ROYAL AIR FORCE

AIR POWER
REVIEW

Volume 13   Number 2   Summer 2010

Centre for Air Power Studies

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ROYAL AIR FORCE AIR POWER REVIEW

The Royal Air Force Air Power Review is produced under the auspices of the Director of Defence Studies (RAF). The publication aims to support the British armed forces in general and the Royal Air Force in particular by developing thinking about the application of air power. The intention is to provide a forum for high quality and academically credible articles on air and space power, with the objective of stimulating debate and promoting the evolution of air and space power thinking within the broader military and academic communities. Authors are, therefore, encouraged to challenge accepted norms and offer novel conclusions; consequently, the views expressed in this journal are not endorsed by either the Editor or the Royal Air Force and do not represent statements of official policy.

Feedback from readers is most welcome and encouraged; those wishing to make comments both positive and negative or make suggestions for how APR can better meet the needs of the broad air power community can do so by clicking on the 'Feedback' button on the Air Power Review page of the RAF CAPS website.

Contributions from both Service and civilian authors are sought which will contribute to existing knowledge and understanding of the subject. Any topic will be considered by the Air Power Review Management Board and a payment of £200 will be made for each article published. Articles should be original and preferably unpublished, although important papers of particular merit will not be precluded.

Articles should comply fully with the style guide published at the RAF Centre for Air Power (RAF CAPS) website, www.airpowerstudies.co.uk; essentially they should be between 2,000 and 10,000 words in length, list bibliographical references as end-notes, and state a word count. Lengthier articles may be published in instalments and contributions from serving military personnel must be made in accordance with 2008DIN03-020.

Material should be submitted in Microsoft Word on CD or by e-mail and should be accompanied, or followed, by a numbered page copy plus any photographs and illustrations. It is the responsibility of article authors to source any figures, (photographs, diagrams or charts) they wish to be included in their articles, and ensure that they have the agreement of the copyright holders for those figures to be reproduced. As a general rule figures will only appear on the article abstract page. Digital pictures should be saved as TIFFs or JPEGs @ 300dpi. Final design format for article presentation on the printed page will be at the discretion of the Editor.

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Supermarine Spitfire P7350 (Mk IIa) entered service in August 1940 with 266 Squadron at Wittering/Hornchurch and is the only Battle of Britain Spitfire still flying.

Foreword

This edition of *Air Power Review*, published as the Strategic Defence and Security Review gets underway, contains a mix of articles, both historic and contemporary. The lead article is submitted by Lieutenant Colonel (Retired) Richard Newton, US Air Force, and is a fascinating exploration of the strategic utility of air power in irregular warfare. He contends that in both theory and application, air power has the ability to change people's behaviours through the parallel mechanisms of influence and coercion. He accepts that, although irregular warfare is a struggle for the allegiance and support of the population, the antagonists play by different rules and that government forces must win the allegiance of the people, while the insurgents force that support through coercion. Therefore, Richard Newton concludes that coercive applications of power by the government need to be applied against the adversary leadership, i.e., the decision-makers. Air power, traditionally employed in a kinetic manner, has a powerful role to play as both a coercive and an influencing mechanism in irregular warfare. The article looks in some detail at how air power might be used at the strategic level to force insurgent leaders to come to the table, and at the tactical level, to restore security and stability. The second article, by Group Captain Clive Blount, uses the experiences of T E Lawrence to consider the application of relevant lessons to modern irregular operations. T E Lawrence, - more popularly known as 'Lawrence of Arabia' – is now widely considered as one of the most successful leaders of insurgent warfare. His leadership of the rising of the Arab tribes of the Hejaz against their Ottoman overlords during the First World War has been widely studied, and his main works contain a treasure trove of thought on irregular warfare. This article, based on previous work published in the USAF's 'Air and Space Power Journal', describes Lawrence's activities during the Arab Revolt, and introduces Lawrence's thoughts on insurgency. In particular, it looks at Lawrence's philosophies from the vantage point of modern airmen; specifically turning around Lawrence's theories on how to conduct irregular warfare against a technologically superior threat in order to examine the possible roles of modern airpower in countering a modern insurgency that is governed by Lawrence's principles. Blount concludes that by the flexible and imaginative use of air power, air forces can deliver in a telling fashion.

A further, purely historically based article is offered by Captain Paul Horne, who looks at the use of air power in Mesopotamia between the

wars, and how it was, he contends, the making of the Royal Air Force (RAF). At the conclusion of the Great War the fledgling RAF faced a new struggle for survival. Having existed as an independent service for less than seven months it was naturally at great risk in the new, rapidly demilitarising world in which it found itself with the Army and the Royal Navy keen to revert to the pre-war, two Service, status quo. To the RAF's hierarchy, Imperial policing seemed to offer the most immediate and cost effective method of demonstrating the RAF's continued utility and the best and most immediate way of securing their hard won independence. This article examines the circumstances which led to the RAF taking command of security within the British Empire's newest mandate, Mesopotamia, and how they went about the task; both in the air and on the ground.

The next article follows a similar theme in that it examines a historical scenario. Unlike the previous article, however, it attempts to draw lessons from historical campaigns that can be applied to the irregular conflicts that we are involved in at present. The author, Squadron Leader James Parker, concedes that the conduct of counter-insurgency is, understandably, subject to much scrutiny but he has attempted to take a fresh look at the area in order to

shed some light on present operations. The aim of the article, therefore, is to analyse the strengths and weaknesses of air power as applied during the counter-insurgencies of Malaya, Borneo and Aden in the 1950s and 1960s, and to apply the key lessons to the conduct of contemporary operations. Parker contends that, whilst offensive air power can be extremely effective, especially following recent technological developments, unintended civilian casualties can have a detrimental impact on the overall campaign. Thus, air power's non-violent contribution has played a more valuable role. In particular, air transport aircraft – notably helicopters – can be important force multipliers in terms of tactical mobility, re-supply and casualty evacuation. Furthermore, the roles of surveillance, reconnaissance and psychological operations should not be overlooked as they too can have a significant effect. The article goes on to assert that, since air power is not applied in isolation during any counter-insurgency, joint and co-located headquarters are to the advantage of all concerned. Finally, the author concludes that air power practitioners should remember that the political context is of paramount importance to the overall success of any counter-insurgency.

The fifth article is an interesting

adaptation of a paper prepared by Air Commodore Russ La Forte for a Higher Command and Staff Course staff ride. In this 70th anniversary year of the Battle of Britain, it a timely piece that looks at the Strategic significance of victory in the Battle of Britain. It contends that as one of the few truly strategically significant battles in history, British victory in the Battle of Britain was pivotal to the course and outcome of the Second World War. Furthermore, the article explains how German attainment of air superiority in 1940 would have led to the eventual defeat of Britain either by direct aerial attack, blockade, and/or by invasion. British capitulation would very likely have had fatal consequences for the Soviet Union facing an earlier and stronger German offensive, would have encouraged accelerated Japanese expansion in the Far East, and probably delayed US entry into the War. Despite these undoubtedly strategic consequences, the principal strategic significance was the effect upon the *moral* component of British and German fighting power. The author concludes that victory in the Battle spawned a moral cohesion that exerted a powerful grip on the British psyche in 1940, a grip that continues even today to permeate our national cultural, popular and political DNA.

The final article for this edition is jointly submitted by Dr Tamir Libel and Dr Joel Haward and is an exploration of the value of understanding air power, looking specifically at the School for Advanced Air and Space Studies (SAASS) in the United States. The article contends that, especially after the Second World War, understanding air power became a high priority for military practitioners, policy-makers and theorists, with the United States leading the quest for sound ideas and concepts for most of the following five decades. In the late-1980s the United States Air Force took this issue so seriously that it established a very senior graduate school to provide critical education to officers considered likely to gain promotion into strategic posts. The article traces and assesses the development and role of the SAASS in order to determine why it originated and what influence, if any, it has actually had on American and other air power thinkers. The article concludes that, with its faculty and students at the heart of air power scholarship, some of their books serving as standard texts, and with students going into influential senior posts, the SAASS has lived up to and possibly exceeded the expectations of its founders. Indeed, the authors conclude that it is hard to identify a more influential centre of excellence in air power education than the SAASS, or even at

this stage to find a peer.

