeting the nation's requirements. Threats to the nation are considered holistically, and the responses co-ordinated to use the benefits of air, land, and sea power within resource constraints. As noted in the policy adjustments recommended by their own defence plan, the Teffen 2012 plan, Israel cuts its financial cloth to meet the desired capability. The ability of the IDF as a whole, rather than any particular environment, to meet its objectives is the key.[30]

In contrast to the USMC, the IDF/IAF presents a national level methodology which has proven capable across all levels of war, to meet all of Israel's national security and air power needs. The deep-strike raids against nuclear facilities in Iraq and Syria exemplified classic independent air operations, while fixed/rotary wing aircraft and multiple forms of ISTAR platforms provided support to land manoeuvres in the Gaza Strip in 2009. Each activity demonstrated fully integrated thinking on the role of air power. Environmental, rather than Service-oriented, thinking means the IAF focuses upon best utilisation and development of all air power potential rather than on just a few elements. Air Forces across the world have tended to concentrate primarily on kinetic delivery by fast jets as the principal way of delivering air power. This mission has also bolstered arguments for Service independence. The IAF sheds that way of thinking, seeing itself as provider of capability rather than an alternative air power user. The Israeli's integrated development of airborne ISTAR capabilities is a prime example of what can be achieved through environmental rather than Service thinking. The lack of inter-Service friction over ownership of assets also ensures flexibility in command and control arrangements, exemplified in the use of attack helicopters (AH). The IAF can shift this helicopter capability from devolved to centralised command, and from integrated land support to deep strike, without issue.[31] In contrast, the UK has neither the doctrine nor the capacity to use its AH in other than tactical roles. Finally, the IDF's military domination of the Middle East is testament to the success the IDF/IAF have had with this way of thinking. It is thus a potentially viable concept for the UK.

The IDF/IAF may not be as integrated as the USMC in the tactical arena, but development through failure has honed a very capable entity. Furthermore, Israeli perceptions of most likely and most dangerous foes would appear to match those of the UK.[32] However, from a UK perspective, the marked difference with its requirements and those of Israel is the absence of the latter's expeditionary role as it concentrates on the various regional threats to the state.[33] It may be required to undertake action at some distance from home bases but for the most part it operates close to home.[34] It does not necessarily follow that the model would be unable to cope with expeditionary operations, but the capability is untested. More significantly from the UK perspective, the IAF have no history of operating with allies or coalition partners. It is unclear, whether it can successfully incorporate other forces that are used to operating in a more traditional manner, nor how it would manage within a wider operation using the current paradigm.

A New Way, A New Paradigm - A New Look for UK Air Power

These two models described demonstrate that UK defence forces operating under a different paradigm can plausibly achieve success. Furthermore, they demonstrate that success is best achieved when adapting ideas to suit the conditions and circumstances of the force. Israel's failure in Lebanon in 2006 has been blamed on a number of causes, but it would be fairer to state that it was caused by a move away from what had been important to defeating its enemies. When the IDF had graduated to using air power as an independent striking element, it neglected the requirement for co-operative action with the Army.[35] The obvious

lesson for the UK is to shape its forces to meet its own needs in its own way, and it is worth noting the value of maintaining some level of tradition. The individual Services in return must develop environmental understanding and capability. Development of joint understanding and operating models is important to operational command in the future, but environmental knowledge must also be retained. This paradigm is not about experimenting with the creation of a single Service, thus removing inter-Service rivalry on the USMC model, but about benefiting from personnel competent in integrating their individual environmental skills to meet national objectives.

The New Paradigm

The new look for air power in a possible new paradigm would be a combination of IDF and USMC thinking with a UK theme. The actual requirements would derive from the UK organising and employing its forces as an integrated and balanced package. The force would be designed to operate independently for UK-only operations or as the lead nation for a small coalition of like-minded countries. This would represent an expeditionary force with the support, but not necessarily the involvement, of the US. Thus, the UK defence establishment would resemble an expeditionary version of the IDF. The Services would be the specialists responsible for the provision of effect from their own environment in order to meet the UK's military requirement. Therefore, the RAF would take environmental responsibility for all air matters and develop the air environment's ability to meet the UK armed forces' *collective* needs. As with the IAF, this would include anything that flies larger than a hand-held UAV. It would become a genuine air-minded force with the responsibility to meet the air superiority, attack, mobility and ISTAR needs of UK armed forces.[36] For large-scale operations, the UK would offer a coherent capability in support of US-led operations in a similar role to that of a USMC MAGTF. This capability would seek to operate in and control its own battlespace as part of the wider campaign plan. However, unlike a MAGTF, this force would also be able to operate within separate environmental areas if the situation required. This structure would be able to fight a tactical battle, but the UK version would probably be closer to the IDF model of integrating empowered air liaison where required.

Other Considerations

Coalition Operations. Change from the current paradigm to another has implications for coalition warfare. Coalition operations are assumed for most future UK military operations.[37] There are three possible scenarios: a UK-led coalition; support to a non-US led operation; and support to a US-led operation. The first scenario would be the easiest to execute. A paradigm change in the way of UK operations would have most impact at the operational and strategic levels in this situation, as the new paradigm is a way of thinking rather than application of tactics. The keys to success will be the ability to include any partners within the command and control architecture, as well as the provision of capable liaison staff. A trickier prospect may be the provision of UK assets in support of a small operation led by a nation other than the US, such as France. Beyond developing co-ordination measures

during peacetime, the best way to resolve any difficulties would be to deploy a coherent UK force while complementing the lead country's operational methods and capabilities.

US Opinion. Although the relationship with the US is always a concern in politician's minds, the new paradigm has the potential to be of real benefit to the US. First, the US focus of concern is moving away from its eastern seaboard and toward the Asia-Pacific region. Nevertheless, it remains concerned over the stability of Europe and the Middle East.[38] The implication is the US would like Europe to be able to take greater responsibility for resolving problems in its near-abroad, allowing the US to redirect some of its resources to the Pacific. The US hand-over of lead operations in Libya to a UK and France-led NATO force could be indicative of the future. A capable UK with capacity to lead others would help satisfy such US requirements. For US-led coalitions, even though the US defence structure will itself be reduced over the next decade, coalition partners are required more for their political than combat support. In those circumstances, provision of a self-contained, coherent UK force would likely be welcomed as it reduces the requirement for US help.[39] The inclusion of a British Army division within the USMC's area of operations during the 2003 invasion of Iraq caused difficulties for both sides of the coalition because of the inability of the UK contingent to support itself with air power.[40] The new paradigm would enhance the capability of the deployed UK force.

Making the New Paradigm Work

Education

The proposed change in paradigm requires a change in thought process. Making the new paradigm work will demand education across a number of areas. First, there will have to be a change in political thinking. The SDR was undermined because the UK committed its forces beyond its planning assumptions.[41] With the SDSR there are no spare forces available to commit other than within the planning assumptions. The proposed paradigm provides a means to enhance available capability, but it does not provide a means for developing additional forces. Politicians will have to fully understand that wars of choice may have to be chosen more carefully than previously.

The second area of education will be among the UK armed forces. The old paradigm has led to deeply ingrained wariness of the commitment of other Services to a joint way of operating, with a perpetual fear that the other Services are playing a zero-sum game over resources. For many, any suggestion of bringing all air power once again under the responsibility of the RAF may be the most difficult part of enhancing capability within the new paradigm.[42] However, with air power being the one element that can be shifted from one environment to another, the new construct represents the most beneficial way of using scarce air power assets. Air power will probably offer the single asymmetric advantage the UK will have over most of its future foes, and the country cannot afford to dilute its effects.[43] Air power must be flexibly used to offer its best advantage. As the IAF demonstrates, provision of assets is not an issue as long as each Service is working within an integrated framework. For the UK, the forces this

proposed change will mostly affect have already started this journey. Battlefield helicopters of all three Services are operated by a single Joint Helicopter Command within Land Command, although each Service's contribution remains under Full Command of their respective Service. Putting all rotary wing resources under the control of the traditionally air-minded Service would make the most of shifting the entire air package to achieve desired effects. This would include those helicopters not currently within JHC, such as those on Royal Navy (RN) ships. This is not to denude ships of part of their weapon system, but rather to provide a way of flexing capability where best needed as and when the joint commander needs it. The most significant effect of this decision is for the planned RN aircraft carriers. Much has been written about the need for the RN to have a significant role in the operation of fixed-wing aircraft flying from the new carriers. Most of this has been based upon historical conflicts fought within the old paradigm, but what is not apparent is the imperative for these aircraft to be controlled by the RN in the future operating environment. The UK purchase of Joint Strike Fighter (JSF) is predicated on operating any part of the whole fleet either from land or sea, dependent upon the operational requirement.[44] Furthermore, these aircraft are not being procured for "Blue Water" operations. That scenario plays no part in short or even mid-term forecasts of conflict. The aircraft will be used instead for operating over land. Therefore, the only difference is the location of the take-off and landing point. Issues remain over maintenance of deck crews and aviation roles on board ship but these can be resolved. Pilots and ground crews may well be provided by the RN initially, but the new paradigm provides the benefit of keeping operational command under a single air commander. The same arrangement should follow with the Army Air Corps (AAC) assets, particularly AH. Implementing the new paradigm would place assets in the position where all capabilities can be best used and considered.

However, the new paradigm requires trust that the effects required from the other environments will be available when and where required. This will be critical for the RAF if it is to become responsible for the provision and co-ordination of air power for the UK. The failure to support the maritime and land environments resulted in the re-formation of the Royal Navy Air Service (RNAS) in 1937 and effectively the Royal Flying Corps (RFC) in the guise of the AAC.[45] The same was true over the intense ill feeling caused between the US Army and the USAF over the provision of close air support and small air transport aircraft in the 1960s.[46] The new paradigm could help the development of closer Joint working as each Service takes on the mantle of environmental primacy, demanding that all three become involved in mission accomplishment. This leads to the third area of education, among the Service chiefs. To make the most of the paradigm, they need to agree, and most importantly be seen and heard to agree, on fully implementing it. There can be no secret agendas if the scheme is to work.

The final area of education will be explaining the new paradigm to the nation. Defence may not be a vote winner in any modern British General Election, but it has the potential to be a vote loser as the British public remains very interested in "Our Boys".[47] For the paradigm to be

accepted, the nation will have to be persuaded that the legacy of the 20th Century is of little relevance to the national security issues of today and tomorrow. It will be difficult for many to accept that the UK can no longer operate as the US does, but the US way of war simply demands resources and technology the UK can no longer emulate. The new paradigm will, however, allow international prestige to be maintained and perhaps even enhanced as the UK perfects its new way of operating and employing military force.

Understanding and Applying Air Power

The proposed new paradigm emphasises a new mentality. Making this new paradigm work requires airmen at all levels to fully apply all aspects of air power. For senior leaders this demands an ability to develop air strategy. Colin S. Gray calls for the US to understand the need for, and implementation of, strategy if it is to take full advantage of air power.[48] For UK airmen, whose resources are heavily restricted in comparison to the US, the need for strategy is even more important. Such a grasp involves being part of the planning and execution process. This demands not only educating airmen in the wider aspects of developing and applying strategy, but also involving them in cross-environment training exercises. The new paradigm changes Service expectations from operating separately to operating together. With the means fixed, the Services must work collectively to use the available assets to meet desired ends. Maximum benefit is achieved from intimate understanding of each other's needs. As the Israelis have demonstrated, this can only come through regular exercises.[49] Existing training schedules for the different Services have not been developed for the benefit of the coherent force. The new Joint Forces Commander requires full support from the individual Services in following his joint training programmes.[50]

Procurement

The new paradigm is based on the assumption that no new money will be available. However, new systems will be procured at some point in the future; and the paradigm will change the requirements. With inter-Service competition for resources replaced by collective agreement upon coherent capability, the emphasis in procurement changes from platforms to the glue that binds them together. As demonstrated by the USMC, there is significant benefit from ensuring all systems become part of an integrated package. Ownership also starts to become less of an issue when the focus is on collective success. For example, the Israelis are at the forefront in the development and utilisation in the use of unmanned air systems to meet IDF needs in the land, maritime, and air environments. This need is understood to be for the benefit of mutual victory; the IAF operates it on everyone's behalf. In a similar manner, the Teffen 2012 plan accepts that land elements require the most resource to meet the current way the IDF operates; IAF and Israeli Navy resources have been reduced accordingly.[51]

Difficulty of Implementation

The Chiefs of Staff appear to have become convinced that major changes are now required.[52] The real danger to success will be if the Chiefs only half-way implement the paradigm shift, thus creating an organisation unable to do anything well. The best outcome in this case would

be embarrassment in the eyes of allies; the worst would be defeat and a retreat from influence. As with Kuhn's description of the scientists who refuse to accept the new paradigm, the UK could be in danger of being left behind only to become irrelevant.[53] Additionally, a significant element of the armed forces failing to accept the new paradigm could degrade successful transition. The difficulty here will be in the perception of winners and losers, most likely made worse by partisan media coverage. As already discussed, the most obvious area of contention will be in the perception that the RAF is stealing the RNAS for a second time, just at the point of a return of a genuine aircraft carrier capability. The Army may have similar difficulties with the change in direct command of helicopters, and even more so its unmanned air systems. The answer goes back to education. Defence leaders must emphasise the new paradigm helps to ensure the provision of effect as and where the joint force requires it. This will not be an easy transition but the option to do nothing may be worse. The possibility of the UK becoming "Belgium with nukes" has not gone away.[54]

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Fiscal pressure poses the question: how should one make the most out of air power? The question is being asked because the old way of doing things can no longer meet the requirement. The proposal is to inverse the way the UK looks at its measure of requirement for its armed forces, for them to organise, train and equip as a coherent unit rather than as separate entities. After this leap is taken, the second step is to organise all air power within a single Service, charged with meeting all the air power needs of the force. The IDF already use this model, and have a fearsome reputation. Adopting the IDF as a model requires modification to meet the expeditionary requirement of UK operations, but such adjustment is not insurmountable. This shift in paradigm seeks to rectify the strains evident in the old paradigm's way of balancing means and ways to achieve the ends. The shift has occurred because the world has changed; the difficulty for many will be in accepting the new paradigm because they would prefer to cling to the old ways. There is no expectation of fighting large-scale operations as in the past; the new paradigm meets the criteria for the new world not the old. It could be that Jan Smuts was far more prescient 96 years ago than even the RAF give him credit for being.

Notes

[1] Throughout, the term "air power" will refer to any flying machine, piloted or otherwise, producing an effect. The term will not reflect ownership of the machine, a flying machine owned by an army, navy or air force will still be generating air power. This reflects the UK definition of Air and Space power: "Air and space power is the capability to project power from the air and space in order to influence the behavior of people or the course of events." *Air Publication (AP) 3000. British Air Power Doctrine*. 4th Ed. 2009, 7. http://www.raf.mod.uk/rafcms/mediafiles/9E435312_5056_A318_A88F14CF6F4FC6CE.pdf.
The UK describes four fundamental roles of air power: control of the air; mobility and lift; intelligence and situational awareness; and attack. *Future Air and Space Operational Concept*

(FASOC) 2009. Development, Concepts, and Doctrine Centre, 2-2 – 2-5. http://www.mod.uk/DefenceInternet/MicroSite/DCDC/OurPublications/Concepts/.

[2] M. Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos*, (NY: Simon & Schuster, 1992), 12. "The edge of chaos is where new ideas and innovative genotypes are forever nibbling away at the edges of the status quo, and where even the most entrenched old guard will eventually be overthrown."

[3] Thomas S. Kuhn, *The Structure of Scientific Revolutions*. 3rd Ed. (1962; repr., Chicago: Chicago University Press, 1996), 10-22.

[4] These consist of the Future air and Space Operational Concept (FASOC), the Future Land Operational Concept (FLOC), and Future Maritime Operational Concept (FMOC).

[5] Ministry of Defence, *Strategic Defence Review Supporting Essay Eight – Joint Operations*, (London: HMSO, 1998). Joint Force 2000 did morph into a far more integrated organisation as Joint Force Harrier with the early demise of the Sea Harrier as a cost saving measure by the Royal Navy. However, the intent remained to consider this as two separate entities working very closely together through necessity rather than choice.

[6] Kuhn, The Structure of Scientific Revolutions, 66-76.

[7] For example, Defence Committee Proceedings, Session 2010-11, First Report, Conclusions and recommendations, 7 Sep 2010. http://www.publications.parliament.uk/pa/cm201011/cmselect/cmdfence/345/34503.htm . Also, The Phoenix Think Tank, http://www.phoenixthinktank.org/analysis/defence-review-policy/

[8] Paul Cornish, "UK Defence: A Test Case," *The World Today* 67, no. 5, (May 2011): 4-6. Also Paul Cornish and Andrew M. Dorman, "Dr Fox and the Philosopher's Stone: the alchemy of national defence in the age of austerity," *International Affairs* 87, Issue 2 (March 2011): 335-353, and Trevor Taylor, "What's New? UK Defence Policy Before and After the SDSR," *The RUSI Journal* 155, no. 6 (December 2010): 10-14. http://www.chathamhouse.org/sites/default/files/public/International%20Affairs/2011/87_2cornish_dorman.pdf.

[9] For example, in 1982, the UK utilised 23 frigates and destroyers in direct support to the Falkland Islands conflict (Falklands Campaign: The Lessons), post-SDSR the UK will have 19 frigates and destroyers in total (Lee Willett, RUSI, http://www.rusi.org/analysis/commentary/ref:C4D4C20CB26473/). During the initial operations in Iraq in 2003, the RAF deployed 30 Tornado and 18 Harrier ground attack aircraft plus 14 Tornado air defence fighters and 6 Nimrod maritime patrol aircraft (http://en.wikipedia.org/wiki/Operation_Telic_order_of_battle), post-SDSR the UK has 30 Tornado ground attack aircraft and 16 Typhoon fighter/ground attack aircraft available to deploy, it has no maritime patrol aircraft.

[10] In *Examination of Witnesses*, Defence Committee Proceedings, Session 2010-11, Sixth Report, 20 July 2011. The Strategic Defence and Security Review. http://www.publications.parliament.uk/pa/cm201012/cmselect/cmdfence/761/11051102.htm .

[11] Everett C. Dolman, Pure Strategy: Power and Principle in the Space and Information Age, (Abingdon, UK: Frank Cass, 2005), 34-35.

[12] *A Strong Britain in an Age of Uncertainty: The National Security Strategy*. Oct 2010, 5. http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191639.pdf?CID=PDF&PLA=furl&CRE=nationalsecuritystrategy.

Also *The Strategic Defence and Security Review*, 9; and Prime Minister David Cameron's statement to the House of Commons on the Strategic Defence and Security Review, 19 October 2010. http://www.number10.gov.uk/news/sdsr/.

[13] The Strategic Defence and Security Review, 3; see also The National Security Strategy, 21.

[14] *Strategic Defence Review*. July 1998 para 22-31. http://www.mod.uk/NR/rdonlyres/65F3D7AC-4340-4119-93A2-20825848E50E/0/sdr1998_complete.pdf. Also the *National Security Strategy*, 18, and *The Strategic Defence and Security Review*, 37, 43-44.

[15] *Global Strategic Trends – Out to 2040*. 4th Ed. Strategic Trends Programme. 2 Feb 2010, 13-14 . http://www.mod.uk/DefenceInternet/MicroSite/DCDC/OurPublications/StrategicTrends+Programme/. Also "Adaptability and Partnership: Issues for a Strategic Defence Review," *The Defence Green Paper*. 3 Feb 2010, 14. http://www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/ConsultationsandCommunications/PublicConsultations/TheDefenceGreenPaper2010Discussion.htm, and Future Character of Conflict. Strategic Trends Programme, 3 Feb 2010, 14. http://www.mod.uk/DefenceInternet/MicroSite/DCDC/OurPublications/Concepts/FutureCharacterOfConflict.htm.

[16] Gen David Richards, "Securing Britain in an Age of Uncertainty," (Speech, Policy Exchange, London, 22 November 2010). http://www.mod.uk/DefenceInternet/AboutDefence/People/Speeches/ChiefStaff/20101122SecuringBritainInAnAgeOfUncertainty.htm.

[17] Second Report of the Committee on Air Organisation and Home Defence Against Air Raids. 17 Aug 1917. The UK National Archives CAB/24/22, 5-6.

[18] *Policy for the Organization of Fleet Marine Forces for Combat*. Marine Corps Order 3120.8A, 26 June 1992, 3. http://www.marines.mil/news/publications/Documents/MCO%203120.8A.pdf.

[19] Marine Corps Doctrinal Publication (MCDP 1-0. *Marine Corps Operations*. 27 September 2001, 3-11 – 3-15. http://www.fs.fed.us/fire/doctrine/genesis_and_evolution/source_materials/MCDP-1-0_marine_corps_operations.pdf.

[20] Joint Doctrine Publication (JDP) 1-0 *Campaigning*. 2nd Ed. December 2008, 3-1. http://www.mod.uk/NR/rdonlyres/B875F5EC-B17F-4CA3-BB2D-B418B7B284C0/0/20090219JDP_01_2EdUDCDCIMAPPS.pdf. UK doctrine can include a separate Logistics Component providing the in theatre co-ordination of logistics support across a deployed force. When involved in wider coalitions, as is the case currently in Afghanistan, this element co-ordinates all UK national logistics rather than each Service operating separately.

[21] MCDP 1-0, 2-3. Further described in Marine Corps Warfighting Publication (MCWP) 3-2. *Aviation Operations*. 9 May 2000, 1-2 – 2-6. http://www.marines.mil/news/publications/Documents/MCWP%203-2%20Aviation%20Operations.pdf.

[22] MCWP 3-2, 4-1 – 4-12, 5-1 – 5-10.

[23] *Marine Corps Operating Concepts: Assuring Littoral Access…Proven Crisis Response*. 3rd Ed. June 2010, 3-4. http://defensetech.org/wp-content/uploads//2010/06/usmcoperatingconcept.pdf .

[24] Expeditionary Maneuver From the Sea: The Capstone Operational Concept. USMC, 25 Jun 2008, 2-4. http://www.google.com/url?sa=t&rct=j&q=expeditionary%20maneuver%20from%20the%20sea&source=web&cd=1&ved=0CCMQFjAA&url=http%3A%2F%2Fwww.quantico.usmc.mil%2Fdownload.aspx%3FPath%3D.%2FUploads%2FFiles%2FSVG_002_

USMC%2520Capstone%2520Concept.pdf&ei=NT2jT-C7Iojq8wSlt81X&usg=AFQjCNHzuB3LIOZVBVmZg78knYZB8_pmCw .

[25] Rob Weighill, "Air/Land Integration – *The View from Mars," Royal United Services Institute Defence Systems*, February 2009, 53-56.

[26] The Strategic Defence and Security Review, 21, and 25.

[27] The Canadian Encyclopedia, http://www.thecanadianencyclopedia.com/articles/armed-forces .

[28] *The National Security Strategy*, 4. Also the Strategic Defence and Security Review, 11-12.

[29] In 2011, UK forces regular strength 175,000, the IDF 187,000, the USMC 200,827.

[30] Alon Ben-David, "IDF Unveils 5 Year Plan to Boost Capabilities," *Jane's Defence Weekly*, 12 Sep 2007. http://www4.janes.com/subscribe/jdw/doc_view.jsp?K2DocKey=/content1/janesdata/mags/jdw/history/jdw2007/jdw34069.htm@current&Prod_Name=JDW&QueryText=%3CAND%3E%28%3COR%3E%28%28%5B80%5D%28+teffen+%3CAND%3E+2012%29+%3CIN%3E+body%29%2C+%28%5B100%5D+%28%5B100%5D%28+teffen+%3CAND%3E+2012%29+%3CIN%3E+title%29+%3CAND%3E+%28%5B100%5D%28+teffen+%3CAND%3E+2012%29+%3CIN%3E+body%29%29%29%29 . Also Anthony H. Cordesman, Aram Nerguizian and Ionut C. Popescu. *Israel and Syria: The Military Balance and Prospects of War* (Westport, CT: Praeger, 2008), 90-91.

[31] Benjamin S. Lambeth, Air Operations in Israel's War Against Hezbollah: Learning From Lebanon and Getting it Right in Gaza, (Santa Monica, CA: RAND, 2011), 228-229.

[32] Ben-David, "IDF Unveils 5 Year Plan to Boost Capabilities."

[33] Ben-David, "*IDF Unveils 5 Year Plan to Boost Capabilities*," Also Cordesman, Nerguizian and Popescu, *Israel and Syria*, 90-91.

[34] Perhaps the most famous long-range operation was the hostage rescue at Entebbe airfield. Eliezer Cohen, *Israel's Best Defense: The First full Story of the Israeli Air Force*. (NY: Orion Books, 1993), 404-411.

[35] Cordesman, Nerguizian and Popescu, *Israel and Syria*, 90-91.

[36] FASOC defines these as the core roles of air and space power.

[37] The Strategic Defence and Security Review, 12.

[38] *Sustaining US Global Leadership: Priorities for 21st Century Defense*, 3 January 2012, 2-3. http://graphics8.nytimes.com/packages/pdf/us/20120106-PENTAGON.PDF.

[39] The Future Character of Conflict, 33.

[40] *Lessons of Iraq*. House of Commons Defence Committee Third Report of Session 2003-04, Vol 1: Report, 16 March 2004, 63. http://www.publications.parliament.uk/pa/cm200304/cmselect/cmdfence/57/57.pdf.

[41] Michael Clarke, "The Overdue Defence Review: Old Questions, New Answers," *RUSI* 153, No 6, December 2008, 6-7.

[42] For example, the sentiment expressed on the RN Fleet Air Arm web page, http://www.royalnavy.mod.uk/About-the-Royal-Navy/The-Navy-and-the-Environment/In-the-Air (accessed 5 May 12) and more vociferously in the views expressed by the Phoenix Think Tank, http://www.phoenixthinktank.org/ (accessed 3 May 12).

[43] Strategic Trends Document, 71.

[44] The Strategic Defence and Security Review, 23, 26.
[45] Air Publication (AP) 3003. *A Brief History of the Royal Air Force*. 2004, 58-59. The Army Air Corps was formed in 1942 to administer the new airborne division which combined parachute and glider insertion. http://www.army.mod.uk/aviation/320.aspx.
[46] Ian Horwood, *Interservice Rivalry and Airpower in the Vietnam War*, (Fort Leavenworth, KA: Combat Studies Institute Press, 2009), 103-137.
[47] For example, http://www.thesun.co.uk/sol/homepage/news/campaigns/our_boys/. Other newspapers have similar sites including http://www.telegraph.co.uk/news/uknews/defence/ and http://www.thetimes.co.uk/tto/news/uk/defence/.
[48] Colin S. Gray, "The Airpower Advantage in Future Warfare: The Need for Strategy," Research Paper 2007-2, (Airpower Research Institute, December 2007) 1-3.
[49] Lambeth, Air Operations in Israel's War Against Hezbollah, 263-268.
[50] *Defence Reform: An independent report into the structure and management of the Ministry of Defence*. The Levene Report, MoD, June 2011, 44-47. http://www.mod.uk/NR/rdonlyres/B4BA14C0-0F2E-4B92-BCC7-8ABFCFE7E000/0/defence_reform_report_struct_mgt_mod_27june2011.pdf.
[51] Ben-David, "*IDF Unveils 5 Year Plan to Boost Capabilities*." Also Cordesman, Nerguizian and Popescu, *Israel and Syria*, 90-91.
[52] Open letter to *The Times* by the Chiefs of Staff, 12 November 2010. http://www.mod.uk/DefenceInternet/DefenceNews/DefencePolicyAndBusiness/ChiefsOfStaffStandBySdsr.htm .
[53] Kuhn, The Structure of Scientific Revolutions, 18-19.
[54] Douglas Carswell, Conservative Member of Parliament, comments reported in a number of UK newspapers including *The Independent*, 20 October 2010. http://www.independent.co.uk/news/uk/politics/forces-left-unable-to-launch-lsquomajorrsquo-missions-overseas-2111341.html.

Air Power and the British Anti-Shipping Campaign in the Mediterranean, 1940-1944

By Dr Richard Hammond

During the Second World War, the British conducted a sustained campaign of interdiction against Axis supply shipping in the Mediterranean Sea. Air power became a crucial component of this campaign, but was initially highly unsuccessful, delivering few results at a heavy cost. However, a combination of factors, including technical and tactical development, a greater allocation of resources and a higher level of priority being accorded to the campaign, led to vast improvements. By the end of the campaign, the British were conducting highly effective anti-shipping operations, and air power was vital to this in both intelligence gathering and strike roles.

Introduction

When Italy declared war on the Allies on 10 June 1940, it placed a heavy burden on their shipping to supply men and materiel (such as fuel, vehicles, ammunition and food) for their war in North Africa. The Italians and, later, Germans actually required a far greater network of maritime supply in the theatre than just this, however. Positions in Albania and later Greece were supplied through the Adriatic Sea, while territories in the Dodecanese islands required supply in the Aegean. The Aegean was also the route through which tanker traffic brought oil to Italy from the Ploesti fields in Romania.[1] Other island territories such as Sardinia, Corsica and Lampedusa were also sustained by maritime supply. Finally, coastal shipping plied routes along the various coasts of North Africa, Italy, France and the Balkans.

This opened an opportunity for the British to wage a campaign of interdiction against this vital network of supply, in order to degrade the combat ability of the Italian forces in North Africa, which became the main focus of the campaign. The anti-shipping campaign has been depicted by various historians as only existing to interdict shipping to North Africa, and ceasing after the final Axis surrender there.[2] However, the campaign was later widened to assist in preparation for the invasions of Axis territories such as Pantellaria, Sicily, Italy, and the Dodecanese islands. Other supply routes in the Adriatic, Aegean and Northern Mediterranean were also attacked. Air power was to become a key component in the anti-shipping campaign, but British maritime air power in the Mediterranean theatre was in a dire state in 1940.

This article will demonstrate that initial efforts were few and often dismal failures, as the Royal Air Force (RAF) operated small numbers of unsuitable aircraft types for anti-shipping attacks. The low priority of maritime operations in the interwar years also meant that they lacked effective tactical doctrine for such operations. Meanwhile, the Fleet Air Arm (FAA) was much better in all these respects, but simply lacked the numbers to have a great effect. However, after a greater priority was accorded to anti-shipping operations, significant reinforcements of more specialised aircraft types became available, and marked technical and tactical improvements were made, the campaign became much more effectively prosecuted. From late 1942 onwards, air power was the most important contributor to the campaign, both statistically in terms of sinkings and less direct roles such as intelligence gathering.

The Early Campaign, June 1940 – March 1941

On 10 June the only dedicated maritime strike aircraft available in the theatre were 18 Fairey Swordfish of the FAA aboard the aircraft carrier HMS *Eagle*.[3] The RAF not only lacked strike aircraft in the theatre, but dedicated maritime aircraft more generally. RAF Middle East command had fewer than 260 combat ready aircraft at that stage to cover an area stretching from Malta to Kenya to Iraq. The problem of a severe shortage of aircraft was compounded by many of the aircraft being second-rate or even obsolete types, such as Gloucester Gladiator

biplane fighters and Vickers Wellesly bombers.[4] Reinforcements were unlikely to appear in the immediate future, with the RAF focused on the defense of the United Kingdom. The only assistance that the RAF could offer at the start of the campaign was the use of a handful of reconnaissance aircraft and flying boats based in Alexandria for maritime purposes, and the bombing of Axis ports.[5]

The paucity and quality of maritime aircraft was compounded by the low priority the Air Ministry accorded maritime operations in the Mediterranean. A signal to Air Officer Commanding in Chief (AOC-in-C) RAF ME Air Chief Marshal (ACM) Arthur Longmore, stated his instructions for the use of the resources under his command as follows:

> 'The primary role of forces under your command is the defence of Egypt and the Suez Canal, and the maintenance of communications with the Red Sea. This however does not preclude the possibility of air forces from your command being employed in the execution of such other plans as may be approved by the chiefs of staff from time to time'.[6]

Clearly, then, the opinion of the Air Ministry was that the air force should be utilised in North Africa to defend the British position in Egypt. Maritime operations, even those that contributed directly to the war in North Africa, were not a high priority.