The previous article offers a neat linkage to the viewpoint for this edition, entitled 'W(h)ither Air Power Education?', jointly authored by Group Captains Al Byford and Ian Shields. They discuss the value of education to those serving in the RAF and contend that, particularly in view of the complexity of modern operations, the ability to deal with ambiguity and to think strategically is increasingly important. Furthermore, they argue that it is by the delivery of the appropriate education to the correct people at the right stage in their careers that the Service can garner the greatest benefit and that we fail to invest in this education at our peril.

The edition contains book reviews by Group Captain Ian Shields and Air Commodore Neville Parton. Finally, Air Commodore Neville Parton also offers an historic book review of Bombing to Win : Air Power and Coercion in War by Robert Pape. This is the very last in the series of Historic Book Reviews, which started over 4 years ago with Maurice Baring's *RFC Headquarters*. Air Commodore Parton contends that 'Bombing to Win' fundamentally changed the debate on the way in which 'strategic' air power works, and therefore has to be taken seriously – especially as the lack of any formal response to

the publication has left it as, *de facto*, the last major public pronouncement on the subject. Pape asserts that air power is most strategically effective when used to coerce military targets and fielded forces. This of course throws up questions about the utility of air power in insurgencies; questions which 4 papers in this edition of APR, and in particular the lead article by Richard D Newton, seek to answer.

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The Chief of the Air Staff's Fellowship Scheme

CAS has personally endorsed a series of Fellowships aimed at increasing the intellectual capital of the Air Force. The scheme provides an excellent opportunity to expand knowledge, reflect on previous experiences and broaden intellect while engaging with some of the best civilian academic institutions in the country. It aims to improve the ability of RAF personnel to develop the capability, concepts and doctrine of air power and to articulate the contribution that air power and the RAF makes to the defence and security of the UK.

The Fellowships: There are a broad range of both full-time and part-time Fellowships, all of which are post-graduate level course. The eligibility criterion varies for the individual fellowships, but the scheme encompasses all officers and SNCOs.

The positive benefit of the Fellowships, to both the individual and the RAF, is underlined by the fact that all applications for study are assessed and signed off either by CAS or COS Pers.

For all of the Fellowships rank and pay is retained, and seniority will progress as normal.

Where can I find out more? Further details can be found in AP 3379 Lflt 2460. Annually a DIN is published entitled 'RAF CAS's Fellowships'. The DIN provides a more detailed breakdown of all the Fellowships and associated application and selection procedures.

If you have any questions concerning these documents or the CAS' Fellowships in general please contact the Defence Studies (RAF) Training Officer on 96161 x4848 (Civilian No 01793 314848) or go to either:

- Royal Air Force Centre for Air Power Studies (RAF CAPS) website at **http://www.airpowerstudies.co.uk/casfellowships.htm,**

- RAF Learning Forces website at **http://www.raf.mod.uk/raflearningforces/courseinfo/casfellowships.cfm**.

Twenty Years in Iraq:
RAF Operations in the Gulf since 1990

Conference

Thursday 30 September 2010

To be held at the
Joint Services Command and Staff College
Shrivenham, United Kingdom

Background

The Defence Studies Department of King's College London and the Royal Air Force Centre for Air Power Studies is hosting a one day conference involving air power academics and specialists, military historians, experts on the Gulf Wars, and RAF and other veterans of these conflicts. The aim is to share new analyses of the RAF's contribution to operations in Iraq across the broad spectrum of conflict, including the 1991 and 2003 Gulf Wars, the policing of the no-fly zones between 1991 and 2003, and the counter-insurgency phase from 2003 to 2009. This conference intends to bring together scholars and practitioners, including those with operational experience, with an interest in the RAF's participation in the various phases of the Iraq development in order to explore the following (and any related) themes:

RAF transformation: from Cold War air force to expeditionary air force
The evolution of air-land integration from 1990 to 2009
Modern air operations and the media
Non-kinetic and psychological air power
Air policing and the ultility of air power in low intensity operations
Casualty tolerance and intolerance
Prisoners of war
International perspectives on the RAF's role and performance in Iraq
The legacy of Iraq on the RAF today and the immediate future

For further details please contact

Twenty Years in Iraq Committee e-mail: **dsconf.jscsc@da.mod.uk**
http://www.airpowerstudies.co.uk/sept10conference.htm

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RAFCAPS Prizes and Awards 2009

The Gordon Shephard Memorial Prize

The Gordon Shephard memorial prize is awarded in memory of Brigadier G F Shephard DSO MC RAF. The competition provides a unique opportunity for personnel to air their thoughts and ideas, directly relevant to the Royal Air Force or to the employment of air power more generally, in a Service paper or essay, with the chance of winning a cash prize of £200.

The winner of the 2009 Gordon Shephard Memorial Prize is Gp Capt Chris Luck for his essay entitled 'Air Power and the Contemporary Army' which was printed in APR Vol 12 No 3 (Autumn 2009).

The 2 Air Forces Award

In 1997, the Royal Air Force Historical Society agreed to a request from its United States equivalent organisation, The Air Force Historical foundation, to fund an annual award called "The Two Air Forces Award". The award will be given, on each side of the Atlantic, to the serving Officer, Airman or Airwoman who writes the most pertinent article of the year on a Defence related topic. The award is selected by the committee of The Royal Air Force Historical Society.

The winner of the 2009 2 Air Forces Award is Gp Capt Alistair Byford for his essay 'Executive Fuller! – The Royal Air Force and the Channel Dash' which was printed in APR Vol 12 No 3 (Autumn 2009).

The Park Prize

The Park prize is awarded in memory of Air Chief Marshal Sir Keith Park who was one of the most effective operational Air Commanders of the Second World War. The prize is worth £200 and is awarded annually to the best essay on an air-power related theme submitted to RAFCAPS by a serving RAF Junior Officer, non-commissioned Officer, Airman or Airwoman.

The winner of the 2009 Park prize is Flt Lt Kenny Fuchter for his essay 'China's Military Space Strategy' which was printed in APR Vol 12 No 2 (Summer 2009).

The Salmond Prize

The Salmond prize is awarded in memory of Air Chief Marshal Sir John Salmond who was appointed Chief of the Air Staff in succession to Trenchard. The £200 prize is awarded annually to the best essay on an air power topic submitted to RAFCAPs by a civilian or non-RAF serviceman or servicewomen of any nationality.

The winner of the 2009 Salmond Prize is AVM (Retd) Peter Dye for his essay 'France and the Development of British Military Aviation' which was printed in Vol 12 No 1 (Spring 2009).

Notes on Contributors

Lieutenant Colonel Richard Newton is a former Air Commando from the U.S. Air Force. He served for 22 years as a combat rescue and special operations helicopter pilot, planner, and educator. He had operational tours in Korea, Florida, Iceland, and New Mexico, and is currently on the teaching and research faculties at the NATO Special Operations Headquarters' Training and Education Programme at Chièvres AB, Belgium, and at the Joint Special Operations University, MacDill AFB, Florida. Mr Newton earned a Bachelor of Science in military history from the U.S. Air Force Academy and holds a Master of Military Art and Science from the U.S. Army School of Advanced Military Studies.