Longmore, a former member of the Royal Naval Air Service and AOC-in-C RAF Coastal Command, was very much an advocate of maritime operations, and sought ways for RAF ME to play a greater role in them despite these constraints. Taking a very wide interpretation of his instructions, he laid down the following objectives for the command, with their priority at any one time dependent on the current situation:

1. Offensive action against air bases with a view to reducing their numerical superiority in aircraft and to destroy their repair operation.
2. Offensive action against ports, to destroy or damage submarines, shipping and facilities.
3. Destruction of resources in Italian East Africa, where it was anticipated no replacements can be made.
4. Full support of British armies in whatever operations are in progress.
5. Strategical reconnaissance for naval, army and air information.[7]

Evidently, Longmore took a holistic approach to the use of air power in the theatre, wishing to utilise it in support of both the other services as well as in its own right in a battle for aerial superiority. This included a direct role in the anti-shipping campaign both by attacking ports and through maritime reconnaissance. The Naval Commander in Chief, Mediterranean, Admiral Andrew Cunningham clearly appreciated the efforts of Longmore and co-operation between the two was often close, with support being leant both ways.[8]

There was one final obstacle to conducting anti-shipping operations in the Mediterranean in June 1940, which extended to both the RAF and the Royal Navy – they were not permitted. Britain had entered the Second World War with a 'stop and search' policy regarding enemy controlled and neutral merchant shipping.[9] This meant that British forces, whether surface vessels, submarines or aircraft, could not attack merchant vessels. Instead, they should challenge the vessel, stop it and search it for contraband. If any were found, a prize crew could be placed aboard to sail the captured vessel back to a friendly port. Merchant vessels could only be attacked if they refused to halt and ignored subsequent warnings. The rules were even more restrictive for aircraft. The Air Ministry decreed in February 1940 that only warships could be attacked. Other vessels could not even be challenged unless they were specifically being searched for under orders from the Ministry, in which case the highly impractical instructions were to divert the vessel from its destination. The instructions even went so far as to state that aircraft should not act in a way that might provoke defensively armed merchant shipping into firing on them.[10] During the German invasion of Norway in April, British policy regarding attacks on merchant shipping started to be relaxed, with the declaration of 'sink at sight' zones in Scandinavian waters, and later the Channel and the Bay of Biscay. Initially they were allowed only on vessels determined to be the rather ambiguous 'naval auxiliaries', but this was soon changed to any enemy controlled vessel.[11]

At the outbreak of war in the Mediterranean, no 'sink at sight' zones were declared, despite their existence in the waters of Northwest Europe and the obvious need of the Italians to supply their forces in North Africa by sea. Admiral Cunningham had called for approval to attack the Italian merchant marine vessels when it became clear war with them was inevitable. This became more urgent after the sinking of a Norweigan tanker without warning by an Italian submarine, just three days after their declaration of war.[12] It was not until 14 July 1940 that a 'sink at sight' zone was approved for up to 30 miles off the Libyan coast. This increased to vessels within 30 miles of any Italian territory three days later.[13] The Adriatic and Aegean seas were declared open for attacks in February and June 1941 respectively, after which attacks were allowed in almost the entire Mediterranean.[14]

With problems of numbers and types of aircraft, intelligence gathering ability, a low priority for maritime operations and restrictions placed on attacking merchant shipping, it is hardly surprising air power achieved little in the early anti-shipping campaign. The problem of locating shipping for attacks was a difficult one. The lack of reconnaissance aircraft made it difficult both to determine how busy Axis ports were for potential bombing attacks and for locating targets for attacks at sea by aircraft or any other means. This was exacerbated by difficulties in gathering both signals and human intelligence (SIGINT and HUMINT). Since 1937, British signals intelligence had cracked multiple Italian cyphers including those of the navy. They were able to read both the most secret and the general book of their cyphers, plus one of their two naval attaché codes. Intelligence from these sources in particular allowed them to build up an accurate picture of Italian naval and shipping sailings and movements up until mid-July 1940. At this point the Navy became the last of the three

Italian services to introduce new codes and tables after the outbreak of war; this would have come earlier if not for the capture of a copy of the proposed new general book with the Submarine *Uebi Scebeli* at the end of June.[15] Although the British retained an intermittent ability to read Italian low grade codes and ciphers, signals intelligence regarding Italian naval matters was very thin following the tightened security measures. Italy's main naval book ciphers were in fact never read again, with the exception of a brief period in June 1941 thanks to some captured documents.[16] Regarding human intelligence, the networks of agents and partisans in Greece and Yugoslavia, that would later play a notable role in the campaign, had yet to exist.

The role of attacking shipping directly at sea by air power fell to the FAA in the early campaign. As a dedicated maritime air force, they had developed successful tactical doctrine for torpedo attacks on vessels in port and at sea.[17] On 19 June 1940, the first squadron of Swordfish were transferred to Malta from North Africa.[18] These 12 biplanes represented the main aerial anti-shipping effort for much of the early campaign, although aircraft carrier strikes on ports did occur in this period as well, such as a raid on Augusta by aircraft operating out of HMS *Eagle* in July. Here the FAA sank four merchant vessels of 26,773 Gross Registered Tons (GRT).[19] Such operations were a rarity however, as aircraft carriers were primarily used for major fleet actions against the Italian navy in this period. The biggest FAA strike on a Mediterranean port in 1940 was the famous strike on the Italian Fleet at its base in Taranto – merchant shipping was very much taking a back seat.

From June 1940 up to and including March 1941, air power sank 24 merchant vessels of all types, at total of 68,872 GRT.[20] The FAA accounted for almost all of the sinkings that occurred at sea in this period, as well as several vessels sunk in port. The RAF did manage to make a substantial contribution through port bombing, most notably sinking five vessels in multiple raids on Axis ports in December.[21] At an average of just over two vessels sunk per month in the early campaign, sinkings were relatively few in this period. The experience of the FAA in torpedo bombing operations was highlighted by the fact that they lost only five aircraft, while the RAF had 35 aircraft destroyed or damaged beyond repair.[22] The early campaign had brought modest successes, certainly not sufficient to make a notable impact on Italian land operations or shipping capacity. They had, for the RAF at least, been very costly however. From March 1941 though, the whole approach to the campaign began to change.

The Developing Campaign and the Axis Counter Offensive, March 1941 – September 1942

From March 1941 onwards, the anti-shipping campaign was accorded a higher priority in British strategy. The threat of invasion of the United Kingdom had largely diminished, allowing greater resources to be allocated to the Mediterranean and North Africa. The theatre represented an opportunity for the British to gain some much needed morale-boosting victories over an Italian opponent that was perceived to be much weaker militarily than Germany, as well as to defend the vital Suez canal link to the Middle and

Far East. Churchill decreed in April that the navy should take an increased role in the interdiction of Axis shipping, beyond the effort that had so far been restricted to submarine and FAA attacks:

> '...the primary duty of the British Mediterranean Fleet...to stop all sea-borne traffic between Italy and Africa... Every convoy that gets through must be considered a serious naval failure. The reputation of the Royal Navy is engaged in stopping this traffic.'[23]

Such 'encouragement' from Churchill resulted in a dedicated anti-shipping task force of cruisers and destroyers (Force 'K') being based at Malta. The aerial campaign was also stepped up, with a very important influx of aircraft to the theatre in March – the arrival of the first RAF torpedo bombers. Seven Bristol Beauforts were transferred to Malta and formed a joint reconnaissance/strike squadron (No. 69 Squadron) with some new Glen Martin reconnaissance aircraft.[24] For the first time in the theatre, the RAF could make torpedo attacks on targets at sea. RAF strike aircraft were reinforced several times throughout 1941, often being transferred directly from Coastal Command, which demonstrated the greater importance of this campaign than the one in Northwest Europe in the eyes of the Cabinet.[25]

By July 1941, the RAF had 67 maritime strike aircraft available in the Mediterranean; a mix of types including new Bristol Beaufighters, which would later become an important asset in the campaign. The FAA had no fewer than 99 strike aircraft distributed around the theatre at the same point.[26] These aircraft were not purely dedicated to anti-shipping operations, or even always to maritime operations. Even the FAA aircraft were frequently used in co-operation with the army in North Africa. Nevertheless, the number of anti-shipping strikes conducted by the aircraft of both services was increasing, with the FAA in particular conducting a greater proportion of torpedo strikes.[27] The decision was also made for the RAF to start conducting aerial mining of Axis ports in May, with the first sortie by Vickers Wellington bombers of No. 38 Squadron against Benghazi on the night of 15/16 July.[28] This period saw further development of Malta as a base for aerial strike forces. On 1 June, Hugh Lloyd was installed as AOC Malta with the instructions that his primary task was '...to sink Axis shipping sailing from Europe to North Africa'.[29] He immediately set to work improving the spartan and unsuitable facilities there, including moving storage facilities underground from their previously vulnerable positions.[30] Anti-shipping strikes by FAA Swordfish and RAF Blenheim bombers, along with naval assets, increased in intensity.

Increases in maritime aircraft and the priority of the campaign were supplemented by breakthroughs in intelligence. In June 1941 the Italian C38m cypher was broken by ULTRA decryption. This gave the British advance notice of the departure dates of almost every Italian convoy and individual sailing, often including the composition and projected routes as well.[31] This allowed British air and naval forces to directly target assigned vessels known to be at sea, rather than conducting 'shipping sweeps' for potential targets. They were further assisted in the location of these targets by an increase of reconnaissance aircraft. It has already been

mentioned that the first seven Marylands arrived at Malta in May, and this number was quickly increased to 23, although losses and transferrals soon wore the total down by almost half.[32]

While the role of the RAF in the campaign had increased from a peripheral to a more direct one by the middle of 1941, June saw an important leadership change. Longmore was succeeded as AOC-in-C RAF Middle East by AM Arthur Tedder. While Tedder, like Longmore, appreciated the necessity for maritime air power, he was much less flexible in terms of direct co-operation with the navy. One of the reasons that Longmore and Cunningham shared such a good relationship was that they frequently offered the use of their respective forces for co-operation with the other service freely. This went so far as at times surrendering operational control of air units to the other commander.[33] Tedder, perhaps understandably with resources still inadequate to the many tasks of his command, was unwilling to go to such lengths. It was his viewpoint that '…naval air operations cannot properly be considered as a self-contained activity separate from the main land and air operation in the Middle East'.[34] Tedder was unwilling to offer dedicated support for the Navy that was repeatedly requested by Cunningham, rather only co-operation for specific operations that had his approval.[35]

The increasingly fractious relationship between the two reached a peak over the question of the creation of an equivalent to Coastal Command for the Mediterranean and Middle East. The dispute flared on the spot and in London, with Cunningham having the backing of the First Sea Lord, Dudley Pound while, Tedder was largely supported by the Air Ministry. Ultimately a compromise was reached in the creation of a RAF No. 201 (Naval Co-operation) Unit. This was a dedicated maritime unit that covered the Central and Eastern Mediterranean, and included both RAF and FAA units in the same command. Tedder retained operational control of the group, but Cunningham held the right to 'veto' operations which he did not agree with.[36] While the dispute certainly slowed the building of momentum in the campaign, the creation of the group did increase the role of the RAF in maritime operations under Tedder and provide dedicated training in maritime operations for RAF aircrews.

For the RAF, there was no tactical doctrine on attacking shipping directly at sea when they entered the war. This was a legacy of the neglect accorded to this aspect of maritime aviation by the RAF, and the only experience of land based air power was that developed in the early stages of Coastal Command's anti-shipping campaign in Northwest Europe. Despite being a theatre with completely different geographical, climatic and strategic circumstances, the initial doctrine developed in the Mediterranean was partially based on it.[37] The procedure was very similar to the one used for locating friendly convoys for aerial escort. It required a reconnaissance aircraft to search a 'box' area where targets were calculated to be, based on intelligence. The aircraft would take the laborious approach of flying circuits up and down the 'box' until a target was located or the search completed unsuccessfully. In the case of the latter, the aircrew would make a judgement whether to widen the search area or return to base. On the location of a target, the searching aircraft would signal for the despatch of a striking force to attack it.[38]

With the lack of reconnaissance aircraft available until late 1941, the searching role often had to be performed by whatever aircraft were to hand. This even included strike aircraft doubling in this role, thus decreasing the range and endurance of the search, and depleting the potential strike force. The searching method was laborious and initially required the target to be located visually, meaning night strikes were particularly difficult. When targets were successfully located, it was not uncommon for the strike aircraft to fail to find it and the searching aircraft. An operational research report found that strike aircraft operating without technological assistance located their targets just 33 per cent of the time during daylight sorties.[39] However, technological developments brought notable improvements in the search and strike procedure. From mid 1941 onwards, Air to Surface Vessel (ASV) radar sets became available in the theatre. These greatly aided searching aircraft in the location of targets, and allowed a much greater emphasis to be placed on night strikes. This was complemented by the implementation of 'Rooster' sets around the same time. When a searching aircraft located a target and signalled for a strike force, it could switch on the 'Rooster' set. This would activate a signal that could be 'homed onto' by strike aircraft that carried ASV sets, and led to a marked increase in the number of strike sorties successfully reaching the location of the search aircraft and thus the intended target.

The improvements in aircraft types and availability, technological assistance and tactical development along with an increased priority combined to deliver improved results for the aerial anti-shipping campaign. The period from June to November 1941 saw a marked and sustained increase in the number of sinkings by the FAA and RAF. Between seven and 11 merchant vessels were sunk in each month and these were often of a significant tonnage. In the greatest single month of the campaign so far, 11 vessels of 35,196 GRT were sunk in August.[40] However, the glut of sinkings was abruptly arrested at the end of the year.

The Air Korps of Fliegerkorps II was transferred from the eastern front to Sicily, arriving from late November onwards. The highly experienced Albert Kesselring was also installed as the German C-in-C South in Italy, and one of his tasks was the neutralisation of Malta. Kesselring immediately bought huge pressure to bear on the island in the form of sustained large-scale bombing raids. For instance, there were 263 air raids on the island in the month of January 1942 alone.[41] The Germans, along with some assistance by Italian aircraft, quickly established aerial superiority through the intensified bombing of the major Maltese aerodromes at Hal Far, Luqa and Ta'Qali. The result was the operability of both offensive and defensive air forces on the island being largely curtailed. Thirty strike aircraft were shot down in November and December 1941, along with several reconnaissance aircraft, a rate of attrition that simply could not be sustained.[42] The fighters stationed there for aerial defence suffered particularly heavily. A lack of equipment that provided sufficiently early warning of raids and facilities that were still not adequately equipped for resistance to bombing despite the efforts of Hugh Lloyd led to 160 aircraft of all types being destroyed on the ground, and another 231 damaged over the course of the siege, the majority of them fighters.[43]

January 1943 saw a great drop in the number of losses in strike aircraft while on sorties, and with the exceptions of February and July, losses were low for the entire siege. This was not due to improvements in any aspect of operations, but simply because there were far fewer shipping strikes being flown.[44] Very few were flown out of Malta in this period due to previous losses in aircraft both on sorties and on the ground, the damage to airfields, facilities and equipment, the ongoing nature of the air raids hampering take offs and landings and the difficulty of bringing in new aircraft, personnel and vital supplies such as fuel and spares. The total number of strike aircraft in the theatre did increase in the first half of 1942, but these had to be sent to areas that were not ideally positioned for anti-shipping operations. Many of them were ultimately used for other tasks in this period, particularly during the series of critical British reverses in North Africa.[45] The role of air power in anti-shipping operations was consigned to some FAA sorties from Malta at night, and longer ranged RAF aircraft such as torpedo equipped Wellingtons operating from Egypt. As the siege wore on, the fuel shortage became particularly acute and the Chiefs of Staff were forced to order that '...strikes from Malta must be reduced to an absolute minimum, e.g. extremely good chances at close ranges. Transits except for Beaufort will cease'.[46] Thus dedicated maritime units stood relatively idle, while some were co-opted into roles supporting the land campaign.

This period marked the low point of the anti-shipping campaign as a whole, with the 10th Submarine Flotilla and the surface units of Force K both being withdrawn from Malta. Few mining operations were able to be conducted by surface vessels, submarines or aircraft. However, the strangulation of aerial operations probably hurt the campaign the most, as not only were aerial shipping strikes curtailed but so too was maritime aerial reconnaissance. The decline in the number of operations from any method was exacerbated by the simultaneous lack of intelligence to guide them. It is hardly surprising then, that sinkings were so few during the siege. From January to June inclusive, just 11 merchant vessels (55,713 GRT) of all types were sunk. In terms of numbers sunk, if not tonnage, these six months were equal to August 1941 alone.

There was one positive development during this period; in the form of an improved tactical doctrine. By May 1942 comprehensive procedure for torpedo strikes had been set down for daylight operations in the Mediterranean. The procedure emphasised the importance of the strike force flying in formation at low altitude (generally 50 to 100 feet) in order to avoid possible RDF detection by the target. This also assisted in conforming to ideal torpedo dropping heights in advance of reaching the target, made them less visually and audibly detectable, and helped avoid the attention of escorting enemy aircraft.[47] After the siege, when sufficient forces were available, this was developed further to include the use of aerial escorts to the striking force. The strike force of torpedo bombers (in this case intended to be Beauforts or torpedo armed Beaufighters, known as 'Torbeaus') would then attack the targets. Meanwhile, an escorting force (intended at this stage to be Beaufighters) would either engage any aerial escort present or attack the escorting vessels of the convoy in an 'anti-flak' role, in order to protect the strike force as it made the attack.[48] While the initial tactics used in the

Mediterranean had simply mimicked those used by Coastal Command in Home waters, these newly developed tactics were a forerunner of the 'Strike Wings' that were to be fully developed by the anti-shipping forces of Coastal Command in late 1943.[49]

It took a combination of British and German actions to bring both priority and efficacy back to the campaign. First, in August the famed 'Pedestal' convoy fought its way through to resupply Malta. The arrival of the surviving convoy vessels has been presented in popular culture as the final reprieve of the island, allowing the full and immediate restoration of its fighting capacity. It is certainly likely that without the arrival of the convoy, the island would have fallen. The governor of the island had estimated that when it arrived, they were just 10 days from surrender through lack of supplies.[50] However, nine of the 14 merchant vessels were lost to combined Axis efforts, meaning the majority of the supplies did not get through. The survival of the tanker *Ohio* ensured a significant resupply of heavily depleted fuel stocks, but this still needed to be rationed – restrictions on shipping strikes were relaxed but not entirely removed at that stage, it was considered enough for around 2 months of operations by submarines and aircraft.[51] Malta was not restored to full striking capacity until the arrival of the next convoy ('Stoneage') in November.[52] Nonetheless, the number of strikes conducted from the island began to increase significantly after 'Pedestal'.

Second, while 'Pedestal' had seen heavy losses to the British naval and merchant forces, German and Italian aircraft also suffered significantly. An estimated total of 62 Axis aircraft were lost during the operation, and the aerial siege of Malta quickly ebbed in intensity after this. Luftwaffe units based in Sicily and southern Italy curtailed their offensive operations, while some were transferred to the eastern front. Not only had 'Pedestal' been crucial in the revival of Malta's capability, it played a great role in the end of the siege itself. Finally, the Axis advance across North Africa was first halted and then reversed at the various battles of Alam Halfa and El Alamein between July and October. The British and Commonwealth forces quickly regained the strategically important airfields of Cyrenaica. These successes were quickly followed by the landing of American and British forces in northwest Africa; Operation 'Torch'. In February 1943, the Northwest African Air Forces (NAAF) were set up as an umbrella command for all Allied air forces now present in the northwest. The NAAF comprised three distinct commands; strategic, tactical and coastal. The Northwest African Coastal Air Force (NACAF) represented the first dedicated maritime air force in the theatre. With Axis air power heavily degraded in both North Africa and Italy, strategically important airfields gained both to the east and west of Axis positions and a great influx of reinforcements from the RAF and USAAF, the Allies had gained aerial superiority over the Mediterranean.

The Period of Allied Dominance, October 1942 to the end of the Campaign

With aerial superiority over the majority of the Mediterranean, other than the Adriatic and Aegean seas, the campaign could reach its full potential. The Allies descended upon the Axis supply routes to western Libya and Tunisia with the full force of the resources available

to them. Dedicated naval task forces of cruisers and destroyers patrolled the routes, coastal forces, submarines and aircraft operated out of Malta and Algerian and Tunisian ports. Mines were also laid from surface, submarine and aerial units in what had become a truly combined arms offensive. Both Axis air and sea power had been heavily degraded by this stage. The withdrawal of aerial forces in Italy and a lack of reinforcements to North Africa meant that Axis convoys were escorted much more weakly by aircraft. Whereas over autumn 1942 convoys on the Greek coast received an average of 25 total aircraft over the course of their journey, in December they averaged just five off the Tunisian coast.[53] Despite the heavy losses to Italian light forces over the course of the war and their lack of sufficient naval construction capacity, they managed to continue heavily escorting convoys to Tunisia. They were aided greatly in this by the much shorter nature of this route than the one to Libya. Between 1940 and 1942 convoys to Tripoli had generally consisted of between three and six merchant vessels or tankers, escorted by three to four warships, usually destroyers or large torpedo boats.[54] Convoys to Tripoli in late 1942 through to the fall of the port in January 1943 tended to be escorted much more lightly by the overstretched Italian navy. On the much shorter route between Sicily and Tunisia though, a single ship would have two escorts, two vessels might have a third escort and three vessels would receive protection from three or four escorts.[55]

Despite the efforts of the Italian navy, the escorts they were providing at this stage were often vessels pressed into service sporting damage that was not fully repaired, or a few new vessels that were not yet fully worked up. Thanks to the casualties suffered from a relatively small pool of experienced officers and men, the crews were often less experienced and in some cases lacked full training. Allied Italian warships lacked particularly effective anti-aircraft armaments in general, and it was the threat from aircraft they were least capable of dealing with.[56] This made the lack of available escort aircraft all the more keenly felt. The courage and willingness to fight of the Italians has been questioned by many, but their continued efforts to supply the dwindling position in Tunisia in 1943 in the face of overwhelming odds flies in the face of such criticism. In recognition of the successes of the campaign at this stage, the supply route to Tunisia was dubbed by Italian sailors as 'the route of death'.[57]

On 13 May 1943 the last of the Axis forces in North Africa surrendered. Over 275,000 prisoners of war were taken, along with their equipment, in what has been nicknamed 'Tunisgrad'. Between 1 November 1942 and 30 April 1943, a total of 387 Axis merchant ships and tankers were sunk in the Mediterranean. Of the 387 sinkings, 185 (48 per cent) were directly sunk by aircraft, the next highest total were submarines with 159 sinkings (41 percent). The remaining 43 vessels were sunk by either warships or mining. In terms of the tonnages of sinking over this period, aircraft accounted for 292,485 (46 per cent) of the total 639,885 GRT sunk. Sinkings by submarine totalled 273,879 GRT, 42 per cent of the overall total.[58] It was aircraft that made the greatest contribution to this crucial period of the anti-shipping campaign. Not only had they sunk the largest number and tonnage of vessels, they had played a crucial role in intelligence gathering and the maintenance of aerial superiority to aid sinkings by all methods.

As mentioned in the introduction, the conclusion of the North African campaign did not signal the end of the anti-shipping campaign but rather the remainder of it has largely been ignored in history to date due to its more peripheral nature in the war in the Mediterranean. In fact, sinking of merchant vessels in the Mediterranean reached their peak in the period around and after the Axis surrender in North Africa. There were 118 sinkings in May 1943, the greatest single month of the campaign, even though the majority of them came after the surrender. This was also the greatest single month for sinkings by aircraft, at 94 vessels.[59] Sinking levels remained significant for the rest of 1943, although the proportion sunk by aircraft dropped heavily after September. This was largely due to the re-purposing of aircraft that had been used for anti-shipping operations to air operations over Italy, and the Dodecanese campaign of September-November. The Aegean remained one of the few areas of the Mediterranean where the Axis retained aerial superiority, and it was out of the range of single-engine fighters at that stage. The FAA could play no role in the campaign at all, while RAF Beaufighters were able to patrol over the sea only for short periods of time and were easily outclassed by the higher performance single-engine fighters of the Luftwaffe. They sustained heavy losses and achieved few successes against German convoys carrying troops and supplies to retake the islands from the British.[60]

Despite the heavy losses that the Italian merchant marine had sustained since June 1940, a significant anti-shipping campaign was still conducted during 1944. While the Italian armistice in September 1943 meant that they would surrender their remaining merchant fleet, the Germans acted quickly and were actually able to seize the majority of the tonnage available. Of the 272 vessels of 748,578 tons that remained at the time of the Italian armistice, over 210,000 tons was surrendered to or seized by the Allies, although the actual number of vessels is unknown.[61] The Germans managed to seize around 535,000 tons of shipping plus numerous smaller vessels of under 500 tons that have gone unrecorded. Although they had seized many of the choicest larger merchant vessels, the Germans had been left with a rather motley collection of former Italian, French and Greek vessels along with some of their own shipping that had survived the campaign. With the fall of Italy, they lacked the facilities in the theatre to construct full merchant vessels, although they were able to construct small numbers of auxiliary vessels such as ferries and lighters. The lack of available shipping was countered by the contraction of the war in the Mediterranean. With North Africa, Sicily, and parts of Southern Italy under Allied control; shipping was required only for the Adriatic, the Aegean and along the southern coast of France.

Having played an important role in the interdiction of shipping between Italy and North Africa, FAA involvement quickly ceased with the shift of the campaign into the Adriatic and Aegean. Their single engine aircraft simply lacked the range and endurance to reach the more distant shipping routes, and they were allocated to other duties, such as anti-submarines operations in the home theatre. The dedicated anti-shipping task forces that had operated previously out of Malta and North Africa were also disbanded. The Adriatic and particularly the Aegean were still very much enemy territory, and the Axis retained aerial superiority over much of it.

The greater distances to these areas meant that conducting anti-shipping operations entirely at night before withdrawing to negate air attacks was particularly difficult and dangerous, as demonstrated by heavy losses when this was attempted in the Dodecanese campaign.[62] As such, the campaign was pursued primarily by aircraft and submarines, while Royal Navy coastal forces worked to interdict coastal shipping.

Since December 1943, the newly created Mediterranean Allied Air Forces (MAAF) had formed the first theatre-wide air force, comprising all the Allied air assets available. Like its smaller predecessor based in northwest Africa, the NAAF, it was built on a tri-force structure of strategic, tactical and coastal air forces. The creation of the Mediterranean Allied Coastal Air Forces (MACAF) meant that the anti-shipping campaign could finally draw on a centralised, theatre-wide dedicated maritime air force. While the campaign had certainly lessened in intensity, there was still a significant number of shipping strikes being conducted. Table 1 shows the number of shipping strikes conducted in 1944 by month, and their proportion of the total air activity.

Month	Total No. Sorties	No. Shipping Strikes	Total Flying Hours	Shipping Strike Flying Hours
Jan	3883	28 (0.72%)	13965	136.5 (0.98%)
Feb	3142	88 (2.80%)	10801.75	459.75 (4.26%)
Mar	3695	63 (1.71%)	12704.5	247.75 (1.95%)
Apr	4914	41 (0.83%)	17645	175.75 (0.97%)
May	5786	44 (0.76%)	19645.25	173.5 (0.88%)
Jun	6155	176 (2.86%)	20851.75	647.25 (3.10%)
Jul	6664	110 (1.65%)	21018.75	513.25 (2.44%)
Aug	7098	120 (1.70%)	23151.25	512 (2.21%)
Sept	7173	234 (3.26%)	21399.5	988.75 (4.62%)
Oct	3546	133 (3.75%)	10470.25	532 (5.08%)
Nov	3951	72 (1.82%)	11327	323.75 (2.86%)
Dec	5484	39 (0.71%)	13392	181.75 (1.36%)

Table 1: MAAF Anti-Shipping Operations in 1944[63]

Clearly, there were still significant number of strikes conducted, but they formed a very small proportion of the total air effort of the MAAF as a whole. As late as September 1944, 234 shipping strikes were flown, totalling nearly 1,000 flying hours, but this was still less than 5% of the total air effort that month. There was however, an increase in the bombing of the Axis held ports in Italy and Southern France in 1944, spearheaded by the USAAF. This reached a peak on 11 March in a huge raid on Toulon by 122 Liberator aircraft, which sank eight vessels along with heavy damage to the port facilities.[64]

Rocket projectile (RP) weapons were first introduced into the theatre on a very limited scale in May 1943 for anti-submarine purposes. It was not until much later in the year that they began to appear in much greater numbers and be used for anti-shipping operations.[65] However, tactical doctrine was soon set down for the use of 25lb solid-shot RPs in the anti-shipping campaign there, adapted slightly from the doctrine already in place for the Home theatre. Much like the torpedo strikes, RP attacks in the daytime required an 'anti-flak' screen of aircraft armed with cannon and bombs to suppress the escorting vessels before the strike aircraft made their attack runs. The ratio of 'anti-flak' aircraft to strike aircraft to be used was dependent on the likely ratio of escorts to merchant vessels, with ideally at least two of these aircraft for each escort.[66] Both the RP strike aircraft and the 'anti-flak' aircraft escorting them were generally different variants of the Beaufighter aircraft. The 25lb solid-shot rocket was an ideal weapon to deal with the smaller sized craft that were the main target at that stage of the campaign. They were both more likely to hit a small-draught vessel than a torpedo, which would often pass underneath, and were more economically efficient.

After the Italian armistice, the contraction of the campaign to smaller sub-theatres and the shrinkage of shipping available to the Axis, it is rather surprising that sinking rates were quite heavy for most of 1944. There were 22 sinkings in January, whereas the previous four months combined had yielded only 32. From January to September monthly sinking totals ranged between 13 and 40, only dropping to very low levels for the last three months of the campaign. Perhaps less surprising is the fact that the vessels being sunk were generally smaller than the previous years. The average size of a merchant vessel sunk by aircraft in 1944 was 1,429 GRT, well below the 2,217 of 1942 or the peak of 2,909 in 1940. However, the average size was actually slightly larger than in 1943, when it was 1,395 GRT. In total, allied air power accounted for 225 vessels of 321,589 GRT in 1944.[67]

Conclusions

The role of air power in the early stages of the anti-shipping campaign in the Mediterranean was a familiar story for the British. Paucity of resources and a general lack of both the technical and tactical ability to conduct effective maritime operations meant the RAF played little part at first. It is fortunate that RAF Middle East was commanded by someone who immediately recognised the importance of the Mediterranean Sea to war in North Africa and the Middle East, and that air power would need to play a major role in the war at sea as well as on land. Longmore was able to lay the foundation for air power to do so, but in the early stages of the campaign the RAF could only contribute with a handful of reconnaissance aircraft. It was left to a small number of FAA aircraft to conduct actual anti-shipping operations alongside the efforts of Royal Navy submarines.

With their much greater training and experience in maritime operations, the FAA contributed consistently to the campaign between 1940 and 1943. Small numbers of outdated biplane torpedo bombers took a steady toll of Axis shipping from their primary base in Malta, along with more sporadic efforts from North Africa, Crete and Cyprus when the situation and

availability of air bases made it possible. For the RAF, integration into an active role in the campaign was slow with numerous obstacles. The lack of available aircraft was compounded by both the unsuitability of the types that were available to anti-shipping operations and the inexperience of the crews to such work. Even after an influx of more suitable aircraft, better training for RAF aircrew in maritime operations and a higher priority toward the campaign, the FAA still proved much more adept. Despite their outmoded aircraft, in late 1942 Swordfish and Albacore aircraft in the Eastern basin maintained a 42 per cent hit rate with their torpedo drops, compared to just 23 per cent for Beaufort aircraft and 28 per cent for torpedo-armed Wellingtons.[68]

While the RAF never managed to become more efficient in their shipping strikes than the FAA, the heavier burden fell on them in the second half of the campaign. They outnumbered the limited FAA in available strike aircraft from February 1942 onwards, and overwhelmingly so by the end of that year. The transformation in the ability of the RAF to conduct anti-shipping operations over the course of the campaign was a marked one. In 1940 they lacked every crucial foundation for a successful campaign – numbers, suitability of aircraft, specialist training, tactical doctrine and a high priority towards the campaign. Each of these issues began to be addressed in 1941. From June onwards, greater numbers of aircraft arrived in the theatre, that were used for strike purposes. This included more specialised types of aircraft dedicated to maritime operations. Some of the aircraft that were arriving in the theatre were specialised anti-shipping squadrons transferred directly from RAF Coastal Command, at the expense of their campaign in northwest Europe. This strongly suggests that the priority of the campaign in the Mediterranean was increasing in the eyes of the Air Ministry.[69] The creation of No. 201 (Naval Co-operation) Group in October helped combat the issue of specialised training, and by proxy that of specialised tactical doctrine as well. The Group brought FAA and RAF personnel under the same command for the first time in the theatre, allowing specialised maritime training to be offered from the naval aircrews to those of the other service. In turn, improvements in RAF doctrine for torpedo attacks were made, adapting those used by Coastal Command to the specific conditions and situation in the Mediterranean. Costly mast-height direct bombing attacks were also later dropped, with the focus laid on the more effective torpedo attacks and bombing of ports. By late 1943, rocket projectiles were available, which were a much more effective weapon against the smaller vessels with a lesser draught which were then being faced. A comprehensive tactical doctrine for rocket attacks in the Mediterranean quickly followed.

By 1944 the transformation in the role of air power in the anti-shipping campaign was complete. The numbers technologies and tactics had been brought into place for a successful campaign. It had played a crucial part in the campaign. Out of the total 1,702 vessels of 2,777,573 GRT that were sunk, 741 of 1,210,368 GRT were the result of aircraft. Air power had sunk 44 per cent of the total number of vessels, and 44 per cent of the total tonnage. By comparison, submarines were responsible for slightly more sinkings (773) but a slightly smaller tonnage (1,194,240).[70] Not only was air power vital in its contribution by direct sinkings,

it was also a big contributor to the mining campaign that took place, laying 1,504 mines.[71] Finally air power was crucial to the success of all methods of attacking shipping. Aerial reconnaissance gave vital information on the state of shipping in Axis ports and located at sea. Anti-shipping task forces, submarines and aerial shipping strikes were guided onto their targets by circling aircraft, and often protected by aerial escorts. It is no coincidence that the periods of greatest success in the campaign coincided with the periods of aerial ascendancy in the theatre.

Air power was a vital component without which the heavy toll on Axis shipping in the Mediterranean would not have been taken. The question of the ability of Axis forces to have continued the war in North Africa as long as they did, or even the ability of Italy to sustain its war effort as a whole, had greater resources been allocated to the anti-shipping campaign, makes for yet another tantalising 'what if' of the war.

Notes

[1] Charles W. Koburger, *Wine-Dark, Blood Red Sea: Naval Warfare in the Aegean 1941-1946* (Westport, Praeger, 1999), 7.
[2] This view is reinforced by numerous general histories of the war in the Mediterranean and the war in North Africa which do not go beyond either the Axis surrender in North Africa or the Italian Armistice. See for example Donald Macintyre, *The Battle for the Mediterranean* (London, Batsford, 1964); Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge, Cambridge University Press, 1977); Jack Greene and Alessandro Massignani, *The Naval War in the Mediterranean*, 1940-1943 (London, Chatham, 1998); Alan J. Levine, *The War Against Rommel's Supply Lines 1942-1943* (Wesport, Praeger, 1999). Notable exceptions to this rule can be found in the multi-service British official history of the theatre, I.S.O Playfair et al, *The Mediterranean and the Middle East* (London, HMSO, 1954-1988), VI volumes, and the more recent naval history Vincent O'Hara, *Struggle for the Middle Sea: The Great Navies at War in the Mediterranean Theatre, 1940-1944* (Annapolis, Naval Institute Press, 2009).
[3] The National Archives [TNA] ADM 187/8, Admiralty Pink List entry for 10 June 1940.
[4] Royal Air Force Museum [RAFM], The papers of Air Chief Marshal Sir Arthur Longmore [Longmore papers], DC 74/102/14, Despatch on Middle East Air Operations, 1. Appendix 'B': Location of Units in Middle East Command as at 11 June 1940.
[5] RAFM, Longmore papers, DC 74/102/14, Despatch on Middle East Air Operations, Appendix 'B': Location of Units in Middle East Command as at 11 June 1940.
[6] RAFM, Longmore papers, DC 74/102/14, Despatch on Middle East Air Operations, Appendix 'A': Air Council Instructions as to Responsibilities of Air Officer Commanding in Chief, Middle East, 11 June 1940, 1.
[7] TNA AIR 41/19, 'The RAF and Maritime War, Volume VI: The Mediterranean and Red Sea' [RAF and Maritime War, Vol. 6], 42-3.
[8] Michael Simpson (Ed.), *The Cunningham Papers, Volume I: The Mediterranean Fleet, 1940-1942* (Aldershot, Ashgate, 1999), 97-8, 113, 128-131,137, 170-2.

[9] For an excellent introduction to the question of enemy merchant vessels in wartime throughout British history, see Andrew Lambert, 'Great Britain and Maritime Law, from the Declaration of Paris to the era of Total War', *Navies in Northern Waters*, ed. Rolf Hobson and Tom Kristiansen (London, Frank Cass, 2004), 11-39 and Brian Ranft, 'Restraints on Warfare at Sea before 1945', in Michael Howard ed., *Restraints on War*, (Oxford, Oxford University Press, 1979, 39-56.
[10] TNA AIR 41/19, RAF and Maritime War, Vol. VI, Appendix B: Air Ministry Instructions on Air Action against Shipping at Sea.
[11] S.W. Roskill, *The War at Sea, Volume I: The Defensive* (London: HMSO, 1954), 338; Duncan Redford, *The Submarine: A Cultural History from the Great War to Nuclear Combat* (London, I.B. Tauris, 2010), 147-8. A 'naval auxiliary' was defined as a vessel carrying troops or military stores.
[12] TNA ADM 234/381, Naval Staff History [NSH], Submarines, Volume II: Operations in the Mediterranean [Submarines, Vol. II], 3.
[13] TNA CAB 66/9/37, WP(40) 257, 'Proposed Declaration of Dangerous Areas off the Coasts of Italy and Colonies', 10 July 1940; TNA ADM 234/381, NSH, Submarines, Vol. II, 4.
[14] TNA CAB 66/16/12, WP(41) 89, Extension of 'Sink at Sight' Zone in the Mediterranean, 20 April 1941; TNA ADM 234/381, NSH, Submarines, II, 20.
[15] F.H. Hinsley et al, *British Intelligence in the Second World War*, Volume I (London, HMSO, 1979), 199, 206.
[16] Ibid, 210.
[17] On tactical developments of the FAA in the interwar and war years, see Philip Weir, *The Development of Naval Air Warfare by the Royal Navy and Fleet Air Arm between the two World Wars* (PhD Thesis, University of Exeter, 2007) and Geoffrey Till, *Airpower and the Royal Navy* (London, Jane's, 1979).
[18] Kenneth Poolman, *Night Strike from Malta: 830 Squadron RN and Rommel's Convoys* (London, Jane's, 1980), 22.
[19] Simpson ed., *The Cunningham Papers*, Vol. I, 100; TNA AIR 20/9598, Table 2: 'Analysis of Enemy Merchant Shipping Sunk by all Causes, Scuttled, Captured or Surrendered in the Mediterranean'.
[20] TNA AIR 20/9598, Table 2: 'Analysis of Enemy Merchant Shipping Sunk by all Causes, Scuttled, Captured or Surrendered in the Mediterranean'.
[21] Ibid. The port of Valona in particular was singled out in this month, receiving several raids, David Gunby and Pelham Temple, *Royal Air Force Bomber Losses in the Middle East and Mediterranean, Volume I: 1939-1942* (Hinckley, Midland, 2006), 33-36.
[22] Calculated from Gunby and Temple *Royal Air Force Bomber Losses*, 17-48; Poolman, *Night Strike*.
[23] Quoted in Douglas Austin, *Malta and British Strategic Policy*, 1925-1943 (London, Frank Cass, 2004), 111.
[24] TNA ADM 187/12, Admiralty Pink List entry for 3 March 1941.
[25] Christina Goulter, *A Forgotten Offensive: Royal Air Force Coastal Command's Anti-Shipping Campaign, 1940-1945* (Abingdon, Frank Cass, 1995), 132, 139, 143.
[26] TNA ADM 187/14, Admiralty Pink List entry for 2 July 1941.
[27] Sources examined here for the FAA are TNA ADM 207/13, 815 Squadron Diary, 1939-1941; TNA ADM 207/14, 819 Squadron Diary, 1940-1941; TNA ADM 207/22, 826 Squadron Diary, 1940-

1946; TNA AIR 23/672, Operations by FAA Units; TNA ADM 199/108 Night Operations of 830 Squadron from Malta; TNA ADM 199/109, Night Operations by Naval Air Squadrons based on Malta.
Sources examined here for the RAF are TNA AIR 27/1508, 252 Squadron Operational Record Book [ORB]; TNA AIR 27/1577, 272 Squadron ORB, 1940-1943; TNA AIR 27/407, 39 Squadron ORB.
[28] TNA ADM 234/560, NSH, British Mining Operations, 1939-1945, Volume I, 1973, 579-580.
[29] Hugh Lloyd, *Briefed to Attack: Malta's Part in African Victory* (Norwich, Hodder and Stoughton, 1949), 13.
[30] Ibid, 27-28, 62, 149.
[31] Details of the information on convoy sailings provided by this intelligence are located in TNA ADM 223/31, 'Italian Convoy Reports, October 1941 – May 1943' and TNA ADM 223/45, 'Analysis of Convoy Sailings from Italy to North Africa, September 1941 – June 1943'.
[32] Figures based on Admiralty Pink List entries from May 1941 – February 1942, TNA ADM 187/13-17.
[33] RAFM, Longmore papers, DC 74/102/14, Despatch on Middle East Air Operations, 3.
[34] Arthur Tedder, *With Prejudice: The War Memoirs of Marshal of the Air Force Lord Tedder* (London, Cassell, 1966), 148.
[35] Michael Simpson, 'Wings Over the Sea: The Interaction of Air and Sea Power in the Mediterranean, 1940-42' in N.A.M Rodger ed., *Naval Power in the Twentieth Century* (Basingstoke, Macmillan, 1996), 144-5.
[36] TNA AIR 23/1282, 'Air Tactics and Operational Notes on 201 Naval HQ', 1. For an in-depth discussion of the creation of 201 Group, see Richard Hammond, 'British Aero-Naval Co-operation and Rivalry and the Creation of RAF No 201 (Naval Co-operation) Group' in Ross Mahoney, Stuart Mitchell and Michael LoCicero (eds), *A Military Transformed? Innovation and Adaptation in the British Military from 1792 to 1945*, (forthcoming, Helion and Company, 2013).
[37] TNA AIR 23/1282, Air Tactics and Operational Notes on 201 Naval HQ and RAF Middle East Co-op Group by Tactics Assessment Officer, Coastal Command Tactical Memorandum No.59.
[38] TNA AIR 23/1282, Air Tactics and Operational Notes on 201 Naval HQ and RAF Middle East Co-op Group by Tactics Assessment Officer, Chapter 3: 'Navigation'; TNA AIR 23/1282, Air Tactics and Operational Notes on 201 Naval HQ and RAF Middle East Co-op Group by Tactics Assessment Officer, Annex F: 'Method of searching for coastal convoys'.
[39] TNA AIR 23/1282, Air Tactics and Operational Notes on 201 Naval HQ and RAF Middle East Co-op Group by Tactics Assessment Officer, 'A summary of naval co-operation', 2; TNA AIR 20/5306, Operational Research Section (Middle East) report number 4, 'An Account of Anti-Shipping Operations Carried out by Aircraft Operating from Malta between Oct 1 and Dec 12 1941', 4-5.
[40] TNA AIR 20/9598, Table 2: 'Analysis of Enemy Merchant Shipping Sunk by all Causes, Scuttled, Captured or Surrendered in the Mediterranean'.
[41] Tony Spooner, *Supreme Gallantry: Malta's Role in the Allied Victory* (London, J.Murray, 1996), 105.
[42] These losses have been calculated from the following sources: Gunby and Peham Temple, *Royal Air Force Bomber Losses*; Roy Conyers Nesbit, *The Armed Rovers, Beauforts and Beaufighters*

over the Mediterranean (Shrewsbury, Airlife, 1995); Poolman, *Night Strike from Malta*.
[43] Michael J. Budden, 'Defending the Indefensible? The Air Defence of Malta, 1936-1940', *War in History*, Vol. 6, No. 4 (October, 1996) 463.
[44] This has been calculated through the following sources: TNA ADM 199/108 Night Operations of 830 Squadron from Malta; TNA ADM 199/109, Night Operations by Naval Air Squadrons based on Malta; TNA AIR 27/1508, 252 Squadron ORB; TNA AIR 27/1577, 272 Squadron ORB, 1940-1943; TNA AIR 27/407, 39 Squadron ORB.
[45] The figures in the Admiralty Pink List entries from January – June 1942, TNA ADM 187/17-19 demonstrate small total increases in each of these months, along with the location of the squadrons.
[46] CAB 105/10, Telegram No.84, Chiefs of Staff to Middle East CinCs, 30 July 1942.
[47] TNA AIR 15/628, 'Suggestions for homing day striking forces to their target', 5 May 1942, 1.
[48] TNA AIR 15/633, 'Memorandum on the Use of Beaufighters in Combined Attack with Torbeaus and Strafing Beaufighters', 2 February 1943.
[49] TNA AIR 23/1282, Coastal Command Tactical Memorandum No. 59, 1.
[50] Budden, 'Defending the Indefensible', 447.
[51] Austin, *Malta*, 159-161; Greene and Massignani, *The Naval War in the Mediterranean*, 260.
[52] Richard Woodman, *Malta Convoys, 1940-1943* (London, John Murray, 2000), 459-461.
[53] Imperial War Museum [IWM], 87/39/1, Papers of EPW Hutton, Appendix A: 'Enemy Convoy Tactics in the Mediterranean', 1.
[54] These figures have been determined from TNA ADM 223/45, 'Special Intelligence Summaries: Analysis of Convoy Sailing from Italy to North Africa', September 1941 – June 1943.
[55] TNA ADM 223/48, 'Sicily - Tunis Convoys', 3 March 1943.
[56] See John Campbell, *Naval Weapons of World War Two* (London, Conway Maritime Press, 2002), 338-347.
[57] Greene and Massignani, *The Naval War in the Mediterranean*, 262.
[58] These figures have been calculated primarily from those given in TNA AIR 20/9598, Table 2: 'Analysis of Enemy Merchant Shipping Sunk by all Causes, Scuttled, Captured or Surrendered in the Mediterranean'.
[59] Ibid.
[60] On air operations over the Aegean during the campaign, see Nesbit, *The Armed Rovers*, 164-185. On the Dodecanese campaign more generally see P. Smith and E. Walker, *War in the Aegean* (London, William Kimber, 1974); Ian Gooderson, 'Shoestring Strategy: The British Campaign in the Aegean, 1943', *Journal of Strategic Studies*, Vol. 25, No. 3 (September 2002), 1-36; Anthony Rogers, *Churchill's Folly: Leros and the Aegean: the last great British defeat of the Second World War* (London, Cassell, 2003).
[61] TNA ADM 223/488, Draft paper by Charles Morgan, 2.
[62] See Paul Kemp, *The Admiralty Regrets: British Warship Losses of the 20th Century* (Stroud: Sutton, 1999).
[63] Figures taken from TNA AIR 20/2034, 'Mediterranean Allied Air Force: miscellaneous statistics'.
[64] TNA AIR 41/76, 'The RAF and Maritime War, Volume VII: Mediterranean; Naval Co-operation, end of the Submarine War and Operations in the Adriatic, Greece and the Aegean, 1944-1945',

Part II, 217.
[65] Nesbit, *The Armed Rovers*, 186-7.
[66] TNA AIR 23/7191, Anti-Shipping Operations: Policy, 1944. Appendix A, 'Shipping Attacks With 25lb R.Ps', 1.
[67] All figures in this paragraph have been calculated from those in TNA AIR 20/9598, Table 2: 'Analysis of Enemy Merchant Shipping Sunk by all Causes, Scuttled, Captured or Surrendered in the Mediterranean'.
[68] TNA AIR 20/5306, 'Anti-Shipping in the Eastern Mediterranean, October-December 1942', 1.
[69] Austin, *Malta*,98, 112, 127; Goulter, *Forgotten Offensive*, 132, 139, 143, 168.
[70] The figures for aircraft are from TNA AIR 20/9598, Table 2: 'Analysis of Enemy Merchant Shipping Sunk by all Causes, Scuttled, Captured or Surrendered in the Mediterranean', those for submarines are from Jürgen Rohwer, *Allied Submarine Attacks of World War Two: European Theatre of Operations, 1939-1945* (London, Greenhill books, 1997), 125-223.
[71] TNA ADM 234/560, NSH, British Mining Operations, 1939-1945, Volume I, 650.

Return from the Wilderness: An Assessment of Arthur Harris' Moral Responsibility for the German City Bombings

By Dr Peter Lee

Arthur 'Bomber' Harris divides public, military and academic opinion like few military figures before or since. For some, Harris was, and remains, a hero of the titanic struggle against Hitler's Reich and the evil it spawned across Europe; for others he was a fearsome and inspiring leader who sparked great loyalty among those who took to the skies at his command; yet others regard him as a war criminal who evaded prosecution only because he found himself on the winning side. This article will consider another image of Harris, the scapegoat to whom it fell to publicly bear the moral culpability of others who bore greater responsibility for the shedding of blood and innocence in those dark hours when explosives and incendiaries were dropped on the cities of Germany. The paper concludes that to some degree it was his own cussed stoicism and lack of political intuition that made his emergence as scapegoat both convenient and almost inevitable.

> But the goat chosen by lot as the scapegoat shall be presented alive before the Lord to be used for making atonement by sending it into the wilderness as a scapegoat ... The goat will carry on itself all their sins to a remote place. (Leviticus 16:10, 22)[1]

Introduction

Few names, if any, in British military history divide opinion like that of Arthur T. Harris, Air Officer Commanding-in-Chief (AOC-in-C), Bomber Command from February 1942 until September 1945. Few names conjure up such a spectrum of human responses: from devoted loyalty to personal abhorrence, from admiration to disgust. For some, Harris was, and remains, a hero of the titanic struggle against Hitler's Reich and the evil it spawned across Europe; for others he was a fearsome and inspiring leader who sparked great loyalty among those who took to the skies at his command; yet others regard him as a war criminal who evaded prosecution only because he found himself on the winning side. This article will consider another image of Harris, the scapegoat to whom it fell to publicly bear the sins – the moral culpability – of others who bore greater responsibility for the shedding of blood and innocence in those dark hours when explosives and incendiaries were dropped on the cities of Germany.

Two factors will shape the analysis to follow: the historical context in which Harris led Bomber Command and the moral framework against which his actions are assessed. American political theorist and just war ethicist Jean Bethke Elshtain, in evaluating the US's response to a twenty-first century air attack on its most iconic city, highlights the enduring relationship between factual detail and moral judgement: 'There is no substitute for the facts. If we get our description of events wrong, our analysis and our ethics will be wrong too. The words we use and our evaluation of events are imbedded with important moral principles'.[2] If these sentiments are true when making moral judgements about recent events, then they are no less true when it comes to making moral judgements about past events: with the added complications of elapsed time and the imperfect filters of the views and influences of historians past.

This article, as with almost all Bomber Command historiography since 1961, relies considerably on Charles Webster and Noble Frankland's T*he Strategic Air Offensive Against Germany 1939-1945*[3], both for the official documents it makes available to us and for the authors' analysis of those events. Though widely viewed as the official history of the strategic air offensive and highly regarded for its content it will, as should all historical documents, be treated with a degree of caution. It is not a faultless, unexpurgated, objective historical edifice but, as Sebastian Cox points out, the product of political machination, academic predilection and robust negotiation.[4] Furthermore, it should be borne in mind that Harris neither contributed to the document nor defended his actions in light of its claims. Just as all politics has its history, all history has its politics.

When it comes to the moral assessment of Harris's actions – having provided some historical context – the comfortable familiarity and certainties of absolute ethical arguments will be

rejected. Harris and his superiors were never afforded the luxury of simple strategic or moral decisions: they frequently had to choose between two courses of action – each of which would cause any sensible individual to recoil with horror – and embrace the lesser of two evils. The simplistic views of those who consider(ed) Harris to have been the walking embodiment of evil are rejected as surely as views of those who uncritically extol his actions as entirely virtuous. Moral certainty is too often the refuge of those who fear their own doubts or evade their own passions. Instead this article opts for the discomfort that emerges when Harris's actions are exposed to a comparative ethical evaluation, drawing upon elements from the just war tradition and utilitarian considerations.

The first section will explore early practical and moral concerns about, and strategic hopes for, aerial bombing, drawing upon the writings of J.M. Spaight to highlight both doomed noble intentions and ominous warnings from the 1920s and '30s – notably the failure of leading powers to legally constrain the threat posed by rapidly evolving aircraft technology to cities in future wars. This will be followed by an examination of some of the Second World War's early bombing developments, noting the speed with which previous dire predictions were coming to pass, the rapid emergence of moral ambivalence in both political and military hierarchies, and the strategic implications of Bomber Command's inability to conduct precision bombing. Sections three and four will analyse aspects of the politics and morality of targeting in light of improving technology during Harris's time as AOC-in-C, Bomber Command, contrasting the dilemmas of the early years of the war with those of the final year. Attention will be paid to the directives to which he operated, the wider strategic considerations that shaped the directives and Harris's interpretation of them, and the disputed causes and consequences of the later area bombings, particularly the bombing of Dresden. The paper will conclude, first, that Harris has borne a disproportionate degree of moral responsibility for the area bombing of Germany, his personal culpability dwarfed by that of others and mitigated by the limited options available to him; and second, somewhat ironically, that to some degree it was his own cussed stoicism and lack of political intuition that made his emergence as scapegoat almost inevitable.

Aerial Bombing: Dire Predictions, Noble Intentions and Cautious Warnings

Since its inception air power discourse has been characterised by two interrelated but, at times, opposing strands of thought: on one side there was a determination to limit the use of air power – especially against civilians – both in terms of proposed laws and ethical arguments; on the other side there was the development of air power strategy for maximum effect against a future enemy in a time of increasingly industrialised war. This dichotomy was not rooted in the First World War but emerged even before the advent of powered flight, exemplified by the 1899 Hague Convention's five-year moratorium (not subsequently extended) on 'the launching of projectiles and explosives from balloons, or by other new methods of a similar nature'.[5]

Only a decade later future applications of air power were being debated in the UK Parliament.

On 16 March 1909 Lord Montagu of Beaulieu, in a House of Lords Debate, identified the bombing of civilian targets as a matter of military concern, given the potential damage that could be done by aerial bombardment to 'a Government office, railway bridge, bank, or dockyard'.[6] Five months later Arthur Lee MP was making even more dire predictions to the House of Commons about the physical threat of aerial bombing to capital cities, using rapidly developing aeroplanes, dirigibles and balloons. He extended his argument – speculation might be more accurate – to anticipate that the 'moral effect' of bombing from airships would exceed the 'material effect,' and that, further, bombing at night would exaggerate these effects.[7] Almost a decade before the creation of the Royal Air Force, Lee had enunciated a number of ideas that would be reiterated in the decades to follow: civilian bombing; demoralising effect on the enemy's military operations; night operations; and a moral effect that outweighed material effect. He also recognised that the application of air power in this way would have consequences beyond potential physical destruction: 'We do not know what disturbance [such a use of aircraft] will cause in our laws, customs, and convenience; but these matters will no doubt be adjusted'.[8] These matters would come to be adjusted far more than Lee or his fellow MPs could have imagined.[9]

Tami Biddle Davis describes the historical development of strategic bombing from those earliest days as 'a history of the tension between imagined possibilities and technical realities'.[10] The application of air power in the First World War[11] demonstrated the limitations of the latter without denting the certainty, especially for theorists like Hugh Trenchard and Guilio Douhet in the 1920s, that the former would eventually come to fruition. Similarly, such possibilities did not escape the attentions of political leaders anxious not to find their countries made vulnerable by new technology, or legalists who strived to constrain bombing in the future. Concurrent with technical and doctrinal developments, the most serious attempt to limit future applications of bombing was undertaken by the Hague Commission of Jurists between December 1922 and February 1923. The final report set out *Rules for Aerial Warfare*, which provided for extensive protection of civilians and emphasized the need to target only military objectives:

> Article 24.1. An air bombardment is legitimate only when is directed against a military objective, i.e. an objective whereof the total or partial destruction would constitute an obvious military advantage for the belligerent;
>
> Article 24.3. Any bombardment of cities, towns, villages, habitations and building which are not situated in the immediate vicinity of the operations of the land forces, is forbidden.[12]

When the most industrially developed states weighed up the both the strategic possibilities and humanitarian costs of aerial bombing they came down in favour of the former, refusing to ratify the Hague Rules and pass them into law. Peter Gray writes of this outcome: 'The conventional view, therefore, was (and remains) that they were a political and legal failure'.[13] They remain, however, a reminder of the good intentions, cautious hopes and, to some

extent, wishful thinking that occupied the complex global political environs of the 1920s.[14] The attraction of aerial bombing for political and military leaders at that time can be summed up in the words of the British military strategist, Basil Liddell Hart, who observed in 1925 – based on his reading of events in the First World War – that a population's will to fight would not match its army's will to fight and that 'if we can demoralise one section of the nation, the collapse of its will to resist compels the surrender of the whole'.[15]

Those sentiments underpinned Trenchard's bombing doctrine and his vision for the future deployment of air power in war. In 1928 he wrote to the Chiefs of Staff Sub-Committee: 'It is not, however, necessary for an air force, in order to defeat the enemy nation, to defeat its armed forces first. Air power can dispense with that intermediate step, can pass over the enemy navies and armies, and penetrate the air defences and attack direct the centres of production, transport and communication from which the enemy war effort is maintained.'[16] As well as arguing on grounds of military effectiveness, Trenchard pointed out that on the question of legality, it would be entirely lawful 'to bomb military objectives, wherever situated'.[17] The sole limitation that he would grant as illegitimate was 'the indiscriminate bombing of a city for the sole purpose of terrorising the civilian population', though he accepted that such 'moral effect' might be the *consequence* 'of a lawful operation of war – the bombing of a military objective.'[18] The future justification of area bombing would therefore be located in the conceptual terrain that sits between the pursuit of terrorising civilians as an end in itself and the terrorising of civilians as a secondary effect of creating chaos, dislocation and disruption of everyday life as a means of reducing a state's (later, Germany's) war-making capability. Doubts about Trenchard's proposals were raised, almost inevitably, by George Milne, Chief of the Imperial General Staff, who sought to place political constraints on 'what practically amounts to an independent form of strategy for the Royal Air Force'.[19] Milne was little swayed by subtle argument, stressing: 'the point of real importance to this Empire, and about which there should be no doubt, is the practical aspect; in effect is such a [bombing] policy expedient?'[20] Milne spoke for many when he placed expediency above moral and legal considerations.

Throughout this inter-war period, a crucial voice in the bombing debates belonged to J.M. Spaight, from his involvement in the 1922-3 Hague negotiations through to his shaping of policy at the Air Ministry in the 1930s and '40s. Despite Spaight's legal orientation and efforts in the attempts to abolish or place limits on bombing, he was also a pragmatist who was able to see beyond the idealism of restricting aerial warfare to recognise its war-fighting potential. As part of the First World War generation he believed that air power could and would be used unsparingly in any attempt to avoid a repeat of the great stalemate and slaughter of trench warfare: 'As a moral-breaking force of unmatched possibilities [air power] stands alone.'[21] Furthermore, he wrote: 'Let there be no mistake about it: the cities will be bombed, whatever rule is laid down. In no other way will belligerents be able to seek to obtain the moral effect which they will certainly seek'.[22] For Gray, 'This set the tone for the thinking in the Air Ministry and subsequently Bomber Command.'[23]

As war approached once more, Spaight maintained the view that in the choice between strategic advantage and ethical or legal constraint in war, the application of air power – especially the deployment of bombing – would be guided by the former over the latter. Writing in 1938 he hoped that military objectives in densely populated areas would not be bombed but recognised that such action would most likely occur.[24] He took the view that if such an 'abominable reality' emerged, 'old England will be able, however reluctantly, to give as much as she gets, and a little more'.[25] He anticipated that bombing would be used to 'destroy the enemy nation's moral, to intimidate its population into submission,' though he was convinced that such an impact upon morale would be achieved as a by-product or secondary effect of the pursuit of military effect.[26] With such an influential member of the Air Ministry publicly making such comments, the subsequent direction of bombing policy was taking shape.

Second World War: Early Exchanges

Following the outbreak of war it did not take long for area bombing to emerge as a destructive offensive tool. On 13 September 1939 the Luftwaffe attacked Warsaw using a 50:50 ratio of explosives to incendiaries in a clear attempt to use fire as a weapon of destruction against the city and its people. Combined with a further major incendiary attack almost two weeks later, the result was that 40% of the buildings in Warsaw were damaged, with 10% destroyed.[27] Further area bombings took place over the subsequent months and on 8 July 1940 Churchill wrote to Lord Beaverbrook, the Minister for War Production: 'When I look around to see how we can win the war I see that there is only one sure path ... there is one thing that will bring him back and bring him down, and that is an absolutely devastating, exterminating attack by very heavy bombers from this country upon the Nazi homeland. We must be able to overwhelm him by this means, without which I do not see a way through.[28]

The widely accepted strategic potential of bombing that had been debated and disputed for two decades came to the fore at a time when the UK fought desperately to repel the Luftwaffe's pre-invasion attempt to gain air superiority over the English Channel. Three months previously, on 13 April 1940, an Air Ministry directive to Charles Portal, then AOC-in-C, Bomber Command had informed him that his bombing objectives were to include oil plants in the Ruhr, electricity plants, self-illuminating objectives vulnerable to air attack, troop concentrations and communications in the Ruhr.[29] In addition, and relevant to later discussion about Harris's freedom of operation, Portal was even told what aircraft should be deployed and what munitions might be used to best effect. The force at his disposal would include 'Nos. 3,4 and a proportion of 5 Groups,' and, 'Long-delay-action bombs may be used'.[30] The latter were intended to disrupt the fire services, civil reconstruction, and the return to relative normality.

Despite the UK's plight Churchill was determined, at least in public, to maintain a veneer of ethical restraint. On 20 August 1940 he stated to the House of Commons: 'we must never forget that all the time, night after night, month after month, our bomber squadrons travel

far into Germany, find their targets in the darkness by the highest navigational skill, aim their attacks, often under the heaviest fire, often with serious loss, *with deliberate careful discrimination*'.[31] Ironically, Hitler's description of those events was probably more accurate when he spoke of RAF bombers being unable to 'penetrate German airspace during the day' and dropping bombs on 'civilian residential centres, on farmsteads, and villages'.[32] There can be no mistaking Hitler's intentions however, even if they were unrealistic at the time, when he went on to speak of dropping a million kilograms of bombs in a night and eradicating British cities.[33] The London Blitz would demonstrate Hitler's determination to add substance to his threat.