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Group Captain Clive Blount joined the RAF in 1980 and is a fast-jet navigator. He completed flying tours in Germany and the UK, including instructional and test-flying tours, and has completed staff tours in the MOD, a major NATO headquarters, and with HQ ARRC in Kosovo. He commanded RAF Gibraltar, has served as an ACSC tutor and until recently was XO of the AWC Test and Evaluation Division at Boscombe Down where he was responsible for the flight trials of Fast Jet Mission Systems. He undertook a year of study via a Tedder Fellowship, gaining an MPhil International Relations at the University of Cambridge and is currently engaged, as a Portal Fellow, in part-time study for a PhD with King's College London, looking at decision making in the Kennedy and Macmillan governments with regard to the crises in SE Asia.

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Captain Paul Horne is a serving officer in the British Army. Educated at the University of Aberdeen and the Royal Military Academy Sandhurst he commissioned into the Royal Regiment of Artillery in 2005 whereupon he served with 29 Commando Regiment for three years, deploying on Op HERRICK in 2006. He then completed the Surveillance and Target Acquisition Patrols Course which allowed him to serve with 4/73 (Sphinx) Special OP Battery. He continues to serve in 4/73 Battery and is currently deployed on Op HERRICK as the Brigade Reconnaissance Force's Fire Support Team Commander, a role which ensures he has a vested interest in Air/Land integration. Captain Horne is currently reading for an MSc in International Security.

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Squadron Leader James Parker is a Flight Operations Officer in the Royal Air Force. His operational appointments have included; Tactical Airlift Control

Element Operations Officer in support of Operation FINGAL, Brigade Air Liaison Officer in Northern Ireland during Operation BANNER, SO3 J3/5 for the Joint Helicopter Force (Afghanistan) and SO2 Air for Task Force Helmand with 3 Commando Brigade. He is currently Officer Commanding of the Support Helicopter Force Headquarters at Royal Air Force Odiham.

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Air Commodore La Forte is an RAF Regiment officer currently serving at HQ 2 Group as Assistant Chief of Staff Force Protection. La Forte joined the RAF as a gunner directly from school in 1978 before being commissioned in 1982. He has a history degree from the Open University (1994) and a Masters degree in Defence Studies from Kings College London (2001); more recently (2009) he is a graduate of the Higher Command and Staff Course and the Royal College of Defence Studies. This article is based upon his staff ride paper for the Higher Command and Staff Course 2009.

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Dr Tamir Libel holds a BA in History from Tel-Aviv University and an MA and PhD from Bar-Ilan University, both in Political Studies. He is a postdoctoral fellow at the BESA Center for Strategic Studies and a freelance security analyst for the Professional School and Services of Security. His dissertation compares changes in western professional military education institutions between 1991 and 2003. He has published and presented papers on military education, Israeli military doctrine and airpower.

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Dr Joel Hayward is the Dean of the Royal Air Force College. He is also a Director of the Royal Air Force Centre for Air Power Studies (RAF CAPS) and the Head of King's College London's Air Power Studies Division. He is the author or editor of eight books as well as many book chapters and journal articles, some of which have appeared in German, Russian, Portuguese, Spanish and Serbian translations. He lectures widely throughout Europe, Asia and beyond on various defence topics.

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Air Power, Coercion, and ... Irregular Warfare?

By Lieutenant Colonel Richard Newton

In both theory and application, air power has the ability to change people's behaviours through the parallel mechanisms of influence and coercion. Although irregular warfare is a struggle for the allegiance and support of the population, the antagonists play by different rules. The government forces must win the allegiance of the people, while the insurgents force the support through coercion. Therefore, coercive applications of power by the government need to be applied against the adversary leadership, i.e., the decision-makers, and positive, influencing actions are employed to convince the populace that the government can defend them and will provide the services necessary to earn and maintain their allegiance. Air power, traditionally employed in a kinetic manner, has a powerful role to play as both a coercive and an influencing mechanism in irregular warfare. This article looks at how those air power might be used at the strategic level to force insurgent leaders to quit the fight and join the political process, and at the tactical level to restore security and stability.

Introduction

*Since war is not an act of senseless passion but is controlled by its political object, the value of this object must determine the sacrifices to be made for it in **magnitude** and also in **duration** (emphasis in original). Once the expenditure of effort exceeds the value of the political object, the object must be renounced and peace must follow.*[1]

Carl von Clausewitz, On War

Of the four functions (of force), deterrence/coercion is the one that if achieved alters directly the opponent's intentions, so making it possible to win the clash of wills rather than the trial of strength.[2]

Rupert Smith, The Utility of Force

Air and space power is 'the ability to project power from the air and space to influence the behaviour of people or the course of events'.[3]

AP 3000, British Air and Space Power Doctrine

Irregular warfare is a political struggle, but still a fight, for the allegiance and support of the population. The population is the prize to be won, the battlespace where the fighting occurs, and sometimes even, the enemy fighting force. Rupert Smith's characterisation of irregular warfare as 'war amongst the people' is now common usage.[4] In fact, it is widely acknowledged that the new strategic environment, fraught with state and non-state adversaries, pervasive news and pseudo-news media exposure, global criminal cartels linked to political extremists, and well-meaning but often clumsy, supra-national interest groups, is complex, messy, and uncomfortable.[5] Although the current and predicted struggles may be for the 'hearts and minds' of the people caught in the midst of these disparate, far-flung conflicts, the nature of warfare has not changed and Western military professionals are adapting to the new strategic reality. Airmen especially need to get in the game. It is time we stopped apologising for our air-mindedness, roll up our sleeves and figure out how to do what air power does best in helping to bring the current conflicts to resolution and seeking to prevent future irregular conflicts.

According to the *Global Strategic Trends*, asymmetric conflict between rebellious groups and nation-states is a situation unlikely to change for the next three decades. The strategic challenge is how to discourage these irregular actors, either through coercion or deterrence.[6] For modern military planners the challenge becomes effectively using air power, arguably the U.S. and U.K.'s strongest and most versatile tools, to achieve political objectives in what is now acknowledged as the most likely form of conflict—ideologically motivated, irregular warfare, for political ends.

In theory and in application, air power has the ability to change behaviours through the parallel mechanisms of influence and coercion. Moreover, air power has afforded U.S. and British soldiers an asymmetric advantage over their adversaries for at least the last seven decades. The ability of air power to both deter, dissuade opponents from acting, and to coerce, force our enemies to act by manipulating costs and potential benefits, is well documented—but the conventional wisdom is that air power's ability to coerce is only applicable in regular-conventional war. This errant

perception has fostered a fractious 'boots on the ground' attitude within our respective defence communities. Robert Pape, in *Bombing to Win: Air Power and Coercion in War*, noted that guerrillas were immune to coercion.[7] This paper suggests the opposite is true; that insurgent leaders can and must be influenced, either deterring them from or denying their forces the ability to conduct politically motivated violent actions or coercing them into negotiating an end to their campaigns of violence.

Irregular war is political war. While all wars are ostensibly fought for political purposes, the adversaries' strategies differentiate regular-conventional war from irregular war. In the former case, military actions take the fore with diplomatic, economic, informational, and social elements following attainment of the military objective (think World War II). Combat normally takes the form of uniformed military forces meeting and clashing on or over a battlefield. Political, social, and economic changes happen after the fighting ends. In irregular warfare the adversary's objective is to win (or force) the political case among the population. There may not be recognisable military forces on one or both sides. David Galula in *Counterinsurgency Operations* makes the case that an insurgent knows it is foolish to attack the government conventionally and thus must 'carry the fight to a different ground where he has a better chance to balance the physical odds against him'.[8] Galula, as so many others, says that the 'different ground' is the population. The contest in irregular warfare therefore, becomes a tug-of-war for control of the population

through tacit or explicit agreement or through intimidation. This is war among the people.