In the weeks that followed, Churchill and his Air Ministry advisors added a new dimension to the latest Bomber Command directive. While still emphasizing operations against the German aircraft industry, submarine industry, communications and oil resources the directive concluded that 'attacks on [Berlin] and its environs should be continued from time to time when favourable weather conditions permit. The primary aim of these attacks will be to cause the greatest possible disturbance and dislocation both to the industrial activities and to the civil population generally within the area.[34] There was an unmistakable introduction of civilians into the calculations and decisions made by the British political and military strategists: exactly as predicted by Spaight, Liddell Hart and other inter-war air power theorists. In addition, the new AOC-in-C Bomber Command, Richard Peirse, was asked to target towns 'having regard to their size, distribution and the importance of the objectives they contain', before being instructed:

> (i) As many heavy bombers as possible should be detailed for the attack, carrying high explosive, incendiary and delay-action bombs with perhaps an occasional mine. The aim of the first sorties should be to cause fires, either on or in the vicinity of the targets so that they should carry a high proportion of incendiary bombs. Successive sorties should then focus their attacks to a large extent on the fires with a view to preventing the fire fighting services from dealing with them and giving the fires every opportunity to spread.
>
> (ii) The objectives considered most suitable for these concentrated attacks are the sources of power, such as electricity generating stations and gas plants, and centres of communication; but where primary targets such as the oil and aircraft industry objectives are suitably placed in the centre of the towns or populated districts, they might also be selected.[35]

If the bombers were being successful in precisely striking their preferred military targets – oil, gas, aircraft and other industrial facilities – there would be no need to include incendiaries because the targets would have been destroyed. While in theory military targets were still being prioritized, in practice it had been recognized that a greater disrupting effect on German life and industrial production could be achieved where civilian abodes were destroyed as

a beneficial secondary effect. In ethical terms the primary intention could be said to be legitimate military targets. Furthermore, fire would most likely cause greater harm to targets and their environs than direct bomb blast, making it harder to conduct repairs and restore production. However, the burning and destroying of civilian areas with the consequent impact on civilian lives, homes and communities could not be said to be some secondary *unintended* consequence. From the early stages of the war they were clearly important targets in their own right: secondary, but *intended* targets. The bombers were to blow up or burn housing estates whether or not the nearby industrial targets were struck.

It is frequently pointed out that the Butt Report of August 1941 highlighted the failings of precision bombing – or perhaps more rightly scotched the notion of precision bombing – and prompted a shift towards area bombing and the targeting of civilian morale instead of key industrial nodes. Such a reading, however, is somewhat crude and misrepresentative of the situation Bomber Command found itself in. More than a month before the Butt Report was published the 9 July 1941 directive to AOC-in-C Bomber Command set out a new request: 'you will direct the main effort of the bomber force, until further instructions, towards dislocating the German transportation system and to destroying the morale of the civilian population as a whole and of the industrial workers in particular.[36] However, following the internal circulation of the Butt Report at the highest levels of the military and government in August 1941, by 14 February 1942 a directive to Acting AOC-in-C Bomber Command, J.E.A. Baldwin revealed the new strategic priority: 'the primary object of your operations should now be focussed on the morale of the enemy civilian population and in particular, of the industrial workers'.[37] Significantly, this brief overview of the trajectory of the directives to successive AOC-in-Cs Bomber Command illustrates that the policy shift from a focus on industrial targets such as oil production and aircraft manufacture to the focus on the morale of the enemy had taken place before Harris even took up his command on 23 February 1942.[38]

Harris: The Politics and Morality of Technology and Targeting

The appointment of Harris as AOC-in-C brought to Bomber Command a number of crucial, sometimes overlooked attributes. He had been a staunch advocate of the area bombing of major cities long before he was appointed: partly borne out of an awareness of the limitations of the accuracy of bomber aircraft, partly by a desire to avoid any repeat of the trench warfare that killed so many young men in the First World War[39], and partly because of previous successful deployment of bombing as a means of quelling rebellion in 'Irak' – as he called it – in the early 1920s.[40] However, he also brought a keen eye for detail and was, contrary to his caricature, open to innovative ideas. Probert says of Harris's time as AOC 5 Group, from 10 September 1939, that he was highly engaged in not only the technical side of bomber aircraft development and production but also in the training of crews and improving operational efficiency.[41] He concluded: 'So there emerges the picture of an operational commander with great driving force, constantly besieging his mind on how to rectify problems and do things better, and possessing deep knowledge of his business.'[42]

Concurrent with the newly appointed Harris's own deliberations on the most effectual way to bomb Germany, Professor Lindemann – Churchill's scientific advisor – was devising his own plans to increase the effectiveness of area bombing. On 30 March 1942 Lindemann wrote to Churchill with recommendations about how best to lay waste to German cities with a large fleet of bombers designed to carry payloads (explosives and incendiaries) that would de-house vast numbers of Germans: disrupting daily life, reducing industrial production, and damaging morale in the process.[43] Lindemann's assertions played an important role in reinforcing Winston Churchill's resolve to employ area bombing against German cities and setting out the template for its success.[44] It should be noted however, that Lindemann has his critics, and not just because he took such care in working out the best way to wreak havoc on civilian houses and their occupants (similarly, by February 1942 the Americans 'had identified areas of Tokyo particularly vulnerable to fire attack'[45]). For Biddle, Lindemann's approach was flawed, based on what she describes as 'problematical' interpretations of a report on the prior bombings of Birmingham and Hull.[46]

As Harris embarked on his leadership of Bomber Command, therefore, area bombing – using incendiaries – was already firmly established as the UK's preferred, and only, method of striking back at the German aggressor: based on what was considered at the time to be a sound scientific basis. Consequently, when we consider the directive to Harris on 5 May 1942 it should be borne in mind that he was merely continuing the previously existing policy, using equipment and munitions that had previously been procured to pursue it: 'Whilst the primary aim of your operations must remain the lowering of the morale of the enemy civilian population and in particular that of the workers in industrial areas vital to the enemy's war effort, every effort *consistent with this aim* should be made to reduce the output of aircraft factories, and particularly those producing fighter aircraft'.[47]

Efforts to limit German aircraft production were to be consistent with the aim of lowering the morale of the German people in general, and industrial workers in particular, not *vice versa*. However, this should not be read as advocating random attacks on civilians simply to create terror among the people, the *intention* of such an approach was to damage the German Air Force's ability to wage war by reducing the production of fighter aircraft in particular. The purpose of stressing these points here is not to start to re-argue the morality of the bomber offensive as a whole; many others have done so at length with varying degrees of engagement with the minutiae of historical detail and the broader sweep of philosophical analysis. The purpose is to highlight the degree to which Harris *inherited* the bombing policy that he was tasked with executing and the aircraft and munitions with which to do it, all driven by the Prime Minister who was, in turn, persuaded by the 'scientific' contribution of Lindemann. The fact that Harris was a convinced advocate of area bombing even before he took over Bomber Command would have been a crucial consideration for those, especially Portal, who appointed him. However, his personal predilections count for little in assessing his moral culpability in the bomber offensive as a whole, especially at this stage of the war with the options for striking Germany so limited

and the possibility of precision strikes, as people might have reasonably understood the phrase even then, impossible.

Directives continued to be issued in much the same vein over the coming months and years: 'subject the following bases to a maximum scale of attack by your Command at night with the object of effectively devastating the whole area in which are located the submarines, their maintenance facilities and the services, power, water, light, communications, etc. and other resources upon which their operations depend'.[48] The purpose of this area bombing was aimed at the related ends of the 'progressive destruction and dislocation of the German military, industrial and economic system, and the undermining of the morale of the German people to a point where their capacity for armed resistance is weakened'.[49] Terror was not advocated as an end in itself.

The moral assessment of events when these directives were given to Harris in January 1943 is probably more straightforward than it would become in the final year of the war, though aspects of it make for potentially uncomfortable reading for unquestioning area bombing advocates and opponents alike, depending upon the moral framework in use. It has been argued by many political theorists, perhaps most clearly in recent times by Elshtain, that just war is located on an ethical 'continuum', bounded by pacifism on one side and political realism on the other.[50] The absolute positions on the extremes of this continuum are the most straightforward to articulate when applied to Bomber Command's activities at the start of 1943. For the pacifist all resort to force is inherently wrong and should be rejected: there was no justification for the taking of human life even for the sake of national defence. For the political realist, in contrast, any such judgement was, and would remain, preposterous: the survival of the political collective under attack, the state (and Empire), transcended moral debate.

The application of just war reasoning to the situation is more complicated, with the *jus in bello* criteria of the just war tradition demanding proportionality of means and discrimination of combatant or other military targets.[51] If just war is approached as an absolute moral system whose criteria are applied as a straight choice between good and evil, the area bombing must be judged unjust. Because the deliberate killing of civilians – especially women and children not involved in industrial manufacture of weapons – violates the principle of discrimination. Furthermore, with the directives to Harris calling for him to use bombers to devastate whole areas[52] the just war get-out clause – the doctrine of double effect (I didn't *mean* to do it) – was similarly violated: deaths and other harm to civilians were intended.

The most (in)famous moral assessment of this aspect of the air offensive against Germany in the just war tradition was articulated by Michael Walzer in 1977 and is referred to as his 'supreme emergency' argument.[53] In his 'supreme emergency' Walzer allows for the waiving of the non-combatant immunity, and it occurs when a danger to the political community is overwhelming clear and imminent: a danger that is 'unusual and horrifying' and would result in

annihilation.[54] Even at Britain's lowest ebb before the United States had declared war against Germany in December 1941 it is questionable that the UK faced annihilation or similar. While it would be foolish to argue that the UK could, at that time, have launched a landing on mainland Europe and its army fought through to Berlin. However, its geographical positioning as an island with a substantial navy and air force and its political positioning within the British Empire, meant effective defence could have been maintained for a considerable time.

When viewed in this context, Walzer's supreme emergency argument cannot find legitimacy *within* the just war tradition: the deliberate killing of civilians precludes it from doing so and the degree of threat advocated by Walzer had not been met. Such an exception violates the deontological (rule-following) aspect of Walzer's just war in what he calls a 'legalist paradigm'.[55] In addition, given that the United Nations' Universal Declaration of Human Rights was not enacted until 1948, the rights-based ontology of Walzer's moral argument is open to the charge that he read such rights back into the events of the Second World War where they did not exist at the time. However, such observations do not completely negate the moral question. For this author, Walzer's supreme emergency argument does not exist within the outer limits of just war, but at the point at which such military action steps beyond the confines of just war into the realm of political realism and the need to protect the political community – the state – more than the need to protect the exigencies of just war thinking. Bellamy's considered understanding of the situation was that 'the British government and public reverted not to supreme emergency arguments but to a permissive doctrine of double effect. The British government deliberately misled its public about the purpose and aiming points of its bombing, and the public by and large accepted those erroneous claims'.[56] While this may well have been the case, the government's claims were not accepted without demur. David Hall explores in some detail not only the key debates that took place throughout the war in Parliament and beyond and the dissenting voices therein.[57] In particular, he highlights how the three wartime Archbishops of Canterbury brought the influence of the Church of England – then a more potent moral and political force than it is perceived today – to bear on the area bombing controversy.[58]

Returning to Bellamy, his cogent argument makes most sense when transposed to the level of the individual who comes under attack. (It is helpful to recall here that Aquinas' 13th century doctrine of double effect originally referred to individual homicidal self-defence and not to inter-state war[59]). Somebody who is in the process of being assaulted in the street is unlikely to be overly concerned about the means by which his or her protector stops the assailant's blows. However, once the attack is stopped there may subsequently be some awkwardness if the protector was seen to have resorted to the principles of the Glasgow razor gang rather than the Marquis of Queensbury rules. Survival brings with it that luxury, which today even has a name: survivor guilt.

An alternative moral reasoning that applies the just war criterion of proportionality to area bombing at the start of 1943 is less clear-cut than the individual-focused discrimination

argument – augmented by the doctrine of double effect – above. It also benefits from consideration of Augustine's just war in the fifth century: commonly acknowledged as the start of Western just war. As a theologian and bishop who practiced self-reflection and confession in a way that is still recognisable to modern Christians and non-religious self-help advocates alike,[60] Augustine was aware of humanity's capacity for evil and destruction. He was also aware of the complexity of human emotion, the dynamics of political communities from the family to the Roman Empire, the capacity for even the most God-fearing saint for sinfulness, and the capacity of evil-doers to sprinkle their debauched activities with occasional good. Elshtain describes that complexity: 'Augustine refuses to locate all good in one side, all evil in another – even, or most especially, in time of war'.[61] Consequently, when making a moral assessment of an activity like area bombing Augustine remains both relevant and disconcerting. It is uncomfortable to think that the Germany that gave the world Hitler's Reich and all it spawned also contained good: exemplified by martyrs such as Dietrich Bonhoeffer and the innocence of young children. That good was bombed, alongside the evil of munitions factories and aircraft manufacturers. Contrarily, not every British person that contributed to the attacks on Germany was a noble, honourable, reluctant dispenser of justice against an aggressor enemy. Vengeance and hatred could occupy a Lancaster bomber as easily as it could a Messerschmitt ME109. Returning to a comparative moral evaluation of the proportionality of area bombing, it is impossible to wholly separate causes, means and ends. There may have been blood on British hands but Hitler started the blood-letting. Should Churchill and the UK have withdrawn from the fight and allowed Hitler to strike continually and unopposed until his inevitable victory, his industrial might expanding continually without the damage, disruption and chaos inflicted by Bomber Command: even if it was much less than the pre-war air power prophets had anticipated? Nobody answered "No!" to that question more vociferously than Harris, so how should his actions be judged?

Augustine introduced into the just war tradition a notion of moral hierarchy that reflected his understanding of Divine teleological order. Augustine's ethical individual emerges in relation to war as follows:[62] 'when a soldier kills a man in obedience to the legitimate authority under which he served, he is not chargeable with murder by the laws of his country; in fact he is chargeable with insubordination and mutiny if he refuses. But if he did it of his own accord, on his own authority, he would be liable to a charge of homicide'.[63] The hierarchy of moral authority created by Augustine with regard to war takes the following form: soldier, general, legitimate [political] authority, the Creator [Augustine's God]. The higher up this hierarchy, the greater moral responsibility individuals bear, a pattern that is echoed today in a number of codes that set out the responsibilities of combatants and commanders.[64]

With Augustine's moral hierarchy in mind, what responsibility did Harris bear for his actions? Clearly he bore greater responsibility than the crews he ordered into action over Germany to drop High Explosives (HE) and incendiaries. Yet Harris had very little personal room for manoeuvre: his directives were set within a decision-making coalition of the Air Ministry

and the Joint Chiefs (with particular responsibility falling to Portal as Chief of the Air Staff), all overseen by Churchill and the War Cabinet. There is no scope within this paper to explore the minutiae of all the decisions relating to Bomber Command directives and the complex relationships within the hierarchy to which Harris answered.[65] Gray, helpfully, does provide a comprehensive insight into these relationships, describing how Churchill took on additional powers by appointing himself Minister of Defence alongside his responsibilities as Prime Minister, and quoting Churchill who said: 'fundamental changes in the machinery of war direction were more real than apparent'.[66] Furthermore, the particular influence of Portal on Churchill, and therefore on policy, is also explored by Gray who observed that Portal ' was able to persuade the Prime Minister without confrontation and had the analytical skills to be able to identify workarounds without compromising key principles'.[67] When Augustine's moral hierarchy is applied straightforwardly to the chain of command then it seems clear Harris should bear lesser moral responsibility with, correspondingly, the bomber crews bearing the least responsibility of all, and Portal and Churchill bearing the greater responsibilities respectively. Additionally, into the category of those who bear greater moral culpability than Harris for the area bombings also fall Lindemann, who provided the 'scientific' support that emboldened Churchill, the inter-war air power doctrinaires Trenchard and Douhet who spun such convincing tales about how effective the bombing of civilians would be, and Spaight and others at the Air Ministry who over several years helped transform doctrine into policy.[68] However, that broad summary of moral responsibility, like the chain of command itself, was not static, notably from Pointblank in 1943 until the end of the war.[69]

From Pointblank to Dresden

The Pointblank Directive of 10 June 1943 modified elements of the earlier directives and placed particular emphasis on 'the attack of German fighter forces and the industry in which they depend'.[70] However, there was an ongoing dispute between Harris and the British Air Staff regarding the best way to achieve that end: Harris preferring area bombing and the Air Staff preferring more precise targeting. However, intelligence limitations and the difficulty of conducting precision strikes – at least without prohibitive levels of Bomber Command losses – meant that the ideal and the possible were two distinct ends. The 'idealists' were keen to pursue precision bombing, which might more realistically be described as pursuing the illusion of precision bombing, while Harris used improvements in technology to facilitate more effective area attacks. Interestingly, in their later assessment of both bombing policy and practice Webster and Frankland were unable to establish whether, on the issue of precision versus area bombing, 'the Air Staff was right and [Harris] was wrong', but opined that 'it was Sir Arthur Harris who showed the more realistic appreciation of the possibilities'.[71]

That tension between a desire for precision strikes on the part of the Air Ministry – especially on oil, ball-bearing and communication targets – and Harris's conviction that area bombing was the most effective, and practical, approach continued unabated and came to a head over Autumn 1944/early 1945 in an exchange of DO letters between him and Portal. This period culminated in the bombing of Dresden, an event that has remained mired in controversy ever

since. Both of these factors – the exchange of letters and the Dresden bombing – should be considered further in assessing Harris's moral responsibility.

As 1944 progressed, Operation Overlord made its contribution to the success of the D-Day landings and the establishing of a foothold on mainland Europe. A directive on 14 September 1944 stated that control of the British and American strategic bomber forces in Europe had been restructured with control given to Portal and General Henry 'Hap' Arnold respectively. Despite this change the task remained consistent: 'The overall mission of the strategic air forces is the progressive destruction and dislocation of the German military, industrial and economic systems and the direct support of land and naval forces.'[72] Crucially, the directive applied to both Bomber Command and its American counterparts and undermines Grayling's[73] over-simplified differentiation of the two in their execution of bombing: 'When weather or tactical considerations are unsuitable for operations against specific primary objectives, attacks should be delivered upon important industrial areas by both Bomber Command R.A.R. and U.S.St.A.F.E. (using blind techniques as necessary).'[74] Although Bomber Command's night operations naturally lent themselves more obviously to blind area bombing, the tactic continued to be a mainstay of *both* air forces when conditions for the more precise bombing of specific targets was absent.

In his Foreword to Harris's *Despatch on War Operations* Cox assesses the number and types of attack made by Bomber Command in the year following the *Pointblank* Directive of June 1943, concluding: 'At least fifty percent of the targets had some direct connection to *Pointblank*'.[75] Cox's assessment is significant because it refutes suggestions that Harris flagrantly ignored or disobeyed orders concerning targeting, thereby reducing the charge against him to one of interpreting (as was his right) his directives in a manner more agreeable to his personal priorities: two very different propositions with two parallel degrees of moral culpability. Harris confirmed his personal inclination in his *Despatch* when he stated that by the second half of September 1944 it had become possible to 'resume the campaign against German industrial cities ... the return of Bomber Command to its proper strategic role'.[76] This re-prioritization had accompanied the transfer of operational control 'from the Supreme Allied Commander to the Chief of the Air Staff'.[77] The implication here being that CAS either supported or facilitated Harris's bombing emphasis in a way, or to a degree, that SAC had not.

The relationship between Harris and Portal, especially the degree to which Portal somehow 'let Harris get away with' ignoring both him and the orders he issued is undoubtedly significant in any attempt to assess the degree of moral responsibility both men bore in relationship to area bombing in general and, later, Dresden in particular.[78] Hastings asserts that Portal 'finally showed himself unable to exert authority over Sir Arthur Harris'.[79] In contrast, following a detailed analysis of the number of Bomber Command sorties flown, their targets, the weather during the period and the damage done to oil production, Cox concludes that 'Portal's attempts to persuade Harris ... were ultimately largely successful in achieving a greater weight of effort

on oil targets'.[80] Cox provides an analysis of the bombing statistics by target for the final three months of 1944 which leads him to the conclusion that Portal, at best given the multiple constraints in operation, could have forced Harris to an increase of a further 25% in oil targeting, from 14% to 18% overall: hardly a war-changing degree of difference.[81] While Cox's figures remain open to scrutiny it is unlikely that they could alter to a degree that would significantly shift the relative culpability of either Portal or Harris. All of that arguing would be overshadowed by what came next: Dresden.

On 25 January 1945 Churchill wrote to Archibald Sinclair, Secretary for Air: 'I did not ask you last night about plans for harrying the German retreat from Breslau. On the contrary I asked whether Berlin, and no doubt other large cities in East Germany, should now be considered especially attractive targets.'[82] Subsequently, a letter from Bottomley, Portal's deputy, on 27 January 1945 contained further instructions for Harris. According to Bottomley, Portal agreed that 'subject to the overriding claims of oil and the other approved target systems within the current directive, we should use available effort in one big attack on Berlin and related attacks on Dresden, Leipzig, Chemnitz or any other cities where a severe blitz will not only cause confusion in the evacuation from the East but will also hamper the movement of troops from the West'.[83] In addition, Harris would undertake these attacks, subject to the qualifications about oil and other priority attacks 'as soon as moon and weather conditions allow'.[84] According to Cox's description of events in the lead-up to the bombing of Dresden, 'What had started as a Churchillian prod had now become a prime ministerial demand for action'.[85] Over the next few days Bottomley and Portal worked to ensure these targets were confirmed and approved by a number of key figures:[86] 'the list of endorsements for the bombing of [Dresden], implicit or explicit, now ranged from the Prime Minister, down through the British Chiefs of Staff (including the CAS), the Chief of Staff of the US Army, the British Vice-Chiefs of Staff, the Deputy Supreme Commander, the Commander USSTAF, the JIC, and in the Air Ministry the DCAS and the Director of Bomber Operations'.[87] The number of individuals more senior to Harris in the chain of command who were not only privy to the information about Dresden as a potential target but who were complicit in approving it as such is impressive and undermines the credibility of any claim that Harris in some way chose and pursued Dresden as a target of his own volition.

At the same time as Harris was receiving his instructions Sinclair wrote to Churchill confirming that attacks would be made, circumstances permitting, on Berlin, Dresden, Leipzig and Chemnitz, the cities that had been specified to Harris. Sinclair also added: 'The use of night bomber forces offers the best prospects of *destroying these industrial cities* without detracting from our oil offensive targets.'[88] According to Taylor, this minute was acknowledged by Churchill on 28 January 1945 without comment.[89] With Portal referring to a 'severe blitz' causing confusion in the movements of civilians and soldiers in the East of Germany and Sinclair communicating with Churchill about 'destroying these industrial cities', the subsequent isolation of Harris and his moral scapegoating over Dresden was both cowardly and reprehensible on the part of those senior to him in the chain of command, up to and

including Churchill. Consistent with the moral hierarchy introduced earlier, leadership responsibility and moral culpability for Bomber Command's actions after 27 January 1945, especially the bombing of Dresden, is shared in descending order of importance by Churchill, the Air Ministry, Portal and the other Chiefs, Harris and his crews. However, the degree of culpability is dictated by the extent to which freedom of thought and action could be exercised, with Churchill having the greatest moral responsibility, the bomber crews the least. Harris is barely more culpable than his bomber crews who had no choice in the matter; his personal support for area bombing and the targeting of Dresden does not increase his moral responsibility because he had no authority with which to refuse the attack.

In the weeks that followed the attacks on Dresden (the Bomber Command attack and the two follow-up American attacks), public disquiet began to emerge, eventually prompting Churchill to issue his now infamous 28 March 1945 memorandum to General Ismay and the Chief of the Air Staff. In what reads like a clear attempt to shift responsibility he stated: 'It seems to me that the moment has come when the question of the bombing of German cities for the sake of increasing the terror, though under other pretexts, should be reviewed ... The destruction of Dresden remains a serious query against the conduct of Allied bombing'.[90] Harris's furious response would prompt a withdrawal of the memo and the issuing of a less provocative replacement on 1 April, where the reference to 'increasing terror, though under other pretexts' was dropped.[91] Hansen described this watershed as the point where 'Churchill-the-commander was giving way to Churchill-the-historian'.[92] Similarly, Hastings described this turn of events as Churchill's attempt to 'distance himself from the bombing of Dresden and the rising controversy surrounding area bombing'.[93] Adding another perspective is Oliver Haller who addresses Churchill's concerns as he looked forward to the difficulties of post-war re-industrialisation of Germany.[94] For Haller, Churchill was not motivated primarily from 'post-Dresden guilt' but from an understanding that 'the destruction of industrial assets needed for reconstruction or at least as part of a reparations settlement made no economic or humanitarian sense at all'.[95] While these assessments are convincing from a historical perspective, from a moral perspective Churchill's actions are more damning: they indicate a willingness on the part of Britain's great war-time leader to abdicate moral responsibility for acts that he co-authored and on whose authority they rested.

Harris's determination to publicly, almost aggressively, stand by the actions of his Command without apology or regret was, from a leadership perspective, no doubt a comfort and inspiration to the crews who had dropped the bombs. However, given the deafening silence of his superiors, through his obduracy Harris effectively marked himself out as the scapegoat upon whom, erroneously, the greater moral responsibility would publicly be weighed. While more astute military leaders and political figures followed Churchill's example (nobody in Harris's chain of command publicly echoed his trenchant endorsement of the area bombing of Dresden) Harris stood alone, defiant and destined to bear the moral culpability of his superiors.

Conclusion

Many of the arguments about Harris's policies towards the end of the war focus upon the relative success and strategic consequences of the targeting of oil infrastructure and the targeting of cities. Air power and other historians, as well as moral philosophers, will debate forever the merits of one over the other and the contributions to both made by Bomber Command. Historians have one major advantage in making their judgements of Harris who had to make terrible decisions with awful consequences in the heat of battle: the benefit of 20/20 hindsight and access to far more, and more accurate, information than he did. Furthermore, they (we) do so from the safety and security of political stability and seven decades of peace in Western Europe. If the morality of the actions of Harris and his bombers are to be judged in absolute terms then they will be forever guilty and their names will live on in ignominy. However, when Harris's actions are assessed comparatively, the outcome is somewhat different: the lesser evil prevailed over the greater evil, though there remained evil on both sides.

After the fact, the world had and retains a greater appreciation of the impact of the oil strategy but, in parallel, the world also has a greater appreciation of Hitler's Final Solution that has similarly to be weighed retrospectively: more than a million men, women and children were killed at Auschwitz alone. If Bomber Command reduced the length of the war by one day how many Jews were saved? What if Bomber Command reduced the length of the war by a week? By a month? Such a grotesque numbers game can never be accurately completed and it would seem perverse to even try. However, these numbers remind us that when great evil stalked Europe and Britain had to take the fight to its Nazi enemy, Harris more than anyone was prepared to embrace a lesser evil in order to defeat it. He never shirked from his task, never denied it, never apologised and never regretted his actions. Harris had blood on his hands and never tried to hide it, and it was this that singled him out as a scapegoat. Churchill wanted his legacy and many in the country wanted to forget what they had demanded of Harris in the darkest of hours when fear and danger were overwhelming.[96] It is time we remembered Harris's role and moral culpability in its proper perspective and recall him from the wilderness.

Notes

[1] New International Version.
[2] Jean Bethke Elshtain, *Just War Against Terror* (New York: Basic Books, 2004) p. 9.
[3] Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany 1939-1945*, IV Vols. (London: Her Majesty's Stationery Office, 1961), hereafter SAOG.
[4] Sebastian Cox, 'Setting the Historical Agenda: Webster and Frankland and the Debate over the Strategic Bombing Offensive against Germany, 1939-1945', in Jeffrey Grey (Ed.) *The Last Word? Essays on Official History in the United States and British Commonwealth* (Westport, Conn.: Praeger, 2003) pp. 147-173.
[5] The Hague Convention, 29 July 1899, Declaration IV.1, *To Prohibit, for the Term of Five Years, the Launching of Projectiles and Explosives from Balloons, and Other Methods of Similar Nature*, located

at http://www.icrc.org/ihl.nsf/INTRO?OpenView, accessed 10 October 2012.
[6] Lord Montagu of Beaulieu, House of Lords Debate, 16 March 1909, Vol 1, cc456-64, located at http://hansard.millbanksystems.com/lords/1909/mar/16/aerial-navigation, accessed 27 September 2012.
[7] Arthur Lee, House of Commons Debate on Military and Naval Aeronautics, 2 August 1909, Vol , cc1580-82, located at http://hansard.millbanksystems.com/commons/1909/aug/02/naval-and-military-aeronautics, accessed 27 September 2012.
[8] Arthur Lee, Ibid., cc. 1575-6.
[9] See also John Gooch, 'Attitudes to War in Late Victorian and Edwardian England', in *The Prospect of War* (London: Frank Cass, 1981) pp. 35-51.
[10] Tami Biddle Davis, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945* (Princeton and Oxford: Princeton University Press, 2002) p. 11.
[11] See Ibid., Chapter 1, pp. 11-68.
[12] *Rules concerning the Control of Wireless Telegraphy in Time of War and Air Warfare*, drafted by a Commission of Jurists at the Hague, December 1922 - February 1923, located at http://www.icrc.org/ihl.nsf/FULL/275?OpenDocument, accessed 4 October 2012.
[13] Peter Gray, 'The Gloves Will Have To Come Off: A Reappraisal of the Legitimacy of the RAF Bomber Offensive Against Germany', *Air Power Review*, Vol. 13, No. 3 (Autumn/Winter 2010) p. 16. In this article Gray provides an detailed discussion of legal developments and moral arguments surrounding aerial bombing in the inter-war years. See also Peter Gray, *The Strategic Leadership and Direction of the Royal Air Force Strategic Air Offensive Against Germany From Inception to 1945*, PhD Thesis, University of Birmingham, 2009, pp. 196-203.
[14] For a recent, comprehensive summary of the attempts to secure international legal restrictions on the use of aerial bombardment, especially against civilians, see Gray's PhD Thesis, Ibid., Ch. 2. See also Michael Howard (Ed.) *Resraints on War: Studies in the Limitation of Armed Conflict* (Oxford: Oxford University Press, 1979); M.W. Royse, *Aerial Bombardment and the International Regulation of Warfare* (New York: Harold Vinal, 1928).
[15] Basil Liddell Hart, *Paris or the Future of War* (London: E. P. Dutton and Co, 1925) p. 27.
[16] Hugh Trenchard, 2 May 1928, *Memorandum by the Chief of the Air Staff for the Chiefs of Staff Sub-Committee on The War Object of an Air Force*, in SAOG, Vol. IV, p. 72.
[17] Ibid., p. 73.
[18] Ibid.
[19] G.F. Milne, 16 May 1928, Ibid., p. 81.
[20] G.F. Milne, 16 May 1928, Ibid., p. 79.
[21] J.M. Spaight, *Air Power and the Cities* (London, New York & Toronto: Longmans, 1930) p. 227-8.
[22] J.M. Spaight, *Air Power and War Rights*, 2nd Edn. (London: Longmans, 1933) p. 259, cited in Gray, 'The Gloves Will Have To Come Off' p. 18.
[23] Gray, 'The Gloves Will Have To Come Off', p. 18.
[24] Spaight, *Air Power in the Next War*, p. 164.
[25] Ibid., p. 166.
[26] Ibid., p. 173.
[27] Frederick Taylor, *Dresden: Tuesday 13 February 1945* (London: Bloomsbury, 2005) p. 88.