The idea that the struggle in irregular warfare is for the 'hearts and minds' of the population certainly holds true, especially for U.S. and U.K. political and military leaders who are held accountable to their own populations, the global community, and the affected population of the region in question. The irony is that our two nations must 'play nicely' while the insurgents are free to use whatever tactics and capabilities, nice or not nice, they choose. In fact, the two sides do not even play the same game (as in chess and checkers—same board, different games). Certainly, in the present incarnation of irregular warfare, our adversaries cannot make serious claim that they value the opinion of the affected people. Irregular actors/insurgents need only acquiescence and passive loyalty from the people and they don't care how it is achieved or maintained.[9]

So, what do insurgents value? Power! Insurgents, whether nationalist, separatist, religious, socialist, ethnic, economic, or whatever, want to be in charge. Insurgent leaders want to decide who gets what rather than allowing the incumbent political apparatus that right. In general terms, the insurgent's goal is to replace the government (and its foreign supporters) through violence and eventually rule the region, area, nation, etc. as the new government. Determining the legitimacy of the insurgent's claim, supporting the methods they choose to employ, and accepting the insurgent movement's cultural, social, and economic standards is what makes

insurgencies so complex, messy, and uncomfortable. Clausewitz' concept of the Remarkable Trinity, the reasoned and rational interaction between the government, the military, and the population, barely applies to the insurgents because the people have so little free choice when the insurgents are in their midst. We will explore this further in the section on coercion and irregular warfare.

In Western liberal democracies, the people vote to decide who their rulers will be. There are mechanisms in place to peacefully change the leadership when the elected leaders and governments fail to meet expectations. Irregular actors and insurgents, despite their public rhetoric, are generally autocratic and predominantly intimidating in the way they win and hold power. The people have little, if any, choice in the decision. To be completely candid, though, people living at the subsistence level barely care who is in charge as long as their physiological (food, water, shelter) needs are met and their families are safe and secure enough to live without fear. Religion, ideology, group-think, and tribal culture may provide a sense of belonging and structure, but they become important only as a means of gaining the basic levels of human needs—physiological and security. At the end of the day, whichever side in an insurgency helps people feed their families and keeps midnight armed visitors away from their doors will win the tug-of-war for the populace. Whether it is freely given allegiance or obedience through intimidation only matters to the 'good guys.'

Coercion, Denial, and Persuasion,

According to the *Concise Oxford English Dictionary*, coercion is the act of persuading (an unwilling person) to do something by using force or threats. This definition has a definite negative connotation. It is not unfair to say that airmen's emphasis for planning and employment has tended towards kinetic targeting and rather than the range of coercive mechanisms that might be used to change enemy behaviour. Perhaps this is a legacy of the air control period between the World Wars, or maybe it is a failure to truly understand and apply the theoretical traditions of Douhet, Trenchard, and Mitchell to the new version of modern warfare. It does not matter. The time is now for serious planners, no matter what colour uniform, to understand and apply air power's powerful influencing effects, in concert with those being exerted by the soldiers and marines on the ground.[10]

Karl Mueller notes that coercion ranges from destruction through punishment, or that force which is directly aimed at the enemy's will. Punishment is force used as a negative reward for undesirable behaviour, but does not substantially effect enemy capabilities. Denial is also aimed at the enemy's will with the intent of changing enemy behaviour by making a particular course of action appear pointless.

Destruction ←——————→ | Denial ←————→ Punishment
                        | Coercion
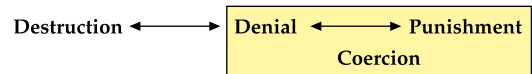
Destruction, suggests Mueller, is a physical objective intended to affect an opponent's ability to make or continue fighting. However, destruction is not directed against enemy will. Punishment and denial constitute coercion because they

orient on the enemy's will and with the intent to force decision-makers to make policy choices. Coercive punishment would use air power as a punitive measure in response to an adversary's actions. Coercive denial is the use of air power to shape enemy expectations about the future. One is a reflexive, while the other is preventative. Evidence shows that persuading the opponent that political objectives will not be attained (denial), rather than threatening punishment unless combat actions cease, provides the critical leverage for coercion in irregular warfare.[11]

Coercion has three component elements; credibility, capability, and communication. The first, credibility is the overt and intentional act of ensuring the adversary believes we possess and will use whatever capabilities we threaten to employ.
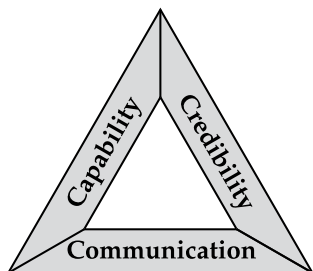
Credibility is about reputation and willpower. The enemy nearly always has a better understanding of our political will than we generally give them credit for. Therefore, the rule for planners and for politicians is, 'Do not threaten unless you are truly prepared to act'. Second, capability, deals with the tools used to deliver the threatened effects; whether weapons, bombs, intelligence-gathering systems, security forces, or specialised capabilities. And the third, communication, indicates

the ability to accurately, reliably, and quickly transmit and receive the desired actions, threats, and demands.[12] To illustrate, during the interwar years, the RAF was able to control recalcitrant tribes in the Mideast, effectively implementing an 'air scheme' to replace battalions on the ground. British political officers or RAF Special Service Officers who spoke the languages and were fully immersed in the cultures of their regions would deliver messages to the errant tribes stating British or colonial demands, timelines for compliance, and laid out the expectations/threats should demands not be met (communication). When demands were not met, the RAF bombed their villages (capability). And, the RAF was able to continue bombing, day and night, not allowing villagers to re-enter and collect their valuables or resume normal life patterns, until the demands were addressed (credibility). Unless each of these 'Cs' is fully addressed suggests Mueller, the intended coercive impact falls short or fails.

Robert Pape suggested that coercion forces an opponent to consider the relative costs and benefits of not fighting versus continuing to fight. While his book was written primarily about regular-conventional war, his argument bears consideration. Like Mueller, Pape notes that the challenge is convincing the adversary leadership that acceding to government demands is a better course of action than resisting them.[13] The devil, as is usually true, is in the details and historically this has been where the U.S. has come up short. In order for coercion to be decisive, it must 'target' the opponent's critical requirements and critical

vulnerabilities, those elements of national or combat power absolutely necessary to wage war or the 'Achilles heel' with the potential to negate all other strengths and capabilities. Insurgents and other irregular actors have different critical requirements and critical vulnerabilities than peer and near-peer, conventional adversaries. The skills and the tools used for targeting and systems analysis in regular-conventional warfare, however, come up lacking in irregular conflict. Therefore, planners and targeteers preparing for the current and most likely future fight must develop alternative skills sets in order to analyse, comprehend, and address the peculiar requirements and vulnerabilities of the irregular actors they are facing.

Those alternative considerations will likely fall into the realm of persuasion, or the more positive area of incentives and rewards. Too often, air planners remain safely within their comfort zone of 'Warheads on Foreheads', using air-delivered firepower to threaten or punish instead of seeking ways to deliver incentives and rewards via air power.[14] This reversal of mindset, from the nearly exclusive tendency towards coercive targeting to a more comprehensive approach, which includes a more positive orientation towards inducement and persuasion, will be critical to increasing air power's impact in irregular warfare.

Coercion in Irregular Warfare

Gp Capt A.P.N. Lambert observed that if force was to be of utility in irregular warfare, then it would be in a 'more subtle, and hence coercive, application'. The difficulty in applying coercion theory to irregular

warfare, especially in its present incarnation, is knowing who to coerce, i.e., who in the insurgent movement has the power to make decisions and the strength of position to lead the movement to our desired outcome. Successful coercion depends on understanding the decision-making apparatus of an insurgent movement, an extremely difficult undertaking because of the secretive nature of an insurgency, but also the cultural, ethnic, and social differences between adversaries. Closely related to this first issue, is discerning what is valuable enough to influence the adversary's decisions, i.e., those motivating and influencing factors, or the threats and incentives that will force decision-makers to act in ways that will end the violence and lead to negotiated solutions. While coercion exists in the cognitive domain, it acts in the physical domain to generate influencing effects.