[28] Winston Churchill, *The Second World War, Vol. II* (London: The Reprint Society, 1949) p. 567, cited in Bellamy, *Ethics of Terror Bombing*, p. 52.
[29] Directive, 13 April 1940, *SAOG, Vol. IV*: p. 109-10.
[30] Ibid.
[31] Winston Churchill, 20 August 1940, Statement to the House of Commons, transcript located at **https://www.winstonchurchill.org/learn/speeches/speeches-of-winston-churchill**, accessed 11 September 2012 (*Italics added*).
[32] Adolf Hitler, 4 September 1940, Speech at the Berlin Sportpalast, translated transcript located at **http://der-fuehrer.org/reden/english/40-09-04.htm**, accessed 11 September 2012.
[33] Ibid.
[34] *SAOG, Vol. IV*, 21 September 1940, p. 127.
[35] Ibid., 30 October 1940, p. 129.
[36] Ibid., 9 July 1941, p. 136.
[37] Ibid., 14 February 1942, p. 144.
[38] Arthur Harris, *Bomber Offensive* (London: Greenhill Books, 1998) p. 70.
[39] Ibid., p. 176.
[40] Ibid., p. 22-3.
[41] Henry Probert, *Bomber Harris: His Life and Times* (London: Greenhill Books, 2003) p. 104.
[42] Ibid.
[43] The Lindemann Memorandum, or Cherwell Report, reproduced in Max Hastings, *Bomber Command* (London: Michael Joseph Limited, 1979), pp. 127-128.
[44] Hastings, *Bomber Command*, p. 128.
[45] Biddle, *Rhetoric and Reality*, p. 262.
[46] Ibid., p. 200.
[47] *SAOG, Vol. IV*, 5 May 1942, p. 148 (*Italics added*).
[48] Ibid., 14 January 1943, p. 152.
[49] Ibid., 21 January 1943, p. 153.
[50] Jean Bethke Elshtain, 'Just War and Humanitarian Intervention', *Ideas*, Vol. 8, No. 2 (2001) p. 2.
[51] For further explication of just war criteria see Norman, R., *Ethics, Killing and War* (Cambridge: Cambridge University Press, 1995) p. 118. For similar summaries see Bellamy, A. J., *Just Wars: From Cicero to Iraq* (Cambridge: Polity Press, 2006) p. 121–3; McMahan, J., 'Just Cause for War', *Ethics & International Affairs*, Volume 19, No. 3 (Fall 2005) p. 5; or Rengger, N., 'The Ethics of War: The Just War Tradition', in Bell, D., (Ed.) *Ethics and World Politics* (Oxford: Oxford University Press, 2010) pp. 296-298.
[52] *SAOG, Vol. IV*, 14 January 1943, p. 152.
[53] Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations*, (New York: Basic Books, 1977) pp. 251-255.
[54] Ibid. p. 253.
[55] Michael Walzer (2000) J*ust and Unjust Wars*, 3rd Edition (New York: Basic Books) pp. 61-2.
[56] Alex Bellamy, 'The Ethics of Terror Bombing: Beyond Supreme Emergency', *Journal of Military Ethics*, Vol. 7, No. 1, (2008) p. 60.
[57] For an extended and detailed discussion I recommend David Hall, 'Black, White and Grey:

Wartime Arguments for and against the Strategic Bomber Offensive', in *Canadian Military History*, Vol. 7, No. 1 (Winter 1998) pp. 7-19.

[58] Hall summarises the positions of Archbishops Cosmo Lang, William Temple and Geoffrey Fisher with regard to the bombing campaign against Germany as reluctant, 'yet with unwavering conviction ... a necessary evil in a far from perfect human world' (Ibid. p. 13). Dissenting from this position throughout the war was George Bell, Bishop of Chichester, who criticized strategic bombing in both Parliament and the Press, and Reverend John Collins: who both incited and encouraged individuals of high rank and low – including Parliamentarians – to oppose the bombing campaign (Ibid., p. 14).

[59] Thomas Aquinas, *Summa Theologica*, Trans. Fathers of the English Dominican Province, Rev. Edn., Benzinger Brothers, 1948 (Reprinted Westminster, MD: Christian Classics, 1981), II-II, Q. 64, A. 7, p. 1961.

[60] See Augustine, *Confessions and Enchiridion*, (397) Trans. Outler, A.C. (Grand Rapids, MI: Christian Classics Ethereal Library, 2000).

[61] Jean Bethke Elshtain, (Ed.) *Just War Theory* (New York and London: New York University Press, 1992) p. 4.

[62] For a full explication of the ontological basis of this argument see Peter Lee, *A Genealogy of the Ethical Subject in the Just War Tradition*, PhD Thesis Submitted to King's College London (May 2010) p. 103.

[63] Augustine, *City of God*, Trans. Henry Bettenson (London: Penguin Classics, 2003) I. 26, p. 37.

[64] See, for example, *The Queen's Regulations for the Royal Air Force, or Aide Memoire on the Law of Armed Conflict*, JSP 381, Revised February 2005, Ministry of Defence, located at **http://www.mod.uk/NR/rdonlyres/749088E6-E50A-470E-938D-459A74481E88/0/jsp381.pdf**.

[65] Peter Gray provides such an analysis in his PhD thesis (see Notes 13,14 above): 'The Interface between the Politicians, the Air Ministry and Bomber Command', p. 251ff.

[66] Winstion Churchill, *Second World War*, Vol. II, p.15, cited in Gray, Ibid., 2010, p. 254.

[67] Ibid., p. 255.

[68] For a brief summary of the specific agencies involved in the formulation of bombing policy see Sebastian Cox (Ed.), *The Strategic Air War Against Germany 1939-1945: Report of the British Bombing Survey Unit* (London and Portland, Or.: Frank Cass, 1998) p. 12.

[69] For detailed diagrams of the policy-making hierarchy see Ibid., Figures 1-3, following p. 12.

[70] *SAOG, Vol. IV*, 10 June 1943, p. 158-60.

[71] *SAOG, Vol. III*, p. 294.

[72] Directive, 14 September 1944, *SOAG, Vol. IV*, p. 171.

[73] Anthony Grayling, *Among The Dead Cities* (London: Bloomsbury, 2006, p. 266-9.

[74] Directive, 14 September 1944, *SOAG, Vol. IV*, p. 171.

[75] Sebastian Cox, Introduction to Sir Arthur T. Harris, *Despatch on War Operations: 23rd February 1942 to 8th May 1945* (London: Frank Cass, 1995) p. xx.

[76] Harris, *Despatch*, Para. 163, p. 30.

[77] Ibid.

[78] Critique of Harris's actions at this time can be found in Hastings, *Bomber Command*, pp. 328-36.

[79] Ibid., p. 328.

[80] Cox, Introduction to *Despatch on War Operations*, p. xxiii.
[81] Ibid., p. xxii.
[82] Winston Churchill, 25 January 1945, cited in Taylor, *Dresden*, p. 212.
[83] Norman Bottomley, 27 January 1945, Letter to Arthur Harris, *SAOG, Vol. IV*, p. 301.
[84] Ibid.
[85] Sebastian Cox, 'The Dresden Raids: Why and How?' in Paul Addison and Jeremy A. Crang (Eds.) *Firestorm: The Bombing of Dresden, 1945* (London: Pimlico, 2006) p. 25.
[86] Ibid., pp. 24-29.
[87] Ibid., p. 28.
[88] Sinclair, cited in Taylor, *Dresden*, p. 213 (*Italics added*).
[89] Ibid.
[90] Churchill memo to General Ismay and Chief of the Air Staff, 28 March 1945, in *SAOG, Vol. III*, p. 112.
[91] Randall Hansen, *Fire and Fury: The Allied Bombing of Germany, 1942-1945* (London: NAL Caliber, 2009) p. 272.
[92] Ibid., p. 271.
[93] Hastings, *Bomber Command*, p. 344.
[94] Oliver Haller, 'Destroying Hitler's Berghof: The Bomber Command Raid of 25 April 1945', in *Canadian Military History*, Vol. 20, No. 1 (Winter 2011) p. 6.
[95] Ibid.
[96] I exempt from this generalised comment all of those individuals who, even when Britain was at its lowest ebb, raised the morality question and were not deterred in asking it, even if their views were not popular.

A Historical Perspective on Defence Procurement - The Competition for the Replacement of the Avro Shackleton Mk.1 & 2, 1963-1966

By Flight Lieutenant Tomas Yonge

Royal Air Force procurement during the 1960s was dominated by several ill-fated, high profile projects, most notable of which was the BAC TSR2 aircraft. The general election in the autumn of 1964 brought Labour back into power, and with it came the cancellation of the majority of these programmes in order to provide for the continued support of the Concord [sic] airliner project during a period of economic hardship. In the midst of this came a requirement to replace the ageing Shackleton Mk.1 and 2 Maritime Patrol Aircraft (MPA) with a low cost interim aircraft, designed to last until the late 1970s. To understand the driving forces behind a MPA procurement in such a turbulent period, the political, military, economic and industrial variables are considered. By assessing the issue from these different directions it is possible to understand why an expensive, low volume, British built solution was arrived at in the form of the Hawker Siddeley Nimrod MR.1, which on the face of it represented the polar opposite to the original procurement requirement.

Introduction

The Cold War during the first half of the 1960s, saw a shift in defence focus within NATO, primarily in response to the Berlin and Cuban Missile Crises, to one of nuclear weapons as a first strike option against Soviet aggression.[1] In Britain this shift was typified by the decision by the Conservative government of MacMillan in December 1962 to purchase submarine launched Polaris nuclear weapons, thereby allowing Britain to maintain a modern independent nuclear capability in the deterrent era.[2] British defence policy was centred on three core roles; the defence of Western Europe through membership of NATO, retaining a strategic nuclear force, and maintaining a world-wide military presence to preserve peace.[3] The world-wide commitment, commonly referred to as Britain having a presence 'East of Suez', was a formidably expensive undertaking, and formed the last vestiges of Britain as an imperial power. The economic stagnation of the early 1960s, coupled with the continued threat of devaluation of the Pound, led to the realisation that Britain could not undertake these commitments alone.[4]

As a result there was an increased level of internationalism within British policy throughout these years as the Government was forced to look to both the United States and Europe for mutually beneficial co-operation. This need to win favour on both sides of the Atlantic can be seen, with regard to America, in the purchase of Polaris missiles and the subsequent aircraft and equipment orders placed with American companies under the Wilson administration.[5] In Europe, the efforts to gain French support for British entry into the European Economic Community (EEC) were seriously dented by French President De Gaulle's veto on the subject on 14 January 1963.[6] This made the Anglo-French Concord airliner programme of vital importance, for although it was barely affordable, the French Fifth Republic saw it as a matter of international prestige, and therefore in order to keep the door open to EEC membership, Britain had no choice but to support the endeavour.[7]

Whilst the question of co-operation with the French is common throughout the period, with regard to working with the Americans there were differences between the Conservative and Labour governments over the importance of supporting American foreign policy in order to retain their economic support.[8] Although it was a Conservative decision to purchase Polaris - something that Labour claimed in their 1964 manifesto that they would renegotiate - it was Labour that took up the mantle of future trans-Atlantic integration through the increased level of military equipment purchases.[9] The concept of buying American aircraft had been a sensitive subject under MacMillan following the backlash in the press over the Royal Navy's decision to replace Sea Vixen with American Phantoms rather than British P1154s.[10] That loss of the Royal Navy deal was estimated to have cost Hawker Siddeley £150m.[11] Yet despite this, after the General Election there was a greater willingness to forgo the needs of British industry and buy equipment off the shelf from America, particularly if it carried the twin benefits of diplomatic advantage and economic rationalisation.

This growing financial and technological need for interdependence between Britain and other nations was evident within the Maritime Patrol Aircraft (MPA) field, as attempts were made

with both Canada and France to establish a working arrangement that would not only be beneficial militarily, but also economically, and serve as a springboard for the domestic aviation industry.[12] This was all at a time when it was accepted by the Ministry of Defence that world-wide, up until 1975, the submarine threat would predominantly come from conventional diesel powered boats,[13] and that nuclear powered submarines were effectively undetectable.[14] The concern was that there was a definite need for a step up in research and development into vital new Anti-Submarine Warfare (ASW) technologies, rather than the purchase of new airframes in the short term, and the Royal Air Force considered that international co-operation was the best way of achieving this breakthrough.[15] The apparent invulnerability offered by nuclear submarines was a major consideration in the British decision to transfer the delivery of nuclear weapons from the Royal Air Force's V-Force to the Navy's submarines, and this belief resulted in MPA procurement not focusing on the issue of protecting the deterrent during the 1960s.[16] This difficultly of detecting nuclear submarines gave the Polaris fleet the ability to evade surprise attacks, offer a second strike capability, and gain flexibility of positioning of the delivery vehicle outside of Britain.[17] The matter of replacing the ageing Shackleton force instead rested on whether an aircraft could be procured that was not only economically viable, but also represented a technological leap forward.

In order to achieve this economic value, both overseas and domestic offerings were considered, and ultimately the Labour government decided in early 1965 to procure the British H.S.801 maritime Comet, designated Nimrod MR.1.[18] In the light of the priorities of interdependence and financial prudence, the Nimrod programme is almost unique in being a British programme that appeared to counter the broad Labour policy of buying foreign aircraft, and equally uniquely saw financial saving during production.[19] The factors that need to be considered in understanding this decision are centred on why the attempts to purchase the French led NATO MPA, the Atlantic, were unsuccessful, and how much influence the British aviation industry and the Ministry of Aviation (MoA) were able to exert on this process. The Nimrod was not the only British proposal tabled during this procurement, and was the least technologically advanced of the domestic offerings, and as such the question arises as to what made it successful where so many others failed - both in terms of the specification on offer, and their financial viability. Finally, the political landscape of the time was highly dynamic, and the way Britain was trying to integrate with the world in the post-colonial period had a bearing on every aspect of government policy, of which MPA procurement was but one part.[20] By assessing these various areas it is possible to understand the reasoning behind such an apparently unlikely procurement.

The need for a new MPA to replace the Shackleton came to the fore in the early 1960s due to the high fatigue rates experienced across the fleet, particularly on the older Mk.2 aircraft.[21] The rapid increase in MPA tasking from the Royal Navy, in order to fulfil the role of surveillance of the Soviet Navy, had effectively worn the aircraft out.[22] This strategic shift saw a move away from the convoy protection mantra of the 1950s into one more in keeping with the new policy of deterrence, by being proactive rather than reactive in nature, the demands on the fleet

changed dramatically.[23] Although a programme of reconditioning and modernisation of both the Mk.2 and Mk.3 was underway, this would only have extended the life of the Mk.2 until 1972, thus the Royal Air Force was forced into giving it an out of service date of 1970.[24] Due to the limited advancements in submarine detection, the expectation was that the Mk.3 could remain in service until the late 1970s, thus there was an interim requirement for a cost-effective aircraft to be introduced by 1969, and which could be replaced in the late 1970s along with the Shackleton Mk.3s. This ultimate replacement would be a highly advanced aircraft built to the heavily armed and near supersonic specification laid down in AST 357.[25]

The problem of replacing the Mk.2s was identified in early 1964, and immediately there was a need for the project to be quickly authorised, as in order to make it financially viable, the Royal Air Force had to have the bulk of the expenditure fall in the period 1966-69, as 1970-73 would see the huge outlays on the TSR2, HS681 and P1154 programmes.[26] Thus a cheap off the shelf solution would have solved the issue of financial timings, and an early introduction of the type would have allowed for the final Mk.2 modernisation phase to be cancelled, saving £15m.[27] These off the shelf options were limited to two foreign aircraft, the American Lockheed Orion, and the French led NATO Breguet Atlantic.[28] The British aviation industry did propose conversions of the BAC VC10 and the Hawker Siddeley Trident, which were seen as being more technically advanced than the foreign offerings due to having been designed for AST 357. However, these aircraft were hampered by being too large, too expensive, and would take too long to enter service, the very things the Royal Air Force was desperate to avoid.[29] Thus the decision for the Ministry of Defence was not one based around which aircraft would be tactically superior, but instead which would be politically favourable and economically viable.[30]

The question of political favourability was not just an international issue, but also a domestic one. A purchase of the Orion would simply be an import of a complete aircraft and associated equipment from America, with no scope for having some of the work carried out by British industry. The Atlantic programme however, was a joint NATO project, and thus the engines were already sourced from Rolls-Royce, and the propellers from de Havilland. This workload totalled six percent of the project. However, a British buy would have resulted in an increase to ten percent on foreign orders and twenty one percent on British orders.[31] In February 1964 ACAS (OR) summed up the situation by stating that, "A further buy overseas following the Phantom is not going to be popular but might be more digestible if French rather than American and if it can be part of a package deal which will put work into British Industry."[32] It is this factor of British industry involvement that firmly swung the balance in favour of the Atlantic.

The factor of British industry carried two main benefits. Firstly, through the increased work on foreign orders for the Atlantic, revenue would have been generated that would have assisted the balance of trade, and thereby lowering the perceived unit cost of the aircraft bought by the Royal Air Force. Secondly, it could be presented to the press as Britain partaking in a

European consortium rather than the procurement simply being a foreign buy.[33] There was also a strong belief that European integration could lead to further shared defence contracts and thus increased domestic employment.[34] Although the involvement of British industry was seen as an excellent driver to gain political approval for the procurement, all such factors would ultimately come second to economic considerations. As the French were only prepared to see a maximum of twenty one percent of the Atlantic build programme transferred to Britain, it was determined that this alone was not a sufficient financial incentive to buy the aircraft.

The political line throughout the summer of 1964 was the need for a 'quid pro quo' to come from the French.[35] The preferred British option was a French purchase of the P1154 supersonic VTOL fighter, which had been turned down by the Royal Navy. With the programme struggling with the Royal Air Force as the only customer, a replacement buyer for the Navy's aircraft was given a high priority. The main stumbling block to this was the French Mirage IIIV [sic], an aircraft that fulfilled a similar role and was therefore in direct competition with the British design.[36] There were efforts made by Rolls-Royce to have their engine fitted to the Mirage IIIV, however these were rebutted by the French, who stated that the only way this could occur was if Britain purchased the fighter.[37] This is not to say that the French were completely against the concept of establishing a quid pro quo arrangement over the purchase of Atlantic. However, their proposal of a French procurement of Bloodhound surface-to-air missiles was turned down by the Ministry of Defence (MoD) as being insufficient financially.[38]

The British need for a highly lucrative incentive to justify an Atlantic purchase was what ultimately killed the project off, such that by July 1964 the Cabinet view was firmly that only a French purchase of P1154 would allow the Atlantic deal to go ahead.[39] Even with last ditch efforts to react to French interest in first the Canberra PR.9 reconnaissance variant, and then, as late as November 1964, with the possibility of a sale of the Hunter as a low level trainer as a quid pro quo for the Atlantic, failed to convince the Cabinet as to the merits of the proposal.[40]

These final efforts demonstrate both how keen the MoD was on obtaining the Atlantic, and equally how stubborn Cabinet was in refusing it. Despite the overarching desire to promote British involvement in Europe in an effort to reignite the entry bid for the EEC, it is clear that such a move would have to come at a price. What is also apparent through the detailed attempts to procure Atlantic rather than the British proposals, and the ultimate result, which was the British Nimrod, is that both the Treasury and the Ministry of Aviation held greater sway over the process than the Ministry of Defence. In the case of the Treasury this is understandable, particularly at a time of economic hardship and difficult defence procurements. The Atlantic purchase was seen by the MoD as a way of avoiding yet another difficult domestic procurement, and even though the MoA was seen as responsible for the large scale cost overruns on the other aircraft projects, they still carried a high level of influence, alongside the domestic aircraft industry. Thus their roles in general must have been a crucial factor in Britain deciding on a brand new, high cost, low volume, domestic aircraft – the very thing the MoD and arguably the Treasury were trying to avoid.

Initially the MoA had proposed conversions of the VC10 and Trident as rivals to the Atlantic and Orion, as these were aircraft that had originally been intended to meet Air Staff Target (AST) 357. The interim aircraft specification in Air Staff Requirement (ASR) 381 was written specifically for the prop-driven Atlantic rather than the domestic offerings. Thus these proposals, which as even the BAC Technical Director admitted, did not even quite meet AST 357,[41] were viewed with suspicion from within the military. Air Cdre Knott (DOR2) remarked that "there are signs that a body of opinion within MoA would force an adapted British aircraft on us at almost any price."[42] The VC10 bid was reported in *The Daily Telegraph* to cost three times that of the comparative Atlantic procurement,[43] demonstrating that financial concerns were leaked into the public domain, even though such details would have been closely guarded. The financial pressures of the time put the Atlantic as the clear favourite, but this did not stop the MoA looking at the benefits to British industry over and above the actual product to be delivered. A letter regarding the budget for an interim aircraft sent by the Assistant Under-Secretary of the MoA to his opposite number in the MoD, stated that, "This sum [£100m] would be much better spent in the British aircraft industry."[45] This was despite the fact that the most optimistic quote for the Trident programme, which was the cheapest of the British submissions, was already running at £342m.[46] The Trident programme would therefore never have been able to meet the tight budget requirements, and regardless of the socioeconomic benefits, giving the money to British Industry would be a waste for the MoD.

The delays in gaining approval for the Atlantic were seen within the MoD as having originated from within the MoA. The Chief of the Air Staff remarked to the Minister for the Royal Air Force in June 1964 that the MoA would welcome a delay that put the decision back until after the summer recess,[47] and the decision to refer the procurement to the Weapons Development Committee, at the behest of the MoA, further slowed the process, and gave British industry more time to lobby for their designs.[48] The disquiet with the actions of the other side was equally fierce on the side of the MoA and Industry. The head of Hawker Siddeley, Arnold Hall, in a meeting with the Permanent Under-Secretary to the MoD in July 1964 pushed the emotive case that unless the Government had decided "…under no circumstances would they buy British aircraft…" that he hoped the Hawker proposals would be given full consideration.[49] Not all Industry figures were as indirect with their implications in their lobbying. Sir George Edwards, the Executive Director of BAC, stated in autumn 1964 that the Government's image in the aviation industry needed a boost before the General Election, and that a purchase of the BAC 1-11 maritime variant could make it easier for the Conservatives to retain the Preston seat.[50] That the Preston South seat swung to Labour with a small majority may or may not have been due to Industry lobbying, but the intent to influence political decision making cannot be ignored.[51]

This aggressive stance taken by the MoA, on behalf of British Industry, is in contrast to that of the Ministry of Supply during the 1950s, when the Air Ministry and Ministry of Supply worked together rather than against each other. The fundamental reasoning behind this is

due to the shift in both civilian and military aircraft procurements throughout this period as American aircraft began to dominate the international stage.[52] The initial requirement for the Shackleton, issued in 1946, was for one specific aircraft design with no competition.[53] Even with the early 1950s Shackleton Mk.3 bidding, the competition was only between British firms.[54] However the ASR 381, like other Royal Air Force procurements of the time was not only open to foreign bidders, but in some cases, such as this, the overseas companies' offerings were the preferred option. The Navy's purchase of Phantom had clearly concerned the MoA and Industry. Whilst the Navy had played on the fact that there were a large number of aircraft projects underway for British industry, and therefore had hoped that the MoA would not object to a comparatively small foreign purchase for the Fleet Air Arm.[55] Although equipping the US designed Phantoms with Rolls-Royce engines helped the balance of trade, there was still concern for the MoA that in financially tough times, other procurements would go the same way.[56]

There was not only the issue of foreign competition in the military market, but the civilian market was also moving heavily towards the United States. When in March 1965, and after the selection of the Comet MR as the Shackleton Mk.2 replacement, Middle East Airlines (MEA) needed to replace their fleet of Comets, the decision was between BAC VC10s or Boeing 707s. Unless BAC could offer a suitable price to buy the old Comets from MEA, the airline would publically state that the British Government had let them down, and buy their aircraft from Boeing.[57] The issue became highly important politically to the Government's export drive and thus became one where both Transport Command and then Coastal Command were offered the MEA Comets. In the case of Transport Command it was in place of newly ordered VC10s, and this was seen as tactically unacceptable due to the smaller size and range of the Comets.[58] For Coastal Command the position was slightly more flexible, as they were prepared to accept the reconditioned aircraft provided they did not cost more than the new build aircraft.[59] The needs of Industry and overseas influence were intrinsically linked, and demonstrated the significant impact that Industry could have.

For Industry it was not just the problem of foreign competition, but also the fact that, as cuts to the defence budget took their toll, so the size and number of aircraft procurements also fell. Average production runs for military aircraft fell from 620 in 1944–1954, to 168 in the period 1955–1964.[60] The announcement by the MoA to the state controlled airlines and Industry in March 1963 that there would be no new large scale orders placed, further heightened the tension and put the emphasis on the need to compete for the overseas orders instead.[61] From a political and military perspective this transition was a reason to move away from expensive, low volume British designs, and instead to either buy foreign or join with other nations in interdependence programmes.[62] For Industry, this interdependence made sense when dealing with new fighter aircraft, such as working with the French on a light strike / trainer aircraft.[63] However, with larger aircraft based around existing civilian designs such as MPA, it was a means of extending the life of a civilian design and giving the perception of value to the Government through it being an adaptation rather than a new costly design,

but also as an opportunity for increased profitability as the majority of the expensive research and development work would have already been carried out.[64]

Whilst this may explain the continual and, in the case of Nimrod, successful lobbying by both the MoA and Industry, the question that it throws up is why the relatively late Hawker Siddeley submission of HS801 was successful where the other British proposals had failed. The decision not to procure the Atlantic was not one that could have been considered in isolation. As there was an urgent requirement for a Shackleton Mk.2 replacement the question was not whether an aircraft was needed, but which one it should be. Therefore to decide against one design was reliant on there being another to take its place.

The proposals from BAC and Hawker Siddeley for the VC10 and Trident had been based around the concept of a high specification aircraft that would last until the year 2000.[65] The Comet MR proposal was pitched in a much smarter manner and in direct contrast to the previous British proposals. The starting point for the VC10 and Tridents bids had appeared to have been one of simply reacting to an air staff target and then submitting a bid based around that, regardless of the competition, or whether it would conform to budget constraints. The opening meeting between Hawker Siddeley and the MoD where the Comet MR was proposed saw the aircraft proposed at the same price as the Atlantic - £1.5m per aircraft.[66] This was achieved by offering an aircraft with a similar equipment fit as the Shackleton Mk.3. Therefore, like the Orion and Atlantic bids, it was a direct replacement for the Shackleton, rather than an expensive upgrade. By sharing the equipment with its predecessor the delivery timescale could also be dramatically reduced.[67] This immediately put the proposal at an advantage, as the underlying theme with the Trident bid had been that it was the preferred aircraft from the perspective of the MoD, but that the cost and timescale of the project ruled it out.[68] By quoting a timescale, specification and cost similar to the Atlantic, Hawker Siddeley was able to get attention paid to their proposal, even if the difficulty of delivering it to schedule and price were still to come. In this sense the bid represented a definite shift in the aviation industry's approach to MPA procurement with the realisation that it was the Treasury that would ultimately have the casting vote on which aircraft programmes to proceed with. The price quoted did rise to £2.2m per aircraft by October 1964. However, this figure was seen as being favourable as it was offered as a fixed price contract.[69] This was highly unusual as the MoA were against fixed price contracts for non-off the shelf projects, as the normal course of events was price escalation and delays due to the unknown nature of research and development, and a fixed price would force the burden of the extra costs onto the Company. By initially offering the Comet with equipment, such as the radar, straight from the Shackleton, the main area of uncertainty was over the airframe modifications. These included the installation of an underbelly stores pannier, originally designed for the Trident project.[70] This position was further enhanced through political efforts to include penalty clauses in the contract, and demonstrated that, unlike in earlier periods, it was the Government and the military that held the upper hand in the initial contract setting requirements rather than Industry.[71]

As with any domestic offering there was desire to generate export sales and thus aid the UK balance of trade. A small amount of interest in the HS801 was expressed by both Canada and South Africa. However, Canada was predominantly turning towards the United States for its aircraft whilst also integrating its defence structure, and South Africa was not formally in a position to purchase a replacement for their Shackletons.[72] This initial interest was not however because of the specific merits of the HS801 over the VC10 and Trident, as it formed part of the general resurgent push to sell designs overseas, and was not a crucial deciding factor between the British offerings. Despite the continual attempts to push the design on the overseas market, it was never exported, and ultimately this added to the financial burden of the multiple large aircraft procurements that were underway in late 1964.

The speed with which the Maritime Comet emerged as a viable concept – the earliest reference in the Archives is from July 1964 – to it being formally announced as the preferred option for replacing the Shackleton Mk.2 in January 1965, is unusually rapid.[73] What this timeframe suggests is that Hawker Siddeley were initially focusing on the Trident bid, as the aircraft, by being a newly designed airliner, offered a greater longevity of both the combined civilian and military production line and the associated possibility of exports sales. However as the Comet proposal only surfaced after it was clear that the Government were seriously considering proceeding with the Atlantic, it would suggest that the extra time that the MoA were stalling for was so that the aviation industry could formulate a direct Atlantic rival – in terms of price and specification, whilst at the same time publically pushing the Trident and VC10 in the competition, as these would have given the greater benefits to Industry. Given the difficulties of establishing a quid pro quo over the Atlantic, the Comet was able to appear, in the words of AOC Coastal Command, as "the answer to the maiden's prayer."[74] Hawker Siddeley were able to give the impression that the Comet was a better option than the Trident when considered as an ASR 381 Atlantic rival, whereas in reality it was never in competition with its stable-mate. Instead, the issue had been over where the Comet sat in relation to the Atlantic, and it was here that lobbying by the MoA and Industry was able to bear fruit.

In theory, given that the costs between the Atlantic and Comet were broadly similar, the Comet should have been as unaffordable as the French offering was presented as being. Yet a domestic offering would always have the upper hand in the view of the Treasury, as the initial cost of the aircraft, if spent on a British design, could be effectively reduced through corporation tax, employee tax, and the benefit of these employees spending their wages within the British economy.[75] The Comet airframe itself was also in extensive Royal Air Force service at the time in Transport Command. It was therefore seen as a known quantity in terms of its handling and servicing and would not require the same expensive new ground equipment and training as the Atlantic.[76] Therefore a British offering pitched at the same price as a foreign offering could be massaged to look like much better value, and thus achieve the desired savings that would have pleased the Treasury. It was this parity of costs that gave the Comet MR the edge over the earlier British submissions in the battle with the Breguet

design, and drove the procurement question back towards a British buy rather than an off the shelf foreign purchase. The Comet, by being a four engine jet-powered design, had a faster transit speed and longer loiter time than the twin turbo-prop driven Atlantic and indeed the Shackleton that it was due to replace, thus reducing the perceived number of aircraft required to undertake the new intensive surveillance role.[77] The proposed large internal bomb-bay of the Maritime Comet combined with the internal space to add improved detection equipment as new technologies emerged, made it an excellent balance between the cost effectiveness of the Atlantic, and the size and capabilities of the Trident.[78]

This logic alone would give a strong indication as to why the Comet MR was ordered if it had been the sole major aircraft procurement of the period. However, there were three other large scale projects that were cancelled in early 1965, and it is this complex picture that demonstrated what drove the selection of a specific maritime aircraft type in a period of mass British cancellations.

The election of Labour in October 1964 marked the tipping point for the large Defence procurements of TSR2, HS681, P1154, P1127 and HS801.[79] Of these, TSR2, HS681 and P1154 had been signed off by the preceding Conservative government and development was well underway.[80] The primary issue for the incoming government was a need to make up to £800m of cuts due to a balance of payments deficit, which was threatening devaluation of the pound.[81] The easiest way to make such a large scale cut was to cancel defence projects and thus the Royal Air Force was forced to bear the brunt of these savings. Outside of military aviation, the Polaris, and Concord programmes were also put at risk, although their international nature resulted in them being the most complicated to consider cancelling. As a result of this, the political demands had to be balanced against the economic realities and the wants of the Treasury. Callaghan, as Chancellor, was in a difficult position as he was a supporter of the policy of Britain remaining committed militarily East of Suez, yet had no choice but to insist on cuts, and particularly to the TSR2, which was central to the British strategy East of Suez.[82] Wilson, Defence Secretary Healey and Foreign Secretary Gordon Walker were all considered Atlanticists, and saw the link with the United States as a vital part of Britain's make up. Thus the question of cancelling Polaris raised in the Labour manifesto was not ultimately considered. Instead, a saving was made by reducing the number of boats ordered from five to four.[83] The political effect at the heart of the deterrent allowed the Chief Scientific Advisor Solly Zuckerman to justify the decision as "the smallest subscription we need to pay to achieve these political purposes."[84]

The Concord project was also seen as a means of reducing expenditure by cancelling the prototypes and instead focusing on research and development, a move that had the support of the Americans who wanted to slow down the pace of their own supersonic airliner programme.[85] This strategy was actively pursued by the Labour government, and was communicated to the French less than two weeks after the General Election.[86] The French response was firm, and the British government were informed that any such move would lead

to damages being sought in the International Court in The Hague for £200m, negating any saving that the government had hoped to achieve.[87] For the Royal Air Force procurements the future worsened with both the Secretary of State for Economic Affairs and the Chancellor stating in January 1965 that the continuation of Concord was conditional on savings being made to the military aircraft programmes.[88] The issue was therefore ultimately over where the Government's priorities truly lay, and whether a strong nuclear deterrent could outweigh conventional forces, which had been the Conservative line.[89] By choosing Concord over British defence programmes the Labour government demonstrated that they were committed to the future of British civilian aircraft manufacture, over and above military production.[90]

As a result of this policy direction the government had to make cuts to some or all of the Royal Air Force programmes. However, in order to maintain the worldwide commitments that British strategy dictated, the costly British built designs would need to be replaced by cheaper alternatives. Due to the Polaris programme, and the ever increasing economic reliance placed on them, the United States was a natural source of alternative aircraft. The danger though was that France would see this as Britain moving away from Europe and would thus negatively impact any future British attempts at entry into the EEC.[91] This would have theoretically made a purchase of the Atlantic aircraft more appealing. However, there was a third group that Labour had to placate, and that was the British aviation industry who were about to lose a large amount of work through the cuts.

The P1154 project had already suffered through the withdrawal of the Royal Navy, and earlier checks had revealed that the aircraft it was due to replace in Royal Air Force service, the Hunter GR9, was proving more durable than had been initially anticipated.[92] The precedence set by the Naval Phantom purchase opened the door for the P1154 to be replaced by a cheaper American offering, yet by having them re-engined with Rolls-Royce Speys, British industry would still receive some work on the project.[93] With the decision to replace TSR2 and HS681 with American F-111 and C-130 respectively, there was no scope for giving Industry work to soften the blow. The economic rationale behind the two decisions was logical, as the TSR2 was well over budget, and its enormous costs held the key to the whole cuts programme.[94] With the purchase of the C-130 alongside the extra Phantoms and Polaris a deal was worked out with the United States Treasury Department that made the F-111 procurement effectively cost neutral, thereby maximising the apparent saving on TSR2 whilst still being able to project air power to the same level in the East of Suez strategic plan.[95] Any short term capability gap due to the longer delivery time of the F-111 was dismissed by Zuckerman, who advised the Prime Minister that simply by removing scenarios from governmental planning, in this case a conflict with Indonesia, the need for a capability to cover it was instantly deleted.[96] Whilst this view may hold at a theoretical level sufficiently strongly to satisfy the Treasury, it was never going to work across the broader spectrum of defence and the Soviet threat in Europe. What the comment does show is that financial considerations had primacy over military strategy, if not political ambitions, and the need to make economically driven cuts that maintained international political ties overruled all else.

The cuts left the P1127, and the Comet MR as the only British aircraft procurements to survive and to go into production. The reasoning behind the Comet MR surviving was not just a case of its role within British strategy being so vital that it could not have been cancelled, as ultimately it was only planned as an interim aircraft and there was no question of withdrawing the Shackleton Mk.3s at this stage. The TSR2, HS681 and P1154 had been authorised by the Conservative Government, thus Labour cancelling them was presented as a painful but necessary means of making good on the mistakes of the previous administration. Even the chairman of Hawker Siddeley, whose company lost out on the HS681 and P1154, reportedly put the blame on the Conservative government and their poor management of the projects.[97] With the P1127 and Comet MR having only been in development at a conceptual stage and not having been signed off by the Treasury under the Conservatives, Labour were able to put them into production as a sign that they were supporting British industry, thereby appeasing the third side of the triangle.

Healey's brief to Cabinet on 26 Jan 1965 stated that cancelling TSR2, HS681 and P1154, and replacing them with American alternatives, would save £817m over ten years. Proceeding with the Comet MR would save £28m over the same period. The limited government exposure to HS681 and P1154 made cancelling straightforward, and the P1127 and Comet MR would provide fresh work for the British aviation industry.[98] Healey reiterated this point in his autobiography where he wrote that; "Though my initial savings depended on the substitution of three American aircraft for three British, I was able to provide valuable work for the British aircraft industry by ordering the Nimrod maritime reconnaissance aircraft and… the Harrier."[99]

This explains the survival of the Comet MR from 1965 Defence Cuts, and why it was a British design that was ultimately selected. The outcome was political, and it is highly unlikely that the programme would have proceeded if it had been signed off under the Conservative government. The initial selection of Atlantic had already lost favour before the General Election. However, it would have been relatively straightforward to re-enter negotiations for it, particularly as appeasing the French over Concord was such a high priority. The pressure of Industry was therefore the paramount driving force behind the procurement as a whole, initially in a direct form through the lobbying against the Atlantic and the desire for more time to propose alternative cheaper British options, and then ultimately indirectly through the need for the Labour government to be seen to be supporting British Industry, even in a time of savage cuts. That the Maritime Comet was a more capable aircraft than the Atlantic was inconsequential, as provided it was able to satisfy the financial constraints of the Treasury, then the British option would have won through regardless. Despite this, the definite shift in the procurement landscape from British centric to open competition was clear, and the power of industry was already moving from one of controlling the aircraft type and specification, and thus having influence in military strategy, into a political sphere of supporting British trade in the face of increased foreign competition both at home and abroad.

These lessons of the power of the aviation industry in exerting influence at the political level are as true today as they were during the 1960s. The marginalisation of the wishes of the military and the importance of providing an economically beneficial proposal that achieves political targets are also now of paramount importance. This historical example would suggest that from a Royal Air Force standpoint, future procurements would be best served by first assessing what the Government is broadly looking to achieve in both the domestic and international stages within the given timeframe, and tailoring proposals to assist in meeting these objectives. At the same time the financial and economic factors have to be considered, and how any purchase can impact such areas as the balance of trade or domestic aviation industry employment. Only by careful examination of these core areas, and looking beyond purely military strategic requirements, can a proposed aircraft procurement have a reasonable chance of reaching front line service.

Notes

[1] RHS, *Harold Wilson's Cold War; the Labour Government and East-West Politics, 1964-1970* (RHS, Chippenham, 2009) p.29
[2] Fisher, N., *Harold MacMillan, A Biography* (Weidenfeld and Nicolson, London, 1982) p.303
[3] The UK National Archive [TNA] CAB 129/120, *Defence White Paper*, 9 Feb 1965 and TNA CAB 128/39, *Cabinet meeting minutes of Thursday 26 November 1964*
[4] Wyn Rees, G., *Brothers in Arms: Anglo-American defence co-operation* in Ed. Gorst, A., Johnman, L., & Scott Lucas, W., *Post-War Britain, 1945-64, Themes and Perspectives* (Pinter, London,1989) p.205
[5] TNA PREM 13/716, Telegram from BDS Washington [Armstrong] to MoD [Cooper], 4 Jan 1966, detailing British military purchases from the United States totally £1,800m
[6] Butler, D.E. & King, A., *The British General Election of 1964* (MacMillan, London, 1965) p.18
[7] Feldman, E.J., *Concorde and Dissent; Explaining High Technology Project Failures in Britain and France* (Cambridge University Press, Cambridge, 1985) p.88 – The British spelling of '*Concord*', rather than the French '*Concorde*' was used in British government documentation of the time, and has therefore been used throughout this article.
[8] Wilson, C., "Rhetoric, reality and dissent: The Vietnam policy of the British Labour Government, 1964-1970" *The Social Science Journal*, Vol.23, No.1 (1986) p.18 and p.28
[9] Butler & King, *British General Election 1964* (London, 1965) p.130
[10] TNA AIR 2/17197, *Interim Shackleton Replacement* (ASR 381), Loose Minute from PS. to DCAS to ACAS (OR), *Shackleton Replacement*, 11 Feb 1964
[11] TNA AIR 2/17199, *Interim Shackleton Replacement* (ASR 381) – Policy, MacPherson, A., "Missile Blow", *Daily Mail*, 17 Aug 1964
[12] TNA AIR 2/17265, *Maritime Reconnaissance Aircraft – Shackleton Replacement, Type Requirements – AST/OR 350/357*, Letter from Solly-Flood, Dept of Defence Production [Canada] to Haviland, Ministry of Aviation, 9 Apr 1964 and TNA AIR 2/16777, Loose Minute from DCAS to Secretary of State, 27 Mar 1963
[13] TNA AIR 2/16777, *Maritime Reconnaissance Aircraft – Shackleton Replacement*, Type Requirements, Loose Minute from DCAS to Secretary of State, 27 Mar 1963

[14] TNA AIR 2/16777, Loose Minute from Secretary of State for Defence to Minister of Aviation, *Submarine Detection Methods*, 6 May 1963
[15] TNA AIR 2/16777, Letter from Canadian CAS [AM Dunlop] to Royal Air Force CAS [MRAF Pike], 22 May 1963
[16] The ability of an airborne platform to ensure that the deterrent-armed submarines were not followed by Russian submarines when transiting to or from port, became a key role for MPA as the Cold War progressed. See Cm2550, *Statement on the Defence Estimates 1994* (HMSO, London, 1994)
[17] Pierre, A.J., *Nuclear Politics, the British Experience with an Independent Strategic Force 1939-1970* (Oxford University Press, London, 1972) p.200 and TNA CAB 164/713, *Deployment of UK Polaris Submarines*, Letter from Reid to Wright (Cabinet) ref. O.PD.(O)(66)2, *United Kingdom Nuclear Policy*, 13 Feb 1966
[18] TNA AIR 2/171200, *Interim Shackleton Replacement (ASR 381)* – Policy, Loose Minute from Treasury [Hall] to MoA [Airey], *Comet MR*, 14 May 1965
[19] TNA DEFE 13/286, *The Shackleton Replacement*, Handwritten Note from PS. to Under Secretary of State (Royal Air Force) to Under Secretary of State (Royal Air Force) on MO.26/11/12 [TNA DEFE 24/67, Enclosure 10], 9 May 1968, despite project costs rises of 5%, this was partly offset by a saving of £3.5m on production costs.
[20] Ferguson, N., *Empire; How Britain made the modern world* (Penguin, London, 2004) pp.358-361
[21] TNA AIR 2/171200, MoD Brief, *Comet HS801 Maritime Aircraft*, undated [est. Jan 1965] the structural integrity of the airframes were deteriorating due to high use in corrosive salty air of the Atlantic.
[22] TNA AIR 2/17199, *Interim Shackleton Replacement (ASR 381)* – Policy, Loose Minute from D. Air Plans to D. of Ops, *Flying Task of the LRME Squadron of Coastal Command*, 4 Aug 1964 – Each aircraft required an addition five flying hours per month (10%) to meet the surveillance tasking objectives.
[23] TNA AIR 2/17197, Loose Minute from D. of Ops to DGSR (A), *The Interim Shackleton Replacement*, 6 Mar 1964. Operational flying by Coastal Command rose from 260hrs in 1960 to 6000hrs in 1963 as a result of the surveillance tasking.
[24] TNA AIR 2/17197, *A Proposal for keeping Costal Command viable from 1970 until the introduction of a new aircraft to AST 357*, Feb 1964
[25] Ibid.
[26] Ibid. TSR2 –nuclear capable strike aircraft, H.S.681 – large transport aircraft, P1154 – supersonic VSTOL fighter for RN and Royal Air Force.
[27] TNA AIR 2/17197, DCAS & VCAS, *Draft Air Council Paper, the Shackleton Replacement*, undated [est. Mar 1964]
[28] When the Atlantic was upgraded by the French Navy in the 1980s it was renamed 'Atlantique'. The contemporary term 'Atlantic' is used throughout this article.
[29] TNA AIR 2/17197, DCAS & VCAS, *Draft Air Council Paper, the Shackleton Replacement*, undated [est. Mar 1964]
[30] TNA AIR 2/17198, *Interim Shackleton Replacement* (ASR 381) – Policy, Minutes of Research and Development Board, 22 Jun 1964 and Brief for Minister of Defence (Royal Air Force), *Shackleton*

Replacement, Jun 1964. Both documents state that the Trident aircraft was the preferred option on operational grounds, but accept that it was unaffordable.
[31] TNA AIR 2/17199, Letter from Messmer [French Minister of Armies] to Secretary of State for Defence, 22 Jun 1964
[32] TNA AIR 2/17197, Response to PS. to DCAS paper 690/64 by ACAS (OR), *The Shackleton Replacement*, 28 Feb 1964
[33] TNA AIR 2/17198, Brief for Minister of Defence (Royal Air Force), *Shackleton Replacement*, Jun 1964
[34] Ibid.
[35] The term 'quid pro quo' was widely used in correspondence on the Atlantic procurement, for examples see TNA DEFE 25/15, *The Shackleton Replacement*, TNA AIR 2/17198 and TNA AIR 2/17199
[36] TNA AIR 2/17199, Loose Minute from ACAS (OR) to DCAS, *Maritime Replacement*, 21 Jul 1964 – The aircraft name is Mirage III (Roman numerals) 'V' (alphabetic) variant, there were also IIIC and IIIT among others.
[37] TNA AIR 2/17197, Loose Minute from DOR (B) to PS. to DCAS, *Anglo-French Collaboration*, 14 Feb 1964
[38] See TNA AIR 2/17198, Loose Minute from ACAS (OR) to Dep. Sec. C/MoA, *The Atlantic 'Quid Pro Quo'*, 22 Jun 1964 – for the offer, and TNA AIR 2/17199, Loose Minute from ACAS (OR) to DCAS, *Maritime Replacement*, 21 Jul 1964 – for the refusal.
[39] TNA DEFE 25/15, Notes on Defence Council Meeting 16 Jul 1964, prepared by Gp Capt Trotman, *Shackleton 2 Replacement*, 21 Sept 1964
[40] TNA AIR 2/17199, Loose Minute from DOR2 (Royal Air Force) to PS. to DCAS, *French Interest in Canberra PR9*, 11 Aug 1964, and TNA AIR 2/17199, Cypher Signal, British Air Attaché (Paris) to ACAS (OR), 10 Nov 1964
[41] TNA AIR 2/17197, Letter from E.E. Marshall (BAC) to DGSR(A), VC10 *as Interim Replacement for the Shackleton Reconnaissance Aircraft*, 2 Mar 1964
[42] TNA AIR 2/17197, Loose Minute DOR (B) to S.6, *Shackleton Interim Replacement*, 10 Mar 1964
[43] TNA AIR 2/17197, Daily Telegraph Air Correspondent, "Royal Air Force Wants 50 Foreign Patrol Planes", *Daily Telegraph*, 14 May 1964
[44] TNA AIR 2/17197, Loose Minute DOR (B) to PS. to DCAS, *Anglo-French Collaboration*, 14 Feb 1964 – estimated the unit cost of Atlantic at £1.14m, the VC-10 conversion unit cost excluding R&D was put at £3.5m – AIR 2/17197 Loose Minute DOR2 to S.6, *Shackleton Interim Replacement*, 10 Mar 1964
[45] TNA AIR 2/17198, Letter from Bullock [MoA] to Cooper [MoD], *Shackleton Replacement*, 25 May 64
[46] TNA AIR 2/17197, Loose Minute, Cooper to PS. to Minister [Royal Air Force], *The Shackleton*, 8 May 1964
[47] TNA AIR 2/17198, Loose Minute, CAS to Minister [Royal Air Force], *Shackleton 2 Replacement*, 24 Jun 1964
[48] TNA AIR 2/17198, DOR2 prepared summary to [Shackleton Interim Replacement] Report, 17 Jun 1964

[49] TNA AIR 2/17199, Letter from PUS MoD [H. Hardman] to PS MoA [R. Way], 7 Jul 1964
[50] TNA AIR 2/17199, Loose Minute from ACAS (OR) to VCAS, *The Shackleton Replacement*, 2 Sept 1964
[51] Butler & King, *British General Election 1964* (London, 1965) p.322
[52] Cm2853 *Report of the Inquiry into the Aircraft Industry* (HMSO, London, 1965) p.11
[53] TNA AVIA 15/3900, Loose Minute from RDT.2(d) to F.2(a), *Requisition of Lincoln Aircraft/E2/6/45 Lincoln MR Aircraft*, 30 Jun 1946
[54] TNA AIR 2/12101, Comparative Study of the Bristol 175 and AVRO 719 in the long range Maritime Reconnaissance Role, May 1952
[55] TNA ADM 1/29055, *Replacement of Sea Vixen by F4J Version of the Phantom*, Minutes of meeting between First Lord of the Admiralty and Minister of Aviation, 24 Jan 1964
[56] Mottershead, P, 'Industrial Policy' in Ed. Blackaby, F.T., *British Economic Policy 1960-74* (Cambridge University Press, Cambridge, 1978) p.453
[57] TNA AIR 2/171200, Loose Minute, PS. to Parliamentary Secretary MoA to PS to Minister (Royal Air Force), 26 Mar 1965
[58] TNA AIR 2/171200, Loose Minute, ACAS (Pol) to PS. to Under Secretary of State (Royal Air Force), *Middle East Airlines Comets*, 26 Mar 1965
[59] TNA AIR 2/171200, Loose Minute from DCAS to DCA (Royal Air Force), *Middle East Air Line* [sic] Comets, 19 Mar 1965
[60] Hartley, K., "The United Kingdom Military Aircraft Market" *Yorkshire Bulletin of Economic and Social Research,* Vol.19, No.1 (May, 1967) p.18
[61] Mottershead, P, 'Industrial Policy' in Ed. Blackaby, F.T., *British Economic Policy 1960-74* (Cambridge University Press, Cambridge, 1978) p.453
[62] TNA AIR 2/17198, Note by Minister of Defence (Royal Air Force), *Defence Council; the Shackleton 2 Replacement*, undated [est. Jul 1964] and TNA AIR 2/16777, Brief for Secretary of State by S.6, 12 Jul 1963
[63] TNA AIR 2/17197, Loose Minute from DOR (B) to PS. to DCAS, *Anglo-French Collaboration*, 14 Feb 1964
[64] TNA T 225/1405, *NATO Maritime Patrol Aircraft*, Letter from Padmore to Bligh [Treasury], *Conversion of DC7 aircraft for use on Maritime Patrol*, 16 Dec 1958
[65] TNA AIR 2/17198, Brief by D.D.Ops (M) to 'Director', *The Shackleton Replacement*, undated [est. Jun 1964]
[66] TNA AIR 2/17199, Letter from PUS MoD [H. Hardman] to PS MoA [R. Way], 7 Jul 1964
[67] Ibid.
[68] TNA AIR 2/17198, Brief for Minister of Defence (Royal Air Force), Shackleton Replacement, Jun 1964
[69] TNA AIR 2/17199, Minutes of Meeting held between MoD and MoA, *Shackleton Replacement*, 27 Oct 1964
[70] TNA AIR 2/17200, Brief on Comet HS801 Maritime Aircraft, undated [est. Jan 1965]
[71] TNA AIR 2/17199, Presentation by Coastal Command and DOR2 (Royal Air Force) to Minister of Defence (Royal Air Force), *Future ASW*, 20 Nov 1964
[72] TNA AIR 2/17200, Loose Minute from Royal Air Force RIO at CFHQ to OR37, *Maritime Aircraft*

Replacement – HS801, 7 Jul 1965, Report by Royal Air Force Requirements, *Present Influences Affecting the Formation of a Canadian ASW Policy*, 14 Dec 1964, and TNA AIR 2/17265, Loose Minute from D.D.Ops (M) (Royal Air Force) to DOR2 (Royal Air Force), *South African Interest in Shackleton Replacement*, 30 Sept 1964

[73] TNA AIR 2/17199, Letter from PUS MoD [H. Hardman] to PS MoA [R. Way], 7 Jul 1964 and PREM 13/716, Minutes of Prime Minister Wilson summing up OPD Meeting of 29 Jan 1965, prepared by Burke, 30 Jan 1965

[74] TNA AIR 2/17199, Letter from AOC Coastal Command [Selway] to DCAS [Hartley], 31 Jul 1964

[75] Hartley, K., "Choices in Defence Expenditure" *Economic Affairs*, Vol.1, No.1, (October, 1980) p.33 and Sinclair, P.J.N., 'Public Finances' in Morris, D. (ed.) *The Economic System in the United Kingdom* (Oxford UP, Oxford, 1977) p.65

[76] TNA AIR 2/17199, Letter from AOC Coastal Command [Selway] to DCAS [Hartley], 31 Jul 1964

[77] TNA AIR 2/17200, Brief on Comet HS801 Maritime Aircraft, undated [est. Jan 1965]

[78] Staff Writer, "The Maritime Comet", *Flight International*, 25 March 1965

[79] For TSR2, H.S.681 and P1154 see endnote 27. P1127 – became the Harrier short range VSTOL fighter, H.S.801 – internal HSdesignation for Comet MR, named Nimrod MR.1 in Royal Air Force service.

[80] Butler & King, *British General Election 1964* (London, 1965) p.136

[81] RHS, *Harold Wilson's Cold War* (Chippenham, 2009) p.34

[82] Jenkins, R., *A Life at the Centre* (MacMillan, London, 1991) p.172

[83] TNA CAB 148/19, SoS (MoD) brief to Cabinet, *Polaris Submarine Building Programme*, 12 Jan 1965

[84] TNA CAB 21/5727, Defence Review 1964-65, Loose Minute from Solly Zuckerman to the Prime Minister, 14 Nov 1965

[85] TNA PREM 13/117, *1964-1965-Aircraft*, Minutes of meeting between the Foreign Secretary [Gordon Walker] and U.S. Secretary to the Treasury [Dillon], 26 Oct 1964

[86] TNA PREM 13/117, Telegram from FO London to FO office in Paris, *Future of the Anglo-French Concord Project*, 26 Oct 1964

[87] Jenkins, *A Life at the Centre* (London, 1991) p.165

[88] TNA PREM 13/117, Loose Minute from Treasury [Bancroft] to Mitchell [No.10], 7 Jan 1965, and Letter from DEA [Caulcott] to Mitchell [No.10], 14 Jan 1965

[89] Pimlot, B., *Harold Wilson* (Harper Collins, London, 1992) p.383

[90] TNA CAB 130/229, Minutes of Meeting of Ministers, Cabinet, *TSR2 Announcement*, 5 Apr 1965

[91] Young, J.W., *The Labour Governments 1964-70; Volume 2, International Policy* (Manchester UP, Manchester, 2003) P36-38

[92] TNA AIR 20/11175, *P1154 V/STOL Ground Attack / All Weather Interceptor Aircraft*, Loose Minute from VCAS to Secretary of State, *The Hunter Replacement*, 30 May 1963

[93] Healey, D., *The Time of My Life* (Politico's, London, 2006) p.272

[94] TNA PREM 13/716, Brief for Cabinet by SoS Defence [Healey], *Defence and Overseas Policy Committee – the Royal Air Force Aircraft Programme*, 26 Jan 1965

[95] TNA PREM 13/716, Telegram from BDS Washington [Armstrong] to MoD [Cooper] 4 Jan 1966, British spend on American equipment totalled $2550m (Polaris $550m, C-130 $300m, Phantom

$900m, Misc kit $50m and F-111 $750m) American spend and allowance to Britain totalled $2550m (US troops in UK up to 1977 $1800m, Misc kit $450m, export preference $300m) Therefore the F-111 purchase was cost neutral.

[96] TNA CAB 21/5729, Loose Minute from Solly Zuckerman to the Prime Minister, 14 Nov 1965

[97] Healey, *The Time of My Life* (London, 2006) p.272

[98] TNA PREM 13/716, Brief for Cabinet by SoS Defence [Healey], *Defence and Overseas Policy Committee – the Royal Air Force Aircraft Programme*, 26 Jan 1965

[99] Healey, *The Time of My Life* (London, 2006) p.274

Viewpoints

Using Air Power in a Small War – A Battlegroup Commander's Reflections on Operations in Afghanistan - Winter 2010/11

By Lieutenant Colonel Colin Weir

Introduction

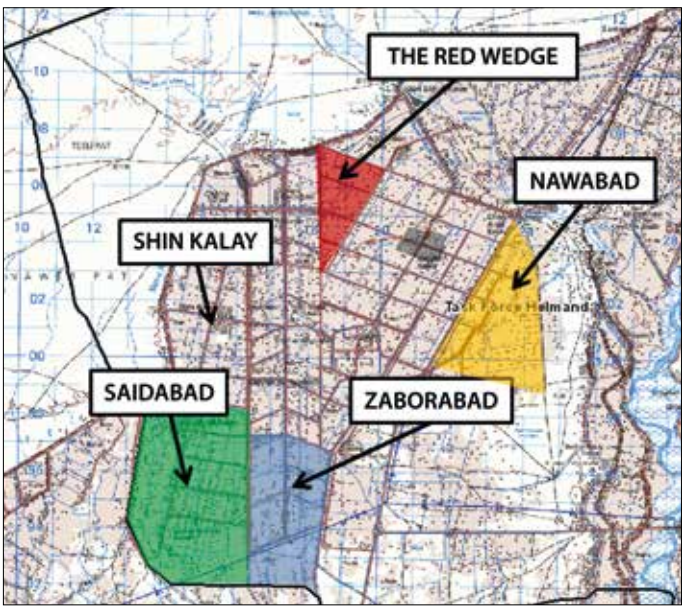
The RAF Centre for Air Power Studies published '*Air Power, Insurgency and the War on Terror*' in 2009 and its introduction articulated:

'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.'[1]

Three years on from that publication, these much publicized and controversial[2] 'misunderstandings' from the early days of the campaign in Helmand actually appear difficult to find, if they exist at all. At the very least, it is my experience that tactical air and ground commanders have developed a much better appreciation of how the other can best contribute to mission success. However, it may be the case that this understanding is only borne of experience in the field rather than through systematic training and preparation. Why do I say this? I have only developed a view on the relationship between air power and the execution of counter-insurgency on the ground having returned from Afghanistan; I gave it little thought prior to deployment. In training for deployment, my consideration of air power was only in terms of how it would help me *move*, *fight* and *see*. I took no holistic view of its capabilities, and certainly I did not consider how it might dovetail with the complex concepts

inherent in counter-insurgency, which is primarily a ground-centric activity (I believe this latter statement to be one of fact, simply because the insurgency and its counter-insurgency are in a contest for - and amongst - the people, and the people are surface dwellers). If I had taken the time to consider the employment of air power in a more considered way prior to deployment it would, no doubt, have led to my more efficient and effective use of a scarce resource. This article is reflective, in that it considers the role of air power in our small part of a small war. I make no significant recommendations, but merely offer that which I believe we learned in the hope that it may be of some value.

The one thousand men and women of 1st Battalion, The Royal Irish Regiment (1 R IRISH) Battlegroup provided the core of Combined Force Nad-e'Ali (South) through the Winter of 2010/11. Nad-e'Ali had been a significant focus area for the International Security Assistance Force (ISAF) over the previous 18 months. It had been the heart of Taliban shadow governance structures in Central Helmand, was totemic in that sense and so was not somewhere that the enemy appeared to be inclined to cede to the Government without a fight. Op Moshtarak had established a large ISAF presence there in the Winter of 2009/10, significantly disrupting the insurgency. The following Summer, Op Tor Shezada was credited with establishing an ISAF and Government footprint in Saidabad, one of the last areas of the District not under Government control. Tor Shezada was launched less than six weeks before 1 R IRISH deployed to theatre in September 2010 as part of 16 Air Assault Brigade on Operation HERRICK 13. As we arrived, the enemy were mounting a vicious riposte to ISAF's attempts to clear them from the area. In operational wargaming[3] terms, the enemy were in the reaction phase to ISAF's earlier actions. So the area remained very highly contested. While most of the population centres were relatively secure, the enemy had coalesced in the less densely populated areas, was growing in strength there, and was successfully isolating and attacking into the secured space. Fighting flared throughout the area, but the enemy's centres of mass and influence could be relatively easily defined. Early operations, which we described as 'Find-Feel', orientated us to the battlespace, and identified where the challenges were at their most acute; we codified the geographic problem-set as being the



areas to the west of Zarghun Kalay (known as the Red Wedge), Shin Kalay, Nawabad, Saidabad and Zaborabad.

Our arrival that September was a literal baptism of fire. After a comprehensive handover from the preceding Battalion, 1 R IRISH took command on the first Sunday of October, and the following three days saw 36 prolonged engagements (including a determined Taliban attack on the District Centre). By the end of the week we had had 80 significant acts (or SIGACTS, in other words shooting or Improvised Explosive Device (IED) events) and over a short period of time we were to see the highest levels of kinetics in that geographic space on record.

Against this background, and in the early days, it was easy to lose sight of what the operation was all about. In part, of course, it was about clearing the Taliban from what they saw as their strongholds; however if the geographic battlespace was one problem, the psychological battlespace was another entirely different and much more difficult arena in which to fight. Here, the objective was not a piece of real-estate, or the kill or capture of a Taliban commander, rather it was to secure the confidence of the people. My Brigade Commander summarised it succinctly and helpfully:

'We seek an irreversible momentum by giving the local people the ***confidence*** *to reject the insurgency and place their trust in the Afghan state.'*[4]

This approach with its clarity and simplicity was immensely helpful and it resonated at all levels of my Battlegroup. There were all sorts of different strands of confidence that we had to instil in the people. They had to have confidence not only that we *could* beat the enemy in battle, but also that we had the resolve to actually do it. They had to have confidence that we would pursue the enemy vigorously, but equally that our use of fire was controlled and precise. They had to have confidence that ISAF and the Government of the Islamic Republic of Afghanistan were in this to win it; we were not leaving next year, as the enemy frequently told the people. Finally, they had to have confidence that, if given the opportunity and a secure enough space, their Government could help them achieve a better existence. The sum of these confidences would lead to a greater one, which was a collective confidence to reject and even stand up to the insurgency, in effect to take part in the defeat of the Taliban. All of our efforts had to focus on the shoring up, the development and the consolidation of the confidence of the people. This overarching requirement was the fundamental start point for how we considered and then employed force, both on the ground and from the air.

Fighting

There were two broad activities in our effort: fighting and talking. The fight on the ground was close, personal and exhausting. It involved small groups of heavily laden soldiers stepping out of checkpoints on a daily basis sure in the knowledge that battle would ensue at some point. It also involved Company and Battlegroup-level operations, surging into the areas previously defined during our 'Find-Feel' operations with the overt aim of crippling the insurgency in

those areas through fighting. The IED threat was a constant, increasing in its intensity through the winter. The battlespace was highly populated; it was a war *amongst*, but more importantly *for* the people.

The aim of the fight was to close with and defeat the enemy. To defeat him required offensive spirit - the will and confidence to attack. Killing was a fundamental part of the effort. This reality needed commanders at all levels to have trust in their subordinates that they would do the right thing. We had to trust: that our soldiers are decent human beings who do not want to kill for killing's sake; that they understand the rules of engagement; that they are technically proficient and can shoot straight; and that they can select the right weapon and will only pull the trigger *or call for fire* as many times as is necessary.

The avoidance of civilian casualties was a concern in all of this, but a zero risk approach to civilian casualties would lead to our defeat. If we withdrew every time we came into contact because we *might* kill a civilian then we would end up withdrawing *every* time because the enemy would make sure civilians were there, and those civilians would also provide a ready-made audience to watch from the grandstand and to see our defeat. This would not sit easily alongside the concept of securing the people's confidence in you and their Government. So we needed to fight him and to win, and to be seen to be winners.

So what of the place of air power in the fight? From the ground, and for the people, air power is transient. This transience is perhaps the other side of the 'operational flexibility' coin. The people understand air's 'operational flexibility' as much as we do – it is there one minute and gone the next. They cannot rely on it to keep them safe because it will not be there all of the time. We should not underestimate the cultural aspect of this. It is no secret that the Afghans respect strength – but they particularly respect the look-you-in-the-eye type of strength, or the stand-toe-to-toe-in-a-fight type of strength. The force's *capability* is certainly enabled by our dominance of the third dimension, but its *credibility* is built on infantry soldiers being seen to be defeating the enemy in a straight fight. This breeds confidence in the people. They can rely on the ground-based counter-insurgent whose checkpoint is within sight of their compound, whom they have met and whose name they know (and ideally they like as a fellow human being), who is making a sacrifice for them, and most importantly who is physically and verbally countering the insurgent argument.

'This asymmetric strength in our favour that eschews close physical contact is perceived as a weakness in some cultures.'

JDN 2/8 Integrated Air-Land Operations in Contemporary Warfare

There is a perception that civilians are much more frequently killed by ground-based indirect fire or air or aviation strike than they are by direct fire from either the insurgents

or ISAF. That perception is wrong according to UNAMA's[5] figures which record that across Afghanistan in 2011 305 civilians were killed by 'aerial attack' whereas 1398 civilians were killed by IEDs and 'suicide attacks' (UNAMA do not appear to have a separate category for deaths attributable to mortar or artillery fire, and so I assume that those delivery mechanisms are included in the 'aerial attack' category). In truth, however the figures are probably irrelevant because the perception is much more important than the fact. So it is likely that the people whose confidence we are trying build see air power as an unpredictable protector and an unpredictable threat; its mistakes - or the ground commander's mistakes in using it - can be catastrophic.