We can take Lambert's observations and flavour them with a bit of Karl Mueller's work, to model coercion in irregular warfare as the interaction between power, presence, and
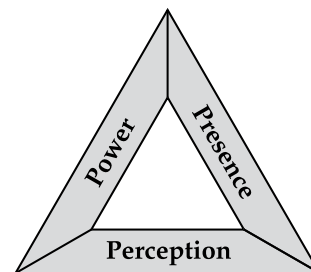
perception. As previously established, coercion is primarily about force or the threat of force. Insurgents have the power to intimidate the populace and in the process compel the government to act and/or react. The government counters insurgent

actions by using its full range of civil and military powers to defend the population and eliminate or neutralise the insurgent threat. *Power* is wielded through *Presence*.

Insurgents will normally operate at the local levels to provide or displace government authority and control. The fertile grounds to grow insurgent movements are those areas ignored by or denied to government institutions. Governments able to establish a presence in remote or hostile regions, providing and maintaining educational, judicial system, policing, and some level of medical and veterinary services, all the while effectively defending the population from insurgent intimidation, are often successful countering insurgent efforts. It is important to highlight that presence includes both defending the populace from intimidation and providing essential government services.

Underpinning the entire model is *Perception*. Irregular warfare is fought for, about, and with influence. Perception efforts are aimed at making the insurgent leadership comprehend the consequences of not meeting government requirements and ensuring they understand the opportunities available to resolve the issues through the political process. It includes the threatened use of force, made credible by the government's demonstrated ability and willingness to use the force. Reputation matters; coercive efforts/ influence are only as good as the extent to which the adversary believes the government will take all legal and ethical means at its disposal to achieve the desired end-state. In addition, perception includes those

programmes and activities that maintain the government's credibility and legitimacy among the people, influencing them to shift or sustain their support to the government. Reputation from the people's perspective also matters. Incentives to induce/influence the people to support the government rather than the insurgents are important, but they are only effective when the populace perceives that the government is committed to their safety, welfare, and protection over the long haul.

The Power-Presence-Perception model can help planners design effective campaigns for irregular warfare. Understanding that insurgents will use actual and threatened violence to force government actions and drive popular expectations. Insurgents know to focus on the political leadership; those individuals responsible for making national-level decisions about continuing or quitting the fight. The insurgent leadership generally has a full understanding of the government's critical vulnerabilities and exploits those vulnerabilities to exhaust the government, with the ultimate goal of wresting political power from those currently in charge—politics from the barrel of a gun to paraphrase Mao. This powerful and simple image reinforces our understanding of the essence of irregular warfare; politics with a healthy dose of violence added in.

If political power is the insurgent's objective (end), what is the role of the people? David Galula, one of the foremost counter-insurgency experts, makes the case that the insurgent knows it is foolish to fight the government conventionally and thus

must 'carry the fight to a different ground where he has a better chance to balance the physical odds against him'.[16] Galula, like so many other counter-insurgency theorists and practitioners, says that the 'different ground' is the population. The people then, become the means for securing or maintaining political power.

In discussing the roots of rebellion and insurgency, Ted Robert Gurr wrote in *Why Men Rebel* that political violence begins with development of the discontent, transitions to the politicisation of that discontent, and finally results in violent action against political objects and actors.[17] He suggests that in order to counter political violence the government's objective must be that element able to identify and articulate the collective dissatisfaction, energise and mobilise the society, and then orchestrate the programme of political violence and destructive information that eventually brings down the government.

In the war of exhaustion the insurgents must necessarily fight, the enemy's path to achieving its desired end-state is usually through the government's security forces. But not in ways regular-conventional soldiers would prefer. The irregulars know they are likely to face overwhelming combat power should they engage in large-scale confrontation with government forces. Therefore, they will avoid those fights unless there is significant political gain to be won.[18] Actual and threatened guerrilla attacks, suicide bombers, improvised explosive devices, ambushes, and homemade rockets force the government to defend everywhere, exhausting friendly units, expending scarce funds, and diverting talented people to provide security that would probably be better employed addressing the grievances and solving the problems that spawned the insurgency in the first place. To put it simply, insurgents engage in fighting but avoid warfare.

This fact does not diminish the importance of the people, especially in a Maoist, 3-phase model of insurgency; Strategic Defensive (organisation and build-up, establish foundation), Strategic Stalemate (gain support, build reputation, preserve resources), and Strategic Offensive (war of movement, demoralise the government, establish solid popular support).[19] Mao Zedong understood the importance of the population in the Chinese model of revolutionary warfare and designed a methodology based on mobilisation of the masses to isolate the government and supplant government authority from the bottom upwards; protracted people's war. In his primer on revolutionary warfare, *Guerrilla Warfare*, Mao noted that weapons are an important factor, but not the decisive factor; it is the people, not things that are decisive this sort of warfare.[20] He goes on to caution his admirers and imitators to 'not cut the feet to fit the shoes'. Mao's writings were about revolutionary warfare in agrarian China where the people were the richest source of power and after the Marxist-Leninist, top-down approach proved ineffective. The 3-phase model of insurgency was a model worth considering, but should not and could not be applied to every insurgent situation.

A problem for planners is that Western irregular warfare doctrine is

heavily weighted towards the Maoist model. Not every group of irregular actors, though, chooses to follow the 3-phase model. Those using a Marxist-Leninist approach use a top-down method and do not go through the subversive, build-up phase. Instead, 'professional' revolutionaries of the vanguard elite conspire to lead the state to a new political and economic order. In the Cuban model proffered by Castro and Chè Guevara, the insurgent army is held out as the galvanising force and the vanguard of the new order. Military successes are used to discredit or embarrass the government, which pushes the people to switch their allegiance to the insurgent alternative. And finally, the Urban Guerrilla model proposed by Carlos Marighella uses focused attacks on the wealth and the power of the ruling and economic elites in order to force government over-reaction, thus turning political crisis into repression and anarchy. These three insurgent models hold the people in a different, less essential stature than does Mao's rural, mass-based model. More importantly, though, this cursory review of other models affirms the idea that while irregular conflicts and the actors involved may hold similarities, there are important differences that must be considered, especially with regard to the importance of the population, when designing coercive mechanisms to support counter-insurgency strategies and campaigns.

According to Gp Capt Lambert, coercive force is effective only if its target can affect the outcome. Typically, he says, the targets are the leadership, the population, and/or the enemy forces.[21] While this perspective on coercion has considerable merit, we must remember that it was written in the context of regular-conventional warfare. When applied to ideologically-driven, politically-motivated, irregular warfare, the options for coercive action are intentionally constrained. Politics, culture, history, geography, and economics will all come into play and limit the character and the application of coercive force by the government. The enemy's guerrilla tactics, surreptitious methods, and distributed network of small, autonomous fighting units will further limit the coercive measures that might be employed against the insurgent organisations.

There are commonalities among ideologically-based mass movements, whether religious, political, economic, or nationalistic, or if Maoist, Marxist-Leninist, Cuban, or Urban Guerrilla. One of those common traits is the central role played by key leaders. Eric Hoffer, in T*rue Believers: Thoughts on the Nature of Mass Movements*, observed that every mass movement has True Believers, men of fanatical faith who embody and articulate the core tenets, inspire and mobilise the masses, and lead the group to action.[22] Depending on the developmental phase of the mass movement, those leaders will either be *men of words*, *fanatics*, or *men of action* (Hoffer's titles). It helps our understanding and later application of coercive theory to spend a bit of time reviewing Hoffer's research.