Talking

The second key activity was talking, or politics – both small 'p' and big 'p' (at the local level). The talking happened throughout the tour. When we were fighting hard the conversation was muted. But by the time we got the better of the enemy about two-thirds of the way into our deployment, the discussions were constant, fractious and difficult; they filled the space created by improved security. Military power, both air and ground, sat in the background and was actively used to shape the context of the conversation, to give some people a louder voice, and to help to negate and marginalise those who spoke with malign intentions.

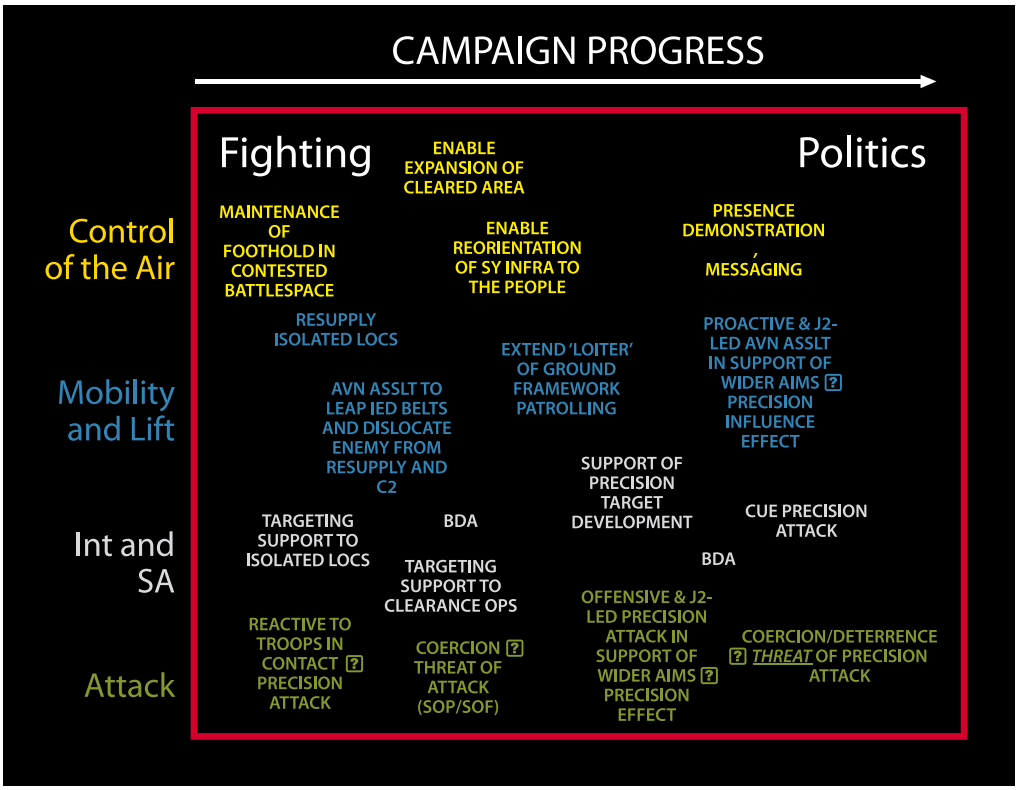
Themes

Looking back, there were probably four themes that ran through our tour. First, the relocation of the security infrastructure to where the people were. Second, the roll out of a persistent Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) matrix, to the extent that by the time we left we had considerable ISTAR dominance. Third, an intense Battlegroup and Brigade targeting effort to destroy the enemy's ability to command and control. Finally and fourth, the establishment of a sustainable local Afghan security solution, which in our case was the Afghan Local Police.

Operation Herrick 13 was a winter tour, traditionally a less kinetic period than the summer months, however at the 3 month point 1 R IRISH had same number of SIGACTS as Operation Herrick 12 which was a summer deployment. As intimated above, this can be put down to the enemy's decision to react to, and to contest, ISAF's 'big manoeuvre'. To a considerable degree, it also has its origin in the much improved ISAF force-density in Nad-e'Ali which was due in large part to the re-balancing of UK forces into Central Helmand following the arrival of large numbers of US Marines into Afghanistan in 2010. Having more soldiers available allowed 1 R IRISH to go further and to manoeuvre in greater numbers than our predecessors could. The spike in fighting was probably an inevitable by-product of the combination of these factors. But things changed over time and SIGACTS dropped to a historically low level, hence my characterisation of the tour as being dominated at first by fighting and at the end by politics.

Considering Air Power in a Small War

Against that context, and the roles of air and space power[6], the employment of air might be considered as follows:



In general terms, the kinetic phase of the effort in Nad-e'Ali - the left hand side of the box-saw air power being used in a generally defensive role. This reflected the fact that the enemy had the initiative; we were using helicopters and aeroplanes to *respond* to his actions. We used airborne ISTAR to look into Named Areas of Interest (NAIs) where we might pick up indicators of his intentions *vis-a-vis* us, his forming up places, his weapons caches and his lines of communications into our area. We used strike in support of Troops in Contact (TiCs) where the enemy had generally initiated that contact. We had to use Support Helicopter (SH) to resupply isolated checkpoints and patrol bases because the Taliban controlled the surrounding battlespace. In all of these instances, we were using air power in *response* to his activity and not on our own terms; air power in this phase primarily delivered force protection and sustainment functions. But of course the very act of force protection, especially accurately delivered precision munitions, also had significant attritional effect on the opposition.

This attritional effect started to allow us to move to the central part of the scale, where air and aviation started to be used much more offensively in pursuit of the confidence of the people.

Airborne reconnaissance, precision target development and strike all combined to enable the critical activity of clearing areas of insurgents and re-orientating the security infrastructure to where the people were, where population densities were highest. In other words this was establishing Patrol Bases and Checkpoints in the right place to achieve better control of the ground and the population. Better control of the ground enabled better control of the air and therefore the reduction of the ground threat to aviation. The consolidation of this ground control then allowed 'red' HLSs to become green which in turn enabled the cleared and held real estate to be expanded.

On the face of it, the infantry in this arrangement hold the greater risk in that they have to close with the enemy and defeat him in order to clear ground out to beyond more than harassing fire range for external Helicopter Landing Sites (and sometimes internal HLSs). Of course it is not as formulaic as this. The build of Checkpoint Ranger over Christmas 2010 in the Saidabad area adopted a different model. The Ranger site was in the heart of Insurgent-controlled space in Saidabad, and its build could only be effected by using Support Helicopter because the road to it (Route Exeter) was structurally fragile and in need of extensive work, it was heavily seeded with IEDs, and it was under constant enemy observation and fire. The SH-enabled establishment of the checkpoint with an integral but, at that stage, not particularly technologically advanced ISTAR capability then allowed the route to be better overwatched, in turn allowing the road improvement work to happen, which in turn allowed heavy defence stores and aggregate to be moved in. Clearly, as we were able to spin around this virtuous cycle, the risk to both my soldiers and the aviation became less, and Ranger's presence transformed the area in question. This was a true ground-manoeuvre link-up operation to a force inserted and sustained by aviation, albeit at reasonably small-scale. Circumstances will dictate which element shoulders most of the risk as we start this sort of operation. In general terms it was the infantry, but with projects like the establishment of Ranger, it was certainly the aviation component.

Route EXETER looking west.
Ground clearance still 2km from the ongoing CP RANGER Build
Saidabad 14 Jan 11

During the third stage of our campaign – the right side of the box - we were militarily dominant, and the opposition was no longer contesting us in a straight fight with anything like the intensity of the period up to mid-January 2011. By that stage, he was mixing sporadic attacks, with coercion - in the form of intimidation and assassination - whilst also contesting us in the political space through malign actors. Perhaps counter-intuitively, it was in this area

where air power had the greatest positive effect in driving the campaign forward. In particular, this leads into a discussion of deterrence and influence, and strike and aviation assault.

The Limitations of Deterrence, the Utility of Strike

The enemy *knows* how powerful and capable we are, so we have to work very hard to surprise him. We also need to understand the limits of deterrence from the air, because he certainly understands those limitations. Air power can avert the enemy's kinetic attacks when they are in the final stages of commission, but in the sort of circumstances we faced in Nad-e'Ali, it could not easily prevent intimidation. Intimidation was not generally carried out by armed men who could legitimately be engaged by air assets, rather it was effected by mobile phone, or by one or two unarmed insurgents issuing a threat in the local bazaar or clinic. When we did engage him in a fight, because he understands our Rules of Engagement and how we apply those rules differently in different types of terrain (human and topographical), even the effect of 'shows of presence' and 'shows of force' could be be limited. This is simply because he has a healthy and justified scepticism that we will engage with air-delivered weapons. The stories of the opposition sneering at demonstrations of our capability are not apocryphal. The Taliban laughed after a low show of force from an F/A 18 in Saidabad, and they were prone to shepherding women and children into an area where they expected adjusted mortar fire to land. Terrain as highly populated and as complex as the Nad-e'Ali green zone (even in winter when cover is less and visibility is better) is not conducive to the use of high yield ordnance or strafing, without exposing the mission to significant risk. And by that I mean killing civilians. That is not to say that we did not use fixed-wing strafing. We did, but in almost 1000 engagements we dropped no bombs, although we did use the range of lower-yield precision munitions from Hellfire through to GMLRS, and through necessity, generally due to the non-availability of a precision asset, we employed numerous artillery and mortar fire-missions.

We also need to be cognisant of the negative information effect of using air-delivered ordnance in somewhere like Nad-e'Ali, where a relatively secure area could be less than 500 metres from an insurgent stronghold. The negative-influence effect of large-yield ordnance being dropped in the contested space is potentially significant, and can set the confidence-cursor back to the left of the scale. In other words the detonation of the munition can have a much wider effect than its blast radius. Commanders who are confronted with immediate kinetic challenges the response to which might legally and proportionally be a high yield munition need to consider the wider context before dropping that bomb or ordering that fire mission. This is simply because of the likelihood of a negative effect on the confidence of the people in the wider populated battlespace. In other words that tactical commander is thinking about, and where possible conforming to, his one-up and two-up commanders' intent of shoring up confidence.

Air and aviation deterrence is effective if it can dissuade him from conducting attacks, it can prevent him from pulling the trigger or laying the IED, however he does not *need* to be

conducting violent activity to be achieving an effect. We massed significant force in Saidabad to give the people confidence to open their bazaar[7], and they did so in early December 2010. However, that massed force (which included much UK and US air power) could not stop the enemy from tipping the balance in his favour once again and the bazaar closed some three weeks after its reopening after a surge of intimidation. When the bazaar closed for the second time, it was not because of the enemy's overt power. It was because the people did not yet have the confidence to say 'no' to him. And at that stage having every allied aircraft in central Asia overhead would have made no difference. *His* asymmetric advantage trumped *our* asymmetric advantage. The fact was that the people were still frightened of what he could do to them despite there being ground troops in the area, and helicopters and aeroplanes in the sky.

> 'The closure of the Saidabad bazaar highlights two things: first, we cannot protect the population everywhere; and second, despite being soundly beaten on the battlefield the enemy can still generate an asymmetric advantage. The deployment of many hundreds of soldiers in Saidabad over the past three months (including ANA) has created a significantly improved security environment but a handful of insurgents with a mobile phone can still generate a *perception* of insecurity and intimidation.'
>
> CO 1 R IRISH ASSESSREP 31 Dec 10

Where deterrence does work is when it is based on previous 'form' and on the enemy's perceptions of our capabilities and his concomitant fear that those capabilities will be directed at him in particular. Being a mid-level Taliban commander in our area was a reasonably short- term career choice. The likelihood of death or capture was exceptionally high, and the precision use of airborne capabilities for target acquisition and development, and then for strike was a key component of this. Our ability to detect and identify fleeting, low-signature, and specific targets improved hugely during the course of the operation. Occasionally we found and then lost targets, but we became reasonably sanguine about this because we knew that we would probably get him the next day, or the day after that. He knew it too, and as a result, the Taliban's mid-level leadership started to command Nad-e'Ali remotely, without the means to do this effectively. I sat in a shura with one of the local elders discussing the establishment of the Afghan Local Police programme when his mobile phone rang; the display showed the call was a Pakistani number. He answered it and put it onto speaker. I then heard a torrent of abuse from the Taliban commander of the southern part of Nad-e'Ali threatening the elder should he subscribe to the ALP.[8] The enemy benefit from face-to-face command as much as we do, in other words, personal leadership. There is nothing more valuable than being able to look your subordinates in the eye and to feel their fatigue and their fear and for them to see that you are with them, sharing the danger and the stresses, and for both of you to be energised by the sense of shared endeavour. The threat - and indeed likelihood - of precision strike and death from the air, or being cornered and captured or killed by ground troops, meant that the Taliban commanders struggled to have the same sort of command

relationship with their people that we had with our soldiers. Soldiers need to be led from the front regardless of whether they are US or British Infantrymen or Taliban fighters.

The conduct of precision strike was clearly dependent on having the ability to find and track fleeting targets. At the start of our tour we had considerable capability, and by the time of our departure some seven months later, we had something approaching ISTAR dominance of Nad-e'Ali. In both circumstances – a *relative* paucity and a *relative* abundance of capability – those assets still needed to be targeted. The standard mechanism of a Decision Support Overlay with identified Named Areas of Interest into which we looked was the key piece of staff work at the Battlegroup Headquarters level. However the complexity of the environment, and the number of J2 start points demanded a relatively sophisticated target prioritisation mechanism to allocate the ISTAR resource to those NAIs (HUMINT/SIGINT/IMINT). As time went on, we knew more and because we knew more there were more places, people and things that we wanted to look at. In the trade off, we stared to look less at 'pattern of life' development and more at specific J2 start points such as IED hotspots, key compounds of interest, enemy firing points and so on. The airborne ISTAR platforms, including UAVs, gave us the flexibility to look beyond the standing decks of the ground-based ISTAR, the mast and aerostat-mounted cameras and sensors. In many ways this ground-based capability provided an ISTAR shield, helping us protect what we held, whilst the airborne capability was much more offensive, allowing us to develop targets for future clearance or strike. Therefore, in addition to the well-understood horizontal layering of ISTAR capability, there was also this vertical layering of ISTAR by *effect*; the inner layer primarily enabled the 'hold' and 'build' functions, the outer layer primarily enabled the 'shape' and 'clear' functions. This outer layer was mostly provided by the air component.

Most fundamentally, ISTAR was a force multiplier. My rough calculations of the force available to me and my Afghan partners suggests that we were never at the recommended minimum ratio of twenty-five counter-insurgents per one-thousand of the population. However, in addition to telling us where we needed to go, ISTAR could also tell us where we *did not* need to go, at least not today, and so this, combined with a high tempo of ground and air manoeuvre mitigated the doctrinal numbers deficit.

This area of precision strike links ISTAR, influence, strike and deterrence reasonably tidily. Through the winter, the local insurgency saw its commanders killed or captured with what must have been a depressing regularity. Those who did decide to continue to kill and intimidate within Nad-e'Ali did so at their own peril. A properly targeted, and well-timed strike to kill or capture could have a seismic effect at the tactical level. That effect could reverberate through people's everyday lives, through local politics and through local security, and all for the good. There was a direct path from the air-power enabled kinetic strike, or a ground manoeuvre raid (invariably supported by air assets) on specific insurgent commanders and groupings, through to the establishment of the Afghan Local Police through to the improved security situation that led to President Karzai's announcement on 27th November 2011 that

Nad-e'Ali would be accelerated in its handover to an Afghan security lead. But it was not just air-enabled strike that led to this outcome, as air assault also had a fundamental role to play.

Air Assault

1 R IRISH used air assault throughout the various stages of the operation, generally at sub-unit level. It had tremendous utility. It allowed the Battlegroup to go where we wanted, to avoid IED seeded routes, and to put large numbers of soldiers on the ground quickly. It demoralised the enemy. 1 R IRISH subscribed to the shape-clear-hold-build model, and Air Assault was particularly effective during the 'shape' and 'clear'. The 'shape' phase was when we wanted to do most of our fighting, it was the period in which we attempted to decisively engage the enemy. We did this by attempting to appear weak, or low in numbers, whilst concealing force, which only unmasked when the enemy presented himself. The model saw the enemy being tactically, kinetically and therefore demonstrably defeated by the start of the 'clear'. The 'clear' was then the establishment of a fixed security presence in the previously contested battlespace. Air assault was fundamental to both the shape and the clear. Not only did it help us to bring the enemy to battle on our terms and to negate some of his advantages, it also shaped perceptions in the minds of the locals. It was a demonstration of power.

'Air Assault has tremendous utility in irregular warfare and dispersed operations, enabling local massing of combat power at high tempo.'

Joint Doctrine Note 2/08
Integrated Air-Land Operations in Contemporary Warfare
August 2008

'Air Assault has proven its worth in that I am able to jab at the enemy where I choose, knowing that we can return for the decisive blow when the relevant target set is sufficiently developed.'

CO 1 R IRISH ASSESSREP 15 Oct 10

Air Assault is not a straightforward activity in a COIN operation, and the challenges of shaping and understanding the battlespace for aviation assault in an IED-rich environment are significant: the pre-assault ISTAR soak draws limited resource from primarily looking at the human terrain elsewhere to primarily looking at the landing sites where IEDs *might* be; the viability of the ground CONPLAN for post-assault non-availability of helicopters for CASEVAC and the replenishment of combat supplies can be the ground commander's most difficult challenge; and the possibility of a late notice cancellation of the operation due to a higher priority emerging elsewhere is a constant threat.

When it did come together though, it was tremendously effective. 1 R IRISH conducted one large-scale Battlegroup-level air assault operation – Operation TOR ZHEMAY VI[9] - in February

2010. This was towards the latter end of our tour, and into Zaborabad, an area where we believed that we had already caused significant attrition to the enemy through the daily grind of patrol engagements, Company-level advance to contacts and the occasional J2-led air or ground manoeuvre strike. The Battlegroup had had soldiers killed and severely wounded fighting in Zaborabad. As a result of all of the effort to that point, confidence in that area was moving our way. However, we needed to do more to convince the people that we were prepared to invest in their future. Neither we, nor the Afghan police or army had a permanent presence in the area, so while we knew that we had caused damage to the enemy, when we launched we did not know how much.

The scheme of manoeuvre saw, in effect, a Battlegroup cordon and search operation with three companies of ground troops and armour providing a horseshoe 'seal' around the contested area to its west, north and east. On D-Day, the air assault element flew from Camp Bastion in a wide arc over the Helmand River sweeping around to the east and then south of Lashkar Gah, finally dropping low over the Red Desert and northern Marjah in order to attack Zaborabad from the south, the unexpected direction. Landing on three landing sites, the fifteen support helicopters inserted three companies, plus Battlegroup Tactical Headquarters in one wave of both UK and US aviation supported by Apache, Cobra, fixed wing assets and Remotely Piloted Air Systems. There then followed a two day advance to contact operation with very limited enemy resistance but with a considerable haul of enemy warlike materiel and a number of detentions of Taliban suspects. The effects of this operation were twofold. Firstly, there was the materiel and personnel attrition of the enemy without fighting. Secondly, and much more importantly, the assault was a catalyst for a shift in the confidence of the people. When we extracted from the area 72 hours after the land-on, the immediate request from the local District Community Council members was for our immediate return. Because of the nature and inherent flexibility of air power, we were able to respond by flexing pre-planned aviation insertions from other parts of the battlespace back into Zaborabad, and to maintain positive momentum in what by this stage was the last remaining area of ungoverned space in Nad-e'Ali (South). Shortly after this operation, we established our first detachment of Afghan Local Police in the area and 45 Commando successfully expanded the cleared area when they took over from us around a month after the operation.

Conclusion

I believe that the 2009 view of the Army's requirements of the air component as simply to be deliverers of lethal and precision force, permanently on station and always on call, is no longer a widely held one; it is now much less of a 'persistent misunderstanding'. The utility of air power in COIN, and its limitations, are increasingly well appreciated by COIN practitioners on the ground ('Learn and Adapt', after all, is one of the principles of COIN). This is reflected, to a degree, in the latest UK Tactical Doctrine for COIN:

'...the air power contribution to counterinsurgency operations goes far beyond the delivery of Close Air Support and helicopter lift.'[10]

I would go further, in that I am clear that air power provided our asymmetric advantage in this particular counterinsurgency effort. Strike, ISTAR and Air Mobility all played a vital role in allowing us to build on the efforts of the Battlegroups that had gone before us. Without the enabling effect delivered by air power, the infantry would have had to conduct a much less subtle and precise campaign with considerably reduced tempo - expending more ammunition, taking more casualties, doing more infrastructure damage and probably killing significant numbers of the wrong people. It is also true though, that the experience of 1 R IRISH in Nad-e'Ali through Winter 2010/2011 regarding the employment of air capability was one of trial and error. In time we understood the breadth of employability of air power, the threats inherent in using it (or not using it), and the secondary and tertiary effects of its deployment (both good and bad). But this was learning on the job. Therefore, in the multidimensional battlespace of a COIN small war, and where the human terrain is the vital ground, there may be 'academic space' for more analysis of the relationship between the employment of air power and securing the confidence of the people.

Notes

[1] Air Power, Insurgency and the"War on Terror", Ed Joel Hayward, RAF Centre for Air Power Studies 2009.

[2] http://www.telegraph.co.uk/news/worldnews/1529620/Major-attacks-useless-RAF-in-leaked-e-mails.html

[3] Headquarters at all levels will 'wargame' each operation prior to its execution to identify areas of weakness in the overall plan and to identify those contingencies that need to be prepared for. The sequence of the wargame sees the force with the initiative taking the first 'action', this will be followed by the enemy's 'reaction', and this in turn will be followed by the 'counteraction' of the force which originally had the initiative. In this particular instance, ISAF successfully executed Op MOSHTARAK during Op HERRICK 11 and Op TOR SHEZADA on Op HERRICK 12; this was the 'action'. The enemy's violent response during Op HERRICK 13 felt like their 'reaction'. It fell to 1 R IRISH, as the in-place force during HERRICK 13 to deliver the 'counteraction'.

[4] Task Force Helmand Operation Order 005-10: Op OQAB ZHEMAY (WINTER EAGLE) 18 November 2010.

[5] United Nations Mission in Afghanistan, Annual Report, Protection of Civilians in Armed Conflict, dated February 2012 http://unama.unmissions.org/Portals/UNAMA/Documents/UNAMA%20POC%202011%20Report_Final_Feb%202012.pdf accessed 3 October 2012.

[6] British Air and Space Power Doctrine AP3000 Fourth Edition.

[7] The Taliban had forced the bazaar to close at the beginning of Op Tor Shezada in August 2010 and it had remained closed ever since.

[8] The elder was Assadullah Karimi, an ethnic Hazara teacher and the headmaster of a school that had been destroyed by the Taliban (and which was later rebuilt during Op HERRICKs 14 and 15). He fled Nad-e'Ali for Lashkar Gah after killing a Taliban member in Saidabad but later returned to lead the Afghan Local Police in his village. He was killed by the Taliban in late 2011.

[9] TOR ZHEMAY VI was the largest Air Assault operation of Op HERRICK 13, and the largest in the

history of The Royal Irish Regiment since its predecessors, 1st Battalion, The Royal Ulster Rifles, crossed the Rhine during Op VARISTY in 1945.

[10] Army Field Manual Volume 1 Part 10, Countering Insurgency.

Viewpoints

Libyan fractured identity: air power and the role of pop-up government

By Flight Lieutenant Andrea Watts

Introduction

The state of Libya is a modern political construct. It is also a somewhat precarious one. The nation currently faces societal challenges considerably greater than those witnessed by many of the other countries that became involved in the wave of revolutionary activity that is now referred to as the Arab Spring which are largely as a consequence of its complicated and turbulent history. For those taking an interest in the future development of Libya, an understanding of the cultural politics - or human terrain - is critical. Acknowledging the fundamental weakness of the state as a meaningful and trusted concept in the eyes of many of the populous is a helpful starting point, leading, as it ought, to a concentration of effort in creating meaning at the local level, rather than the frequently preferred, but overly simplistic top-down institution-building activity so often witnessed in the aftermath of international interventions. It is the premise of this article that air power has the potential to play a vital role in enhancing the relationship between the citizen and the state and, in doing so, can assist the efforts of the Libyan people and their international supporters in fostering social reform.

It is perhaps inevitable that those advocating such a constructivist approach in Libyan affairs would require those functions associated with the state to become heavily decentralised in their delivery. Yet there is a balance to be struck, as caution must also be exercised when considering a complete devolution to any type of autonomous regional government (or the premature embracing of a philosophy of localism which would risk compromising the strengthening and development of essential centralised institutions of national governance and increase the risk of

social fracture and future conflict). Qaddafi's regime recognised the importance of the local and focused much political and economic energy on pacifying the regions. This occurred concurrently with brutal repression of any dissent or criticism of the centralised regime. The Libyan people have therefore had plenty of exposure to rhetoric encouraging popular participation throughout the Qaddafi era, and came to profoundly distrust the veneer of democratic engagement which existed in the Jamahiriya system, despite real power resting within the repressive Revolutionary Command Council.[1] How then, are those responsible for governance in the fourth largest country in Africa, 95% of which comprises desert,[2] to increase the reach of the state sufficiently to begin to construct an identity that is both meaningful and valuable to its relatively small and disparate population, and in doing so become truly democratic? In order to explore some of the possibilities, examples of how related challenges have been overcome by other nation states will be presented. The core argument that state-managed air assets (be they civil or military) are critical enablers in this process, will aim to open up new debate relating to the role of air power in supporting anthropocentric nation-building activity.

History as Prelude

Prior to independence in 1951, the 3 ancient Ottoman provincial identities of Tripolitania, Cyrenaica and Fezzan were largely autonomous in nature. They were governed separately by successive imperial powers and were home to a number of quasi city-states, such as Tripoli and Misrata.[3] Those responsible for the establishment of the newly independent Libya[4] sought to create a unifying, state-based identity, disregarding the existing ancient tribal networks when introducing the 22 administrative regional units and heavily centralising government functions. This situation was described by Emerson shortly after Qaddafi's 1969 revolution as one whereby 'authority and sovereignty have run ahead of self-conscious national identity and cultural integration'.[5] In many ways, this state of affairs persisted throughout the eras of both King Idris and Col Qaddafi, and continues to be one of the fundamental challenges facing those responsible for governing the newly democratic country today.

The Qaddafi years (1969-2011) saw attempts by the regime to foster a growing sense of national consciousness in line with pan-Arab ideology, however the regime also simultaneously destroyed an essential component of state-based identity - civic society (taken to mean civic groups such as charities, political groups, civic clubs, independent educational organisations etc), in order to minimise the opportunity for political opposition. This has left an institutional vacuum in modern Libyan society – the exceptions to this being Islam and the tribe (specifically kinship bonds) often being reflected in the surname of an individual. These two identities are therefore the established primary referent for many individuals in Libya, particularly for those residing in the more rural and conservative areas of the country. Therefore, despite the rhetoric frequently espoused by the new elite, and many optimistic observers to the contrary, Libyan national identity continues to be fragmented and fragile; a problem illustrated when the majority of Libyans used recent ballots to vote in accordance with traditional tribal affinities.[6] The emerging middle classes may articulate a rejection of tribal identity but in fact continue to pursue politics along these lines.[7]

This poses significant challenges to those seeking to foster a stable, democratic, state based system of government following the overthrow of Col Qaddafi in 2011, as the concept of the nation-state in such circumstances is not one that can be said to have a shared meaning for all and neither is the state (yet) performing an indispensible role in the lives of the majority. Such an environment is equally as challenging for those within the international community that now wish to engage in major trade agreements or capital works projects, as the authority for the enforcement of property or contractual rights remains similarly ambiguous. In order for an authentic, credible and respected system of governance to develop, the dominant concerns in each provincial region, and for the 140 existing tribes, will need to be first identified and then appropriately addressed by recognised state actors.

Examples of these entrenched regional perceptions have been well documented, and although seeking to identify any type of regional characterisation is frequently unhelpful and overly simplistic, certain general observations have been attempted. Oakes reflected that, prior to 1951, the Tripolitanians were deeply concerned with the fear of dominance from Cyrenaica - and vice versa - and suggests that this is a fear that is still very much alive today.[8] St John described Tripolitania as 'a volatile mix of ethnic groups, together with a more urbanised culture'[9] which was characterised by tensions between urban-dwellers and pastoral tribal communities. Neighbouring Cyrenaica has similar, but more distinct, antagonism between the desert and the town,[10] and has traditionally taken pride in a history of internal opposition, particularly one that finds a unified outlet through Islamic groups (which may not always be extremist in nature).[11] Prior to independence in 1951, the Cyrenacians largely rejected the idea of a unified Libyan state, with many preferring self-government. However, faced with the threat of continued interference from colonial powers should unification not occur, an uneasy compromise was negotiated. It is therefore relatively unsurprising that much of the initial and heaviest resistance to the Qaddafi regime in 2011 could be found within the Cyrenacian city of Benghazi. Vandewalle[12] consequently refers to Libya as being an 'accidental' state; that is to say one without a shared sense of national identity and that has not undergone an organic process of unification. Vandewalle uses this term in reference to the turbulent history of the Libyan state and the fact that the country was manufactured by the great powers after the Second World War, essentially for their own strategic purposes. Vandewalle emphasizes the critical point that Cyrenaica and Tripolitania had very little in common and, indeed, after they were put together into the kingdom of Libya, remained suspicious of each other.[13]

Finally, the southern-most Fezzan region is traditionally seen as the most African of the provinces, with a mix of Tuareg, nomadic tribal traditions, isolated static oasis-based farming communities and numerous migrants from sub-Saharan Africa, whose presence was encouraged by Qaddafi.[14] It is sparsely populated, as well as being geographically and culturally remote from the other provinces. As a consequence, the people have been described as being 'fiercely independent, they stand apart from other Libyans and maintain their links to their homelands in the Tibesti and Ahaggar mountain retreats of the central Sahara.'[15]

Strengthening the State – Reaching the People

A great deal of research has been conducted into the importance of the citizen's perception of legitimacy when addressing issues in fragile and insecure environments, and how best to promote the state as a legitimate authority. 'Reach' in this sense therefore refers to both the physical and the psychological, as it is not possible to strengthen the legitimacy of the state without first strengthening the citizens' capacity and interest to engage with it.[16]

If we accept O'Neill's proposition that 'all politics is local'[17], key state functions, such as administering justice, the provision of health care, and of education, are much more likely to be effective in fostering intra-state engagement when shaped by local needs and requirements, than by centralised policies. Yet in order to reach diverse communities, scattered over inhospitable terrain and a large land mass, the state must first invest in the means by which to do so. It is essential that it is the state, and not regional powers, that are seen to be delivering such localised services, in order to avoid the risk of inadvertently bolstering destructive provincial factionalism. It is this practice that I therefore have labelled 'pop–up government'. By this, I mean state-sponsored activity that is directed towards addressing the balance between local community prioritisation (for example, in many nations, kinship ties and local communities are largely perceived as being stable, permanent and trusted sociological structures) and central government management (often experienced by the populous as being unrepresentative, repressive and temporary in nature). In other words, fostering a healthy relationship with the citizen does not necessarily require embryonic central governments to be ubiquitous in nature, but it does require the state to be present and effective when the individual expects or requires it to be. This is an even greater challenge when required to govern remote populations inhabiting expansive areas of hostile terrain. It is therefore essential that state actors operating in such circumstances have reliable access to the speed, mobility and reach offered by state-funded air assets, be they departmental, military or commercial in nature.