Men of words, said Hoffer, are the visionaries and charismatic orators who pioneer the movement by discrediting the prevailing order and institutions, articulating a hope

for the future, and offering a vision for achieving that better future. Interestingly, without the man of words to unify the masses, humans tend to accept their current situations, no matter how dismal, as the normal state of affairs.[23] It then takes the *fanatic* to ignite the flames of rebellion and mobilise the large, uncommitted portion of the population. Fanatics are those who can see the future articulated by the men of words and are prone to the physical actions needed to achieve that envisioned future. The fanatic, according to Hoffer, thrives on chaos and will push the man of words aside while still spouting the man of words' doctrine and slogans in order to inflame and mobilise the masses.[24]

Where it takes the man of words to pioneer a movement (develop the discontent) and the fanatic to give substance to and mobilise mass movements (politicise the discontent), it is *men of action* who consolidate the effort and institute the enduring elements that ensure the movement's survival, longevity, and success. Hoffer notes that men of action 'save the movement from the suicidal dissensions and the recklessness of the fanatics'.[25] Men of action concern themselves with administering, preserving, and expanding any gains won during earlier phases of the insurgency (turn discontent into political violence).

To illustrate with a modern example, Osama bin Laden might be considered the *fanatic* for the al Qaeda movement. Through his efforts, commitment of personal fortune, and force of personality, he has mobilised Muslims from around the world to support al Qaeda and

its related organisations. But, it was Sayyid Qutb, an Egyptian, and Abdullah Yusuf Azzam, a Palestinian, members of the Muslim Brotherhood and teachers of Ayman Zawahiri and Osama bin Laden, who were the *men of words* and provided the ideological inspiration for the global jihadi movement. Sayyid Qutb's book, *Milestones*, continues today as a manifesto of radical Islam. And it has been Ayman Zawahiri, controlling, administering, and sustaining the network, who can be considered al Qaeda's *man of action*.

It is these True Believers, Hoffer's fanatics and men of action, who inspire, mobilise, guide, and sustain the moral and physical strength of an insurgent movement who should be the focus of coercive actions. In example after example, from around the world, it has been consistent— without effective leadership mass movements, no matter if good or evil, will fall apart. Furthermore, so long as the insurgent leadership has little or no desire or impetus to negotiate a settlement and rejoin the political process, then the government is obliged to continue the struggle if it wishes to remain in power. Coercion in irregular warfare must change the political algebra sufficiently to provide the needed desire and impetus among the True Believers to negotiate rather than continue fighting.

Counter-insurgency theorists Sir Robert Thompson, David Galula, and Sir Frank Kitson, in addition to countless observers and historians of insurgent movements, have established that no counter-insurgency succeeds without widespread popular appeal. This

irregular warfare 'truth' has led some to attribute centre of gravity status to the population. While such a view might be acceptable at the tactical (or local) level, at the operational and strategic levels the centres of gravity cannot be the populace.

Clausewitz' original definition of centre of gravity called it that 'hub of all power and movement upon which everything depends'. British doctrine defines centre of gravity as the, 'characteristic, capability, or influence from which a nation, an alliance, a military force or other civil or militia grouping draws its freedom action, physical strength, cohesion or will to fight'.[26] Using these definitions, and understanding that it is the insurgent movement's leadership that must be convinced to cease fighting and accept the political process, it is the True Believers who are the capability from which an insurgency maintains its cohesion and will to fight; they are the enemy centre of gravity in irregular warfare. The True Believers are the focus of coercive mechanisms and must be convinced that they have no hope of political victory, that continued resistance will not lead to a better political outcome, and that compliance with government demands or offers is an acceptable option for the insurgents to join the political process.[27]

Applications of force to compel the population to support a government and withhold their physical and moral support from the irregulars has proven to have the opposite effects than those desired (consider the examples of occupied peoples in Europe during the 1940s). General Kitson probably said it best, '… the government not only has to

counter the steps which the enemy are taking to get their cause across

Insurgent Leaders
Population
Armed Elements
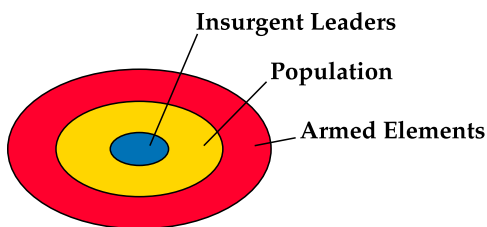
to the population, but also has to put across its own programme in an attractive way'.[28] The government may be forced to defend itself from insurgent claims of misuse of power, ethnic favouritism, economic failure, financial transgressions, religious deviation, or human rights abuses. Insurgents are rarely required to provide proof; they have the luxury of making allegations and placing the government on the defensive. Governments, which are typically held to rigid standards of scrutiny and accountability not applied in equal measure to the insurgents, are then forced to expend efforts proving the claims false while the insurgents move on to develop the next allegation. Also, the insurgents need only intimidate the population into compliance, whereas all but the most repressive and corrupt governments must reassert and defend their legitimacy to govern, winning back the hearts and minds of their populations. So, while coercing the population may be a valid strategy from the insurgent's perspective, a government exercising a coercive approach towards the population can expect to reinforce the insurgent's anti-government messages, source additional allegations of abuse or misconduct, stoke anti-government sentiment, and

encourage insurgent recruiting.

Coercive action against irregular forces is problematic. The very nature of guerrilla warfare, i.e. elusive guerrillas who rarely hold terrain and avoid combat operations except on the most favourable of terms, makes coercive punishment largely useless against insurgent armed elements. The Clear-Hold-Build-Win strategy that has proven so successful countering insurgencies of all models is based upon coercive denial, preventing or discouraging adversary forces from acting. It begins with government security forces driving irregular armed elements and political enforcers out of an area (Clear). Then the insurgent presence is replaced with friendly forces and government services (Hold). Finally, the government arms and trains the locals to assume responsibility for their own defence while programmes and services restore the allegiance and active support of the people to the government (Build and Win). The government's challenge is providing sufficient forces to protect every village, town, and vital node from insurgent intimidation or attack. In irregular warfare, coercion by denial is costly in terms of resources, troops, funding and time, but it is the only strategy that has been shown to be effective against determined insurgents.

Over time, coercive denial makes the True Believers, the insurgent leadership, realise they have little to no chance of prevailing. Coercive denial threatens what they value— power and status. Enemy power and status are not military objectives however, thus a comprehensive approach is needed to prevail against irregular actors. Government threats to civilians have little, if any, effect on the True Believers. Therefore, the government's actions must threaten the insurgent leadership's basic physiological needs (food, water, shelter) and then their safety and security needs through an indirect approach to isolate, marginalise, and discredit the leaders and their message.

When designing the campaign, one should probably begin with the assumption that the True Believers will be 'untouchable', either because they do not wish to be found or they enjoy geographical, political, or social sanctuary. The government's options for capturing or otherwise directly applying coercive impact will be limited by borders, terrain, threat, the leaders' real or perceived political status, and/or their social status in the world or region.[29] Neutralising and compelling insurgent leadership to change attitudes and behaviour is the 'complex, messy, and uncomfortable' part for most military planners. The comprehensive approach uses political, diplomatic, social, economic, and judicial methods, in addition to military options, to isolate, marginalise, and discredit the True Believers.

Meanwhile, at the local level the Clear-Hold-Build-Win strategy pushes irregular forces out of an area, protects the people from intimidation and exploitation by the insurgent armed elements, and restores government authority, credibility, and legitimacy in a region. When given a free choice, people will withhold their support until the likely winner emerges. The government can threaten True Believers by

forcing the insurgent political organisers and armed elements into inconsequential spaces, effectively denying them from exercising any power over the people. It is the combination of an effective denial effort at the local level, combined with strategic-level programmes to isolate, marginalise, and discredit the insurgent leadership that provides the comprehensive coercive force to compel the True Believers to seek a political settlement.