Air Power and Governance

This is not a challenge that is unique only to fragile or developing nations. In seeking to assist Libyan efforts to build a new nation, evidence can be sourced in the methods pursued by other nations when trying to overcome similar geo-sociological difficulties. In December 2007, the Australian Government made a commitment to 'close the gap"[18] between indigenous and non-indigenous Australians, a policy that acknowledged the inadvertent exclusion of geographically remote indigenous communities from state-delivered services. Indeed, even when offered, the centralised provision often proved to be culturally inappropriate and was therefore shunned by the community or imposed upon them, a situation Hughes described as 'welfare colonialism'.[19] The new model adopted by the Australian Government required agencies to work with aboriginal communities to identify local requirements, which are then delivered by a 'single government interface'[20] representing the Australian State or Territory governments. These agents are overseen by a Coordinator General in central government, who is required to report formally twice a year on the progress made.[21]

The geographical challenge facing the delivery of these locally-prioritised/state-delivered functions to such remote communities has been overcome through constructing delivery policies that are heavily dependent upon, or inextricably linked to, the provision of accessible air transport services. Examples include: the Department of Infrastructure and Transport offering a weekly air service for citizens living in isolated areas, delivering post, fresh produce and passenger services; the Department of Education providing the option of air travel to teachers appointed to schools north of the 26th parallel and the Department of Health Royal Flying Doctor Service offering emergency evacuation, remote medical consultation and primary health clinics.

In order to facilitate these services, each region has a combination of air platforms; for example the Queensland government operates 8 light fixed wing aircraft and 5 helicopters in support of the Government Air Wing, Police Air Wing and Emergency Management Services. Therefore, the importance placed upon air mobility assets in the delivery of state services is clear, a priority restated by the central government in 2010,[22] when it identified 5 funding components in the Regional Aviation Access Programme – air transport services, aerodrome upgrading and three airstrip components linked to inspection, maintenance and upgrade. Without these, the state would be unable to support the 255 remote communities it currently services, and would undoubtedly be seen as having failed in its duty in the eyes of those residing there.

Other established nations that rely upon state sponsored air assets to enhance state-citizen relations include, amongst others: Malaysia, through the Ministry of Transport funded Rural Air Services; Nigeria, where a number of state governments operate air ambulances in partnership with the social enterprise Flying Doctors Nigeria; and Namibia, with the Ministry of Works and Transport running the Government Air Transport Service.

Although the focus of such activity falls largely into the domain of wider governance and human security as opposed to the more commonly recognised and traditional air power functions of policing and defence, it is reasonable to suggest that both these hard and soft air power-generated security responsibilities remain impossible to deliver without suitable air assets. In this sense, these emerging practices (categorised by the USAF as a requirement to 'train, advise, assist and equip"[23]) are of increasing value to upstream and post-conflict activity. Indeed, it could be argued that such functions are inheriting the original tasks identified and undertaken at the very inception of modern military air power operations, to act as a 'swift agent of government'.

Conclusion

In summary therefore, the nascent state structures that will emerge in Libya from decades of dictatorship and centuries of imperial rule will have the highest of expectations placed upon them. The social and historical divisions that had caused such concern in 1951 remain in existence today, enduring as they did in a state of suspended animation throughout

Qaddafi's rule. The failure of the old regime, and with it the associated rejection of Pan-Arabist and leftist ideologies, to deliver on (unrealistic) promises of modernisation and equality must not be replicated in this new era if a contemporary, unifying Libyan identity is to be established. It is thus critical that the new Libyan state is uniformly responsive to the needs and priorities of each of the disparate communities inhabiting all of the provinces, but more importantly, it is perceived to be as such.

It will be impossible for the state to immediately supply comprehensive welfare, security and governance services at each locality, and therefore the concept of pop-up government is worth considering, particularly within the realm of welfare provision. The key to this will be a visible, prompt and effective state response to popular concerns, whereby the population begins to value the reach of the state, rather than being intimidated by it – the means by which this can be best delivered is through air power.

Notes

[1] "A History of Modern Libya" Dirk Vandewalle Cambridge University Press 2012.
[2] "Unseen Sahara" Charles Bowden. National Geographic Oct 2009 – www.nationalgeographic.com. Last accessed 6 Nov 12.
[3] "Countries and their Cultures" www.everyculture.com accessed 8 Nov 12.
[4] Prior to independence, the Libyan constitution was drawn up by a Provisional National Assembly under the supervision of a Dutch UN Commissioner – Adrian Pelt and guided by the UN Council for Libya. "Patterns of Libyan National Identity" Frank Ralph Golino Middle East Journal Vol 24 No 3 (Summer 1970) pp 338-352.
[5] "The Problem of Identity, Selfhood and Image in the New Nations: the Situation in Africa" Rupert Emerson Comparative Politics Vol II No 3 (1969) pp 305-310.
[6] "Tribal Loyalties Supersede National Identity in Libya Vote" Noureddine Jebnoun 20 Jul 2012. Centre for Contemporary Arab Studies, Georgetown University. www.alakhbar.com
[7] "Tribal Political Culture and the Revolution in the Cyrenaica of Libya" Dr Thomas Husken, University of Bayreuth. Paper presented at the "Libya – from Revolution to State Building" Conference, 7-8 Jan 2012.
[8] "Libya – The History of Gaddafi's Pariah State" John Oakes, The History Press, 2011.
[9] "Libya – from Colony to Revolution" R B St John, Oneworld Publications, 2008.
[10] "Countries and Their Culture" William G Dalton www.everyculture.com
[11] Ibid.
[12] "A History of Modern Libya" Dirk Vandewalle Cambridge University Press 2012.
[13] Ibid - Vandewalle.
[14] "Libya's Fezzan: a Bulwark of the Gaddafi Regime" Martin W Lewis 1 Mar 2011 www.geocurrents.info.com Accessed 7 Nov 12.
[15] Countries and Their Cultures (ibid) – The Tuareg pose an interesting political quandry to the concept of the geographical state. As well as being nomadic and roaming across the entire Sahara, they remain matriarchal in nature, with the men frequently going veiled. This is at odds

with the traditional Islamic culture that traditionally dominates in other Libyan communities.
[16] "Fragility at the Local Level: Challenges to Building Local State-Citizen Relations in Fragile Settings" M A Oosterom 2009 Governance and Social Development Resource Centre **www.GSDRC.com** Accessed 7 Nov 12.
[17] "All Politics is Local: And Other Rules of the Game" Thomas P O'Neill Jr. papers – Biographical Note. John J Burns Library, Boston College Online Archives, retrieved 6 Nov 2012.
[18] Co-ordinator General's Priorities 2012/13 - **www.cgris.gov.au** accessed 9 Nov 1
[19] "Self-Determination – Aborigines and the state in Australia" Ian Hughes, Doctoral Thesis, University of Sydney - Dec 1997.
[20] Role of Co-ordinator General – What is Remote Service Delivery? **www.cgris.gov.au** accessed 9 Nov 1
[21] **www.cgris.gov.au** accessed 9 Nov 12.
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[23] "Airpower in Counterinsurgency and Stability Operations" General N.A. Schwartz. PRISM 2, No 2 Mar 2011.

Viewpoints

Air Power and Coercion: The Royal Air Force and Operation Bolton, 1997-2000[1]

By Dr Sebastian Ritchie

Introduction

In the mid-1990s the RAF's principal commitment to Operation SOUTHERN WATCH comprised a detachment of six Tornado GR1s based at Prince Sultan Air Base (PSAB), Saudi Arabia. Theirs was overwhelmingly a reconnaissance mission; there were no weapon releases, they faced few specific threats from the Iraqis, and the Southern No-Fly Zone was rarely violated. By mid-1999 the situation was very different. The PSAB commitment had been taken over by F3 interceptors and the GR1 detachment had doubled in size and was based at Ali Al Salem in Kuwait. The detachment was structured for both reconnaissance and offensive operations, and weapons were regularly released, for the detachment now faced numerous, continuous and specific threats from the Iraqis and constant challenges to the No Fly Zone. This pattern of activity would continue right through to the launch of Operation TELIC in 2003.

What had happened in the interim? The answer, at least from the RAF's perspective, was Operation BOLTON. What follows is a brief summary of the Air Historical Branch history of BOLTON, and some consideration of the more general lessons that might be drawn out of the RAF's experiences. BOLTON is something of a forgotten operation, yet it provides a very informative illustration of how political leaders sometimes seek to employ air power coercively, and of the many and varied challenges that this approach may generate at the operational and tactical levels.

Central to the story was UNSCOM, the United Nations Special Commission established to supervise the elimination of Iraqi Weapons of Mass Destruction (WMD) and longer-range

missiles in the aftermath of the first Gulf War. UNSCOM and the IAEA presided over the destruction of very large quantities of weapons and their supporting industrial infrastructure during the early 1990s, but it was an uphill struggle, and verification often posed insuperable problems. In time, UNSCOM came to suspect that the Iraqis were operating an elaborate concealment system designed to hide documents, computer records and possibly WMD or related equipment; in 1995 this was confirmed by Saddam Hussein's son-in-law, Hussein Kamel, following his defection to Israel.

Thereafter, UNSCOM considered it had little option but to target the concealment mechanism; predictably enough, this change of direction provoked strong Iraqi opposition. Moreover, as it threatened to extend the weapons inspection process into the indefinite future, it incurred the displeasure of countries like Russia and China, who were hoping to profit from the removal of economic sanctions against Iraq. Such international consensus as had formerly existed on Iraqi disarmament now began to break down. These developments assumed crisis proportions in October 1997, when UNSCOM issued a hard-hitting report describing how their activities were being hampered by non-co-operation and concealment by the Iraqi authorities.

In considering possible military responses, it is interesting to note that PJHQ did not conclude that there was a clear requirement for more offensive aircraft in theatre, even if hostilities actually broke out. Sufficient assets were already deployed. The view that more offensive platforms should be sent to the Gulf reflected the government's position that Iraq was unlikely to succumb to diplomatic pressure unless it was backed by force. The visible deployment of more offensive assets was considered to be the best way to emphasise this threat.

Equally, if offensive aircraft *were* to be despatched, PJHQ's preferred option was that they should be land-based Tornado GR1s. However, this pre-supposed the availability of a base from which offensive operations could be mounted; it was doubted that the Saudis would allow attack missions to be flown from their soil. It was in this context that PJHQ suggested sending an aircraft carrier with a mixed force of RAF Harrier GR7s and Royal Navy FA2s. Although it was fully recognized that the capabilities of this force would be more limited, the presence of GR7s in the Gulf would at least present a credible threat to Iraq. Early in November, HMS Invincible was diverted to the Mediterranean and 1 Squadron was placed on reduced notice to move.

In the meantime, relations with Iraq continued to deteriorate, and UNSCOM ultimately withdrew their inspectors in mid-November. The UK formally initiated Operation BOLTON on the 14th. UK objectives may be summarised as follows:

> Political objectives: resume effective UNSCOM operations, ensure the safety of remaining UNSCOM personnel, and keep unanimity within the UNSC and the Arab world

sympathetic towards UN aims. The use of force might be contemplated in support of these objectives.

Military objectives: support the political objectives by deploying and sustaining sufficient military forces, in concert with the US and other potential coalition partners, to coerce Iraq into compliance, or to respond with military action in the event of Iraqi attacks upon Coalition forces.

Strategic End State: restore the authority of the UN in Iraq with the resumption of UN weapons inspections with no preconditions.

An approach was now made to the Kuwaitis to establish whether they could provide a base from which UK aircraft could fly offensive missions against Iraq. They were found to be very enthusiastic, but the UNSCOM dispute had apparently been settled by the 20th, so the GR1 deployment was postponed for the time being. However, it was agreed that Invincible would set sail with the GR7s on board, both for training purposes and to keep UK options open in the event of further problems with the Iraqis. By the start of December, UNSCOM was indeed reporting renewed difficulties.

In the meantime, a base reconnaissance of Kuwait was completed and it was firmly established that a GR1 detachment could deploy to Ali Al Salem. This now became the MOD's preferred option and it was duly recommended that Invincible should return to the UK. Unfortunately, this proposal was not supported by the Foreign Office, where it was felt that the withdrawal of the carrier might suggest a lack of UK resolve to adversaries and allies alike. It was furthermore contended that the deployment of land-based aircraft to an airfield so close to the Iraqi border might be unduly escalatory. Initially, then, Invincible remained in the Mediterranean.

In January 1998, with the UNSCOM crisis steadily deepening, the government shifted its stance and decided that the UK should adopt a harder line. The MOD therefore recommended sending Invincible through the Suez Canal and deploying the GR1s to Ali Al Salem; a decision on Invincible was particularly important because of the time involved in her transit and in work-up activity once she reached the Gulf. Her move was finally sanctioned on the 15th and she entered the canal on the 18th. The diary maintained by 1 Squadron describes how the sun rose that day to reveal desert on either side of the ship and a large number of Egyptian T-64 tanks lining the canal – a clear reminder of how easily it could be closed. She finally entered the Straits of Hormuz on the 24th. A few days later, the GR7s began training integration flying, and they flew their first SOUTHERN WATCH sorties on the 29th, employing simulated attack profiles.

On 6 February the GR1 deployment to Ali Al Salem was finally approved, heralding an all-out expeditionary effort into what was, at that time, an extremely austere base environment. An interim operational capability was established there in less than a week. A review of UK

postures subsequently recommended that the carrier-borne GR7s be withdrawn and that the Ali Al Salem GR1 detachment be raised to 12 aircraft.

Despite the build-up of forces in theatre, the aim was still to support the diplomatic effort, but the possibility of live hostilities was of course inherent in this approach, and it appeared unlikely that if Iraq were bombed, UNSCOM would afterwards be readmitted. The government therefore agreed that if armed force were used and Saddam Hussein still did not allow UNSCOM inspections, he would be held at risk of further military action if he attempted to recreate his WMD capability again. The Americans must have had to address the same issue at this time, but their position was somewhat different. There was in fact a growing frustration in Washington over the extent to which policy was being dictated by the cycle of confrontations between the weapons inspectors and the Iraqi authorities, and the Clinton administration was evidently less daunted than the British government by the prospect of developing a strategy in which Iraqi disarmament was important but no longer central.

Faced with the enlarged US and UK military presence and under intense diplomatic pressure, Iraq appeared to capitulate. On 23 February the UN Secretary General and the Iraqi Foreign minister, Tariq Aziz, signed a memorandum of understanding that paved the way for the renewal of UNSCOM and IAEA activities. It therefore seemed that the strategy of diplomacy backed by the threat of force had been successful.

In May, the Americans began drawing down their forces in the Gulf, and this offered the UK scope to withdraw at least some of the GR1s. There were now 24 of these aircraft in Kuwait, Saudi Arabia and Turkey (on Operation NORTHERN WATCH), and the RAF were becoming concerned about the sustainability of this commitment on the eve of the GR1-GR4 upgrade. But while there was an operational requirement to maintain a GR1 detachment at Ali Al Salem, there remained a *strategic* need to keep at least some British combat aircraft at PSAB. So it was proposed that the GR1s be consolidated to a force of just six aircraft at Ali Al Salem, while F3s took over the PSAB commitment. This proposal was first tabled in mid-June 1998; yet the F3s did not deploy to PSAB until February 1999 and the GR1 force at Ali Al Salem was not reduced until January 2000, and then to eight rather than six aircraft.

How can this be explained? Initially the MOD's preferred course of action did not secure unanimous government support. There was concern about the fact that the reductions would take place in mid or late July, for the head of UNSCOM was due to visit Iraq early in August and a further dispute appeared highly likely. In the event, there was another confrontation even before the visit, so the GR1s stayed where they were. So began the sequence of events that led inexorably to Operation DESERT FOX in December. After an extended period of argument, both within the UN and between the UN and Iraq, the Iraqis finally suspended all co-operation with the weapons inspectors on 31 October. However, well before that, the movement of American assets out of theatre had been halted. Early in November the build-up of US forces

began again, and steps were taken to deploy more UK personnel to Ali Al Salem, and to move reconnaissance operations there from PSAB.

Once again, the Anglo-US concept was 'diplomacy backed by the threat of force', but it was now thought more probable that hostilities would actually break out. Consequently, there was closer consideration of the potential consequences of war, including the likelihood that Iraq would not readmit UNSCOM. With this in mind, it was agreed that air strikes would be partly designed to contribute to the goal of disarmament by reducing Iraq's WMD concealment and regeneration capability, and its ability to threaten neighbouring countries. The aim of any military action would be to coerce Iraq into compliance with its UN obligations, but the desired military end state would be to weaken Saddam Hussein politically and militarily, and to set back his WMD programme substantially. Then, even if UNSCOM were not immediately reinstated, the position would be preferable to one in which Saddam was allowed progressively to curtail UNSCOM's activities. At the same time, it was recognised in London that the US had a wider objective of maintaining credibility. The threat of force would lose much of its value as a diplomatic tool unless the Americans demonstrated that they were actually prepared to use it.

On 14 November, coalition forces were literally on the very point of commencing operations (under the name DESERT VIPER) when word came through that the Iraqis had once more agreed to co-operate with UNSCOM. Again, military action was placed on hold while further deliberations took place within the UN. UNSCOM returned to Iraq on the 18th, but the crisis was renewed almost immediately, and it is clear that the Americans concluded at this stage that military action was inevitable, and perhaps even desirable. And if air operations were to be mounted against Iraq, they wanted them to be complete by the start of Ramadan on 20 December. A further series of intrusive UNSCOM inspections, which inevitably ran into forthright Iraqi opposition, ultimately helped them to meet this time-scale.

On 15 December, UNSCOM reported to the UN that Iraq had not provided full co-operation and had in fact imposed new restrictions on the weapons inspectors. The inspectors were withdrawn on the 16th, and Operation DESERT FOX began that evening. In part, the operation targeted industrial sites linked to WMD or prohibited missiles, but stockpiles, suspected stockpiles, or dual-capability sites were not attacked. The other main targets were the security forces involved in regime security and the concealment mechanism, higher command and control, the Republican Guard, economic targets related to illegal oil exports, and Iraqi air defences. Over four days, more than 600 sorties were flown by approximately 300 combat and support aircraft; 90 air-launched cruise missiles and 600 other air-released munitions were employed, along with 325 TLAMs. RAF GR1s flew 28 attack sorties during the operation, releasing 52 bombs. Two Bahrain-based VC-10 tankers were also involved, along with a Nimrod R1, which operated out of Kuwait International Airport.

Lack of access to key parts of the US planning process makes it difficult to assess the operation's achievements in relation to its objectives. The vast majority of selected targets

were hit, and the campaign was assessed to have destroyed much industrial plant required for Iraq's missile programme, as well as a variety of other locations associated with prohibited weapons production or concealment. But the targeting of the Iraqi regime, the military high command, and the security forces upon which they relied most heavily reflects the fact that DESERT FOX had as much to do with sending political signals as with the degrading of WMD-related facilities. Essentially, it issued a blunt warning to Iraq (and also other pariah states) by demonstrating that a US-led coalition had the capacity to strike all the key pillars of the regime if it continued to pose a direct and tangible threat. On the 19th, President Clinton declared that UNSCOM would no longer be the focus of American policy towards Iraq; instead, the US and her allies would pursue a strategy of containment via a number of different routes.

In the immediate aftermath of DESERT FOX there was a dramatic upsurge in Iraqi activity in the southern and northern no-fly zones, including new SAM deployments, SAM launches and violations by Iraqi aircraft. London and Washington responded with a demarche threatening Iraq with a military response, and a so-called 'tit-for-tat' cycle began. By August 1999 there had been 200 violations of the no-fly zones since DESERT FOX, and 300 SAM launches; Iraqi AAA had also become very active and there had been numerous SAM radar illuminations. The coalition had responded on 92 days, attacking 300 targets with 1,070 bombs; RAF Tornados had hit 23 targets (with many more individual aiming points) expending 85 bombs. In the UK, the MOD was less than happy with this situation. Much of the initiative appeared to rest with Saddam Hussein, and it seemed probable that an aircraft would be lost sooner or later, or else that there would be a major collateral damage incident. But there was no obvious solution beyond seeking to maintain operations that were effective, but low in intensity and media profile.

There was at least now scope to replace the PSAB GR1s with F3s, and the swap finally took place in February. Scaling down the GR1 detachment at Ali Al Salem proved to be far harder. With the GR1 to GR4 upgrade in progress, it was becoming increasingly difficult to maintain overseas commitments and meet aircrew training requirements in the UK. To the Air Staff, it appeared that too many aircraft were deployed and that too few were available at home, and it seemed likely that operational standards would suffer as a result. A proposal to draw down the detachment to eight aircraft was tabled in September but once again fell foul of political and diplomatic developments. By this time, negotiations were under way within the UN to create a new weapons inspection organisation to replace UNSCOM, and to produce an SCR linking weapons inspections to the termination of sanctions against Iraq. Once more, it was argued that the premature withdrawal of aircraft might suggest a lack of UK resolve to nations such as Russia and China, who were arguing for an unconditional end to sanctions. The draw-down proposal was resubmitted in November following the appointment of a new Secretary of State for Defence – Geoff Hoon. But another month went by before the UN passed Resolution 1284, which created UNMOVIC, and only then was ministerial authorisation to withdraw four GR1s from Ali Al Salem finally granted. They duly returned to the UK on 25 January 2000. The scene was now set for the final three years of the RAF's contribution to operations over the southern no-fly zone.

Conclusions and Lessons

Relatively little has been written about the operation that the UK called BOLTON, and the few histories that have been published inevitably tend to focus on DESERT FOX rather than the broader UNSCOM crisis. Consequently, DESERT FOX is not always considered in its correct context; lack of context in turn leads historians to draw the wrong conclusions. One of the most widespread misconceptions is that DESERT FOX failed because it did not coerce Iraq back into co-operation with UNSCOM. Yet, by December 1998, there was in fact little expectation that military action would achieve this end. At the same time, it must be kept in mind that the broader strategy of backing diplomacy with the threat of force appeared to have worked on at least two earlier occasions during the UNSCOM crisis.

A second common contention is that DESERT FOX destroyed the international consensus on Iraqi disarmament. Yet this claim simply does not stand up to close inspection. The truth is that such international consensus as had previously existed disintegrated progressively during the later 1990s, and not as a result of any single identifiable historical event.

No less questionable is the claim that DESERT FOX lacked any clear political objective. The view in Washington was that, well before DESERT FOX, the Clinton administration had effectively lost control over policy towards Iraq, which had deteriorated into a series of uncoordinated ad hoc responses to confrontations between UNSCOM and the Iraqi authorities. The tail was wagging the dog. DESERT FOX's political objective was to restore at least some control and direction to US policy. In part it was also designed to show that when the US underpinned diplomacy with the threat of force, the threat was not an idle one.

Then there is finally the argument that the West faced a worse situation *after* DESERT FOX than before. The problem here is the underlying inference that some kind of perfect solution was on offer. It was not, and the situation that prevailed before DESERT FOX was obviously very far from ideal. It made little sense to found policy towards Iraq on the disarmament issue, when at least two if not three of the permanent five members of the UN Security Council had so obviously lost interest in it. The reality is that both positive and negative results were bound to follow from any available course of action.

Much of the criticism is thus unwarranted. But we do at the same time see during BOLTON a series of attempts by the political leadership in the US and UK to use air power to send signals to Iraq and indeed other countries. This approach tends to be viewed with scepticism by air power scholars and practitioners alike, but it would be hard to contend that their opinions exerted much tangible influence in 1998, and we may therefore legitimately question whether they are likely do so in future. Rather, the key calculations about how signals should be sent and about how they would be received were made by Downing Street and the Foreign Office. MOD concerns did not feature very prominently in their order of priorities, and MOD recommendations only shaped UK policy to a limited degree. If Operation BOLTON does nothing else, it provides an illuminating insight into the realities of UK crisis management at that time.

One illustration is provided by the protracted eighteen-month delay involved in reshaping deployed RAF forces in the interests of longer-term sustainability between June 1998 and January 2000. But HMS Invincible's deployment at the end of 1997 offers the most obvious example. Some commentators afterwards put a positive spin on Invincible's role, stressing how she had been able to 'poise' en route to the Gulf. In actual fact, by December 1997, the MOD would have preferred to withdraw Invincible completely. However, because of the time involved in her transit, key decisions on her despatch had to be taken far earlier than would have been the case for land-based aircraft, and this inevitably then shaped the available options further downstream. The MOD found itself committed to a course of action that soon appeared suboptimal, but which it could not actually change for several months. Not the least of the problems was the extended period of poise itself, which offered only limited training opportunities to 1 Squadron's pilots. Skill fade became a real concern, the fading skills being precisely those that would be needed if the pilots ever reached the Gulf.

It is furthermore difficult to identify any compensating advantages from Invincible's despatch. While it is frequently claimed that the use of carriers eliminates requirements for host-nation support typically associated with land-based aircraft deployments, and by no means always guaranteed, in BOLTON the essential base facilities for the GR1s were made available immediately by Kuwait, mirroring UK experience over many years. The simple truth is that when the UK conducts military operations overseas, it is invariably in response to threats of both global and regional dimensions. On this basis, it can virtually be taken for granted that one or more states in the theatre of operations will feel sufficiently at risk to welcome foreign aircraft onto their airfields with open arms.

Equally, it is a fact that Invincible's deployment could not have been effected without the acquiescence or active collaboration of other states. The movement of an aircraft carrier, complete with a force of offensive aircraft, into a busy and confined stretch of water such as the Persian Gulf, requires at least the passive acceptance of the surrounding countries, if not their active support. The Egyptian government had to agree to Invincible's transit through the Suez Canal, and she later required actual harbour facilities for several days, when it became necessary to dock so that radar unserviceabilities could be rectified. In the absence of this remedial action, Invincible would have been unable to discharge even her most rudimentary tactical functions.

Of the other main lessons from the operation, coalition warfare issues became prominent in November 1998, when communication broke down following the cancellation of DESERT VIPER. The subsequent transformation of DESERT VIPER into DESERT FOX was largely conducted by the Americans; the British were unable to inspect the revised plan until very late, and uncertainties remained afterwards about the reasons for the selection of particular targets and, more broadly, about what the air campaign was intended to achieve. Alliance cohesion is evidently something that requires continuous and extremely careful management.

On a more positive note, the initial GR1 deployment to Ali Al Salem illustrated the importance of expeditionary air capabilities and the extent to which they had been developed within the RAF since the first Gulf War. And the results of DESERT FOX proved useful for the RAF in drawing attention to the fact that more effort and resources had to be committed to training with the TIALD pod-Paveway bomb combination. Resources had been stretched in this area despite the fact that the laser-guided Paveway II was essentially the UK's weapon of first choice throughout the 1990s. TIALD-Paveway training was thus not merely a tactical question; it was an issue of operational and possibly even strategic significance. However, after DESERT FOX the decision was taken to procure more pods and to improve training provisions. As a result, aircrew proficiency in the use of TIALD and Paveway had improved significantly by the time Operation TELIC was launched in 2003.

Notes

[1] This paper is an unclassified summary of the classified Air Historical Branch narrative entitled *The Royal Air Force in Operation BOLTON*.

Book Reviews

Airpower for Strategic Effect

By Colin Gray

Reviewed by Group Captain Chris Luck

Introduction

'The context for understanding airpower, both in general and in particular historical circumstances, is almost desperately complex. There is a great deal not only over which an argument can erupt, but also over which it should erupt.'

Gray's *Airpower for Strategic Effect* is a distillation of decades of contemplation on strategic theory and practice, and is aimed at those responsible for delivering air power. For those who don't know Gray, he is both a thinker and a practitioner with a prolific pen; his life's mission has been to impose a discipline upon the meaning, understanding and purpose of strategy. This book is not about the 'stuff' that makes up air power, it is about its larger meaning and significance to war, warfare and its instrumentality for strategy. Critics will argue that Gray says nothing new and is in danger of becoming a proselytizing bore – in some ways they would be right as Gray's writing does convey a degree of weariness in having to repeat what should by now have taken root in the minds of those responsible for developing and deploying air power. The evidence, as Gray asserts, is that the message is not getting through. The tap root of disciplined thinking on air power remains firmly in the soil of execution, the 'doing', rather than the 'so what?' of it. As air strategists must bridge the gap between the political world that generates policy and the realm of air power, the 'so what?' of 'doing' air power is crucial. But all strategy, short, medium or long term, is hard to devise and deliver, because it cannot be delegated to mathematical formulae. The future context and outcomes of innumerous variables and

interactions, yet alone the enemy's own free will, is unknowable in sufficient detail to plan with certitude; strategy requires judgement born of education and experience.

Gray is adamant that air power 'can be devised and executed competently only by strategically well-educated, air-minded people'. This book aims to educate because 'poor theory does damage in the real world of behavior, as organizations and people are moved to action by ideas'. Divided into three parts, the first section attempts to lead us by the hand on the 'how to think' about theory, strategy and the instrumentality of air power. Central to the whole discussion in this section is the need to nest air power practice within a theory of war and strategy. This is depicted and expanded on in Gray's 'General Theory of Strategy in 21 Dicta'. His message is that air power (and any of the other geographical or functional 'powers') is only strategic (positively or negatively) when assessed against desired political outcomes. The strategist's task is to produce a net positive political outcome. As such, all activity undertaken is *tactical* in the doing and does not privilege any platform or capability as inherently *strategic*. Thus, he asserts that talk of strategic air bridges, strategic tankers, strategic ISTAR, etc is confused thinking and likely to do harm. As Gray hammers home, blessing the means with a quality of performance independent of the context, contingency and outcome has damaged air power's cause. Heretical though it may sound, Gray argues that there is *no* such thing as strategic air power other than in political outcome terms; strategy is done tactically but developed and actioned in order to maximise political choices in an unknowable and therefore unpredictable future. The consequence of this muddled understanding of what 'strategic' is, is that 'no one truly does strategy'. Gray aims to rectify the cause of this skewed thinking and therefore mitigate future damage to air power's story.

Gray is clear; the strategic value of air power is contingent and an unswerving belief otherwise harms thought, preparation and the employment of air power. Gray does not level this charge at air power alone; land and sea power thinking are not guilt free, with the relatively new realms of space and cyberspace at risk of the same theoretical and doctrinal pitfalls. To evidence his air power claims, and lay the foundations for what comes in part three, Gray revisits the whole temporal history of air power in the second part of the book. History is *the* evidential base that can be relied upon and Gray uses it to expose theory-as-doctrine malpractice and to distill air power's true successes. Gray concludes that the air power story overall is a strategic success, when sensibly viewed as a contributor to the net strategic effect required, rather than as panacea. The historical record points to air power's ability to adapt and adjust to meet the requirements of the emerging context and the contingency at hand, *despite* what doctrine demanded a priori. This fungibility of air power - agility, innovative synergy, flexibility and adaptability - is written into the strategic narrative of national security.

The strategic narrative that flows from the historical record allows Gray, in the third section of the book, to distill his 27 air power dicta, in effect to unravel its DNA. This is nested within his theory of strategy from section one and is his handrail for air power thinking. Gray is not ashamed to admit that these are perhaps blindingly obvious and intuitive, but still need stating,

as most practitioners believe the 'serious stuff' is 'doing it', not thinking why and how to do it. If no other section of the book is read, this is where the rubber hits the road. His dicta cover the enduring nature of air power; the how-to-think rather than what-to-think and spotlight what is truly important and timeless for those who have to do air strategy. He is clear that although the character of air power is ever changing - threats, technology, equipment, cultural and political mores –its nature is enduring and therefore knowable and by definition heuristic.

Gray's thesis is simple: strategy is the purposeful use of tactical instruments in tactical engagements to deliver policy ends. An examination of a hundred years of the air historical record clearly shows that the multirole strategic utility of air power 'cannot sensibly be challenged', but that understanding it is desperately complex. With air power now ubiquitous and indispensible, any conceptualising of warfare without absolute regard to air power is bound to disappoint; air professionals should be more confident in their hard-earned success. Joint warfare depends on and demands the geophysical parochialism that the single Services bring; the leadership challenge is for a 'unified and strategic grasp and grip upon the joint but separate tools in the military toolbox'. Gray would rest his pen if he thought that those responsible for the health of air power understood its nature and its instrumentality for strategy. The dicta of air power that he offers are a shortcut as to how to think about air power truly *strategically* – he has done the intellectual heavy lifting for us. This book is essential reading, as a whole, in part or even just the dicta dipped into, as air power is better directed and commanded by people who understand profoundly the tactical "grammar" of their instrument and the logic of its role in strategy and warfare.

http://www.airpowerstudies.co.uk

ISSN: 1463-6298

Produced by Air Media Centre, HQ Air Command. 0617_13AJ

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