Airpower, Coercion, and Irregular Warfare

The British and you [Afghan Army] have the guns, the Taliban have the guns, we are just the people whose land you are using to do your fighting. We hear fine words now, but will you be here in the future to protect us when the Taliban come back to punish us for co-operating with you? Or will you do what you have done in the past, come here, say fine words and then just leave?'[30]

The above exchange occurred during a 2010 meeting with tribal elders in Showal, a village in Helmand province Afghanistan, to discuss reconstruction and stabilisation projects being offered in the aftermath of recent combat operations. During the meeting, as village leaders failed to embrace the reconstruction projects, work-for-pay opportunities, and infrastructure upgrades (school, irrigation, clinic, bazaar) being offered, one elder questioned the Afghan and British officers with the above statement. The villagers' concerns were at the basic level of human needs; physiological and safety. While they accepted that the Army was strong enough to force the Taliban to leave their village for the moment, they

questioned the government's ability to prevent further intimidation (it was noted later that Taliban insurgents were in attendance at the meeting) and provide a safe and secure environment for them and their families over the long term. Further, the village elders needed assurances that the government would take whatever means necessary to protect the village should they accept government reconstruction projects and aid. The same story has been told, albeit with different actors, in the Philippines, Colombia, Nepal, Kampuchea, Vietnam, Algeria, and so many other irregular conflicts. The normal epilogue to these stories usually goes something like, 'You soldiers might as well kill me yourself, right now, because tonight when you are gone, the *[insert name of insurgent armed force]* will come and kill me anyway'.

Coercion in irregular warfare, as illustrated by the examples given and others implied, is about the interdependence between power, presence, and perception. Air power, like land power, acts within
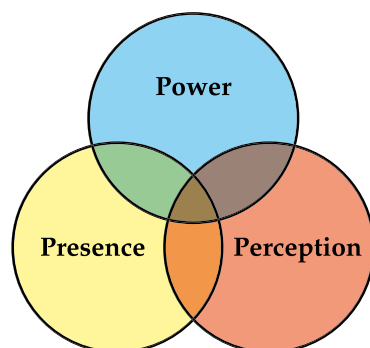
these three domains to provide coercive effects. How air power is exercised to influence irregular actors is necessarily dependent upon

each situation. Despite similarities among them, every war is different. It is incumbent upon planners to understand each component's strengths and limitations in terms of geography, political constraints, and social perceptions in order to develop strategies appropriate for the irregular enemies they are likely to face. The Israelis' 2006 campaign against Hezbollah illustrates the consequences of favouring one component over another instead of taking a holistic approach. Hezbollah, an adaptive, elusive enemy, able to hide among the population, effectively blunted Israel's air power advantages by aggressively using the collective power of regional and global information systems as a coercive tool to influence Israeli government actions through third-party actors.

'Boots on the ground' is a critical requirement for successful counter-insurgency at the local level. The soldier and the policeman patrolling in the village provide a very potent deterrent force, operating in all three domains of coercion; demonstrating the government's power, providing the presence and assurance of the government's commitment to the people, and building the perception and understanding to counter the insurgent's message and pre-empt further threats to the people. And, while the protective-deterrent role is absolutely critical to the overall scheme to force the insurgents to cease fighting, strategic-level coercive actions must be directed at insurgent leadership. Air power's agility, in addition to its speed, reach, and ubiquity gives it the ability to provide an asymmetric advantage from the tactical through the strategic levels.

Modern aircraft are fully capable of conducting more than one mission, often on the same sortie. For example, a single unmanned aerial vehicle has the endurance to loiter over a target area for long periods of time in order to establish patterns of life, collect signals intelligence, and track a potential high-payoff target (HPT) in its intelligence and situational awareness role, identify and strike adversary air defence threats it may discover in its air control role, and provide the vital air-land integration and terminal attack linkages a forward air controller needs to manage ground assisted air interdiction, close air support, and close combat attack sorties from fast jets and attack helicopters supporting troops on the ground in its attack role.

Air power's ability to find, fix, track, and target irregular forces and insurgent leaders has powerful influencing effects in all three domains—Power, Presence, and Perception. First, an aircraft overhead establishes temporary presence. The UAV loitering in the local area for example, may be a visible, and is often an audible reminder that government forces are at hand and actively working to defend the people and hunt the insurgents. The people on the ground, whether insurgent leaders, irregular forces, or the people caught in the middle, have no way of knowing whether or not the sensors on board the aircraft are looking at them. Next, the ability of modern aircraft to deliver very precise air-launched weapons, day or night, is well known and repeatedly publicised. Again, the people on the ground have no way to know if the aircraft is armed or not. The threat of air-delivered weapons is

a coercive power that is difficult to counter and the resulting sense of helplessness from being unable to fight back or defend against these measures exerts significant influence on enemy behaviour. The perception third of the triad is achieved when the insurgency's leaders comprehend the full extent of the government's ability and commitment to restrict and counter enemy actions; force the leadership into unassailable areas, limit communications, restrict movements, and penetrate heretofore sanctuaries with multi-spectral sensors. Perception is further enhanced when such programmes convince the populace that the government is able to effectively protect them from insurgent threats and intimidation.

Coercion has a dual role to play in irregular warfare. At the strategic or operational level, it is focused on the insurgent leadership, with the intent of forcing the leaders to cease their political violence and encouraging them to join the peaceful political process. At the tactical, or local, level meanwhile, coercive actions are aimed at the armed elements that terrorise and intimidate the population. The goal at the local level is to deter the guerrillas by protecting the people, making it too dangerous for the irregular fighters to operate, and denying them access to the support they need to survive.

Air power has a significant ability to put what insurgent leaders' value; political status, power over the people, and power to threaten the government, at risk. It begins with the remarkable intelligence collection and processing capabilities air power brings to the fight. Airborne

platforms above the battlespace, some dedicated to the intelligence and situational awareness role and others providing intelligence and situational awareness as an adjunct to their primary roles, have proven their ability across the different intelligence disciplines; signals, imagery, electronics, communications, etc. Insurgent leaders' perception of counter-insurgents' ability to find, intercept, track and collect on electronic systems is a deterrent to their use and threatens their sanctuary, with resulting constraints on the insurgents' ability to command and control the armed and supporting elements.

Air and space-based surveillance systems may also provide strategic coercive effects. Satellites, long-endurance UAVs, fit for purpose aeroplanes, and surveillance systems mounted on non-ISR aircraft all combine to provide near constant surveillance of areas of infiltration routes, sanctuaries, and other areas of strategic interest from high above the battlespace and often without violating the sovereign airspace of the nation providing the insurgent leadership sanctuary. Air power's ability to reconnoitre and observe insurgent activities in politically or geographically denied areas from the global common spaces is a potent influencing capability. Knowing that their actions are or might be watched, even though safely in a political or social sanctuary, influence insurgent actions by forcing them to conceal their actions, constraining the location, duration, and extent of the training and preparatory actions, and limiting the timing, routing, and size of group movements. Remarkable reconnaissance and surveillance

capabilities, when combined with very capable and precise air mobility and attack capabilities, may be to directly threaten the insurgent leadership if political obstacles can be overcome, thereby degrading, shaping, or eliminating the insurgents' sanctuaries, forcing the leadership into difficult and undesirable places, and limiting their abilities to control and employ forces.

In the hunt to capture, kill, or otherwise marginalise the insurgent leadership, coercive actions that play heavily in the attack and intelligence and situational awareness roles normally take the fore. The considerable contributions of air mobility as a coercive force providing manoeuvre and speed to eliminate safe places are often forgotten. In addition, air mobility forces offer significant alternatives to negative coercive effects. At the strategic level air mobility forces have given Western political leaders opportunities to demonstrate their commitment to Muslim communities in need and thereby raise doubts about the al Qaeda's anti-Western rhetoric. For example, after the December 2004 tsunami that devastated the staunchly Muslim province of Aceh in Indonesia (230,000 dead), the Western world mobilised a massive relief effort and the first inter-theatre transport aircraft were landing with supplies and relief workers within days. Intra-theatre airlift aeroplanes and helicopters were soon at work distributing food, water, and supplies, evacuating stricken residents from danger zones, and transporting the relief workers into areas inaccessible by land.

Nine months later, in October 2005, a

7.6 magnitude earthquake destroyed much of Musaffarabad, Kashmir, 60 miles north of Islamabad, Pakistan. Over 80,000 people died and up to three million people were left homeless with Himalayan winter fast approaching. Within a few days, Western nations, under the NATO banner, began airlifting food, shelter, medicine, supplies, and a field hospital into the region. On scene, NATO helicopters deployed into the region began distributing the supplies, evacuating disaster victims, and carrying relief workers into areas inaccessible by road. Engineers rebuilt facilities, repaired roads, cleared debris, and constructed camps for refugees. NATO air controllers managed the airfields and coordinated with civil authorities to handle the exponential increase in air traffic flying into the region. By February 2006, NATO was able to transition operation of the relief effort to the government of Pakistan and Western air and ground forces returned home. These are but two of many examples of air mobility providing a powerful contradiction to anti-Western messages of exploitation and the weaknesses of non-believing Western democracies. Air mobility helped sow seeds of doubt and effectively demonstrated air power's ability to influence the insurgents' target audiences with positive, contrary effects. Unfortunately, the initial messages of Western charity, willpower, and commitment were not followed up with an effective strategic information campaign to take advantage of the initiative that had been gained.

At the tactical level, air power can expand the soldiers' abilities to deter insurgent actions, deny access

to the people, and increase the insurgents' risk of operating in an area. Surveillance of critical routes, villages and neighbourhoods, and tactical areas of interest helps remove the insurgent's sanctuary of the night. The persistence of aerial surveillance, both day and night, has proven to influence insurgent activities at the tactical level. In a conflict not often studied, Dr. Christina Goulter noted that British use of Wellington bombers equipped with Leigh Lights, powerful searchlights originally developed for night anti-submarine operations, allowed soldiers on the ground during anti-guerrilla operations in Greece to influence insurgent operations and had a direct effect on irregular forces' morale. 'The insurgents came to associate reconnaissance aircraft with attacks, as the two effects of reconnaissance and attack were usually close in time and space.'[31] She goes on to describe how the insurgents, unable to be absolutely certain if aircraft were benign or lethal were forced to assume the worst case. The very presence of aircraft overhead had a significant coercive effect.

This case is by no means singular. Once the El Salvadoran air force acquired AC-47 gunships (Power) and became proficient at night operations (Presence), FMLN insurgents would break off their attacks at the sound of a multi-engine aeroplane circling overhead (Perception). In Afghanistan today, the effect of a drone circling in the vicinity has the power to shape insurgent activities. The current crop of irregular adversaries fully comprehends the integrated capabilities of the 'unblinking eye' and precision strike. As a coercive force, the perception of

air power's ability to see and strike, nearly at will, provides the soldiers on the ground with considerable power and influence at the tactical level.

Air mobility has an equally powerful role to play as an influencing instrument at the tactical level. The ability to insert troops and keep them resupplied without respect to ground transport and its attendant opportunities for ambushes, mines, and choke points is an asymmetric advantage provided by air mobility that forces insurgent actions. In the continuing cycle of action-reaction-adaptation, as adversary forces have learned to counter the coercive impact of highly responsive air assault forces, technology has given friendly forces the ability to mass precision parachute-borne forces on an objective and keep them resupplied, often from stealthy, stand-off ranges through the use of precision air-drop systems. The ability to insert and sustain ground forces from the air is complemented by air mobility's influence on the insurgent's message. An Afghan villager tells the story of his daughter's leg being badly cut in a farming accident. Western helicopters brought her to a hospital where she was successfully treated and returned to her village and her parents, saving the long and dangerous journey by road where she likely would have died. What convinced the girl's father, as it has so many others, to support the government was realisation that the Taliban insurgents are unable to provide such humanitarian services.

Paul Colley observed that influence was a goal at the strategic level of warfare, but had great utility at the tactical level of all contemporary warfare.[32] The coercive potential

of air power, in all four of its roles (control of the air, intelligence and situational awareness, air mobility, and attack), provides an asymmetric advantage that must be fully understood and integrated into campaign planning for irregular warfare. Irregular actors/ insurgents normally hold the initiative and they invariably play by different rules than does the government and government forces. Air power offers a powerful means of influencing the enemy leadership, deterring and denying enemy actions, and helping persuade the populace to support the government.

Conclusion

Effective air power in irregular warfare acts within three domains of coercion; power, presence, and perception. The inherent attributes of air power, **when appropriately applied**, offer the government tremendous advantage, however the application of air power is very dependent upon the situation at hand. Air attacks inspire emotional responses and their use must be carefully considered in light of second or third-order political, cultural, and social effects. This is a reality that must be faced, head-on, as one considers coercive and persuasive applications of air power in the context of guerrilla warfare, hybrid warfare, fourth-generation warfare, or whatever moniker one wishes to use to characterise the current incarnation of irregular war-fighting.

Also, as one considers the coercive and persuasive effects of air power in irregular warfare, it must be done from a holistic perspective. Irregular warfare is an inherently land-centric enterprise. It is unlikely that air power will be a war-winner; however it very likely will be a war-decider.[33] The current edition of AP 3000, *British Air and Space Doctrine*, gives planners a good starting point when considering the application of air power's coercive impact on irregular forces. The next step is effectively applying those concepts to the current and future conflicts, most likely of an irregular or hybrid nature, which our nations **will** continue to face.

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Notes

[1] Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, ed (Princeton, NJ, Princeton University Press, 1976), pg 92.
[2] Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (London: Penguin Books, 2006), pg 376.
[3] AP3000, Fourth Edition, *British Air and Space Power Doctrine* (London: Air Staff, Ministry of Defence, 2010).
[4] Smith, pp 3 – 4.
[5] General John R. Galvin, 'Uncomfortable Wars: Toward a New Paradigm', *Parameters* (Dec 1986).
[6] *Global Strategic Trends—Out to 2040* (Shrivenham, U.K.: Ministry of Defence Development, Concepts, and Doctrine Centre, 2010), pg 77.
[7] Robert Pape, *Bombing to Win: Air Power and Coercion in War* (New York:

Cornell University Press, 1996), pg 74

[8] David Galula, *Counterinsurgency Warfare: Theory and Practice* (New York: Frederick A. Praeger, Inc., 1964), pg 7.

[9] A not-too-strenuous internet search from the last few years yields countless stories of midnight visitors, gunmen terrorising the local population, in rural and urban settings, to ensure they provide food, refuge, recruits, 'taxes', and information to the insurgents. The stories were the same whether the conflicts were nationalist, separatist, socialist, religious, ethnic, or economic in Afghanistan, Pakistan, Iraq, Gaza, Philippines, Nepal, Thailand, Somalia, Colombia, Chechnya, Sri Lanka, and on and on. Insurgents needn't ***win*** the hearts and minds. They have the luxury of ***taking*** them.

[10] Colin S. Gray, *The Airpower Advantage in Future War: The Need for Strategy*, (Maxwell AFB, AL: Airpower Research Institute, Dec 2007), pg 31. '…it would be bizarre, actually impossible, as well as foolish for the country's military planners and strategists not to look for every effective way in which airpower can deliver advantage'.

[11] Karl Mueller, 'The Essence of Coercive Air Power: A Primer for Military Strategists', *Royal Air Force Air Power Review*, Vol. 4, No. 3 (Autumn 2001), pg 47.

[12] Mueller, pg 50.

[13] Pape, pg 15.

[14] A 2008 article in *Air Force* magazine (Anna Mulrine, 'Warheads on Foreheads', *Air Force*, Vol. 91, No. 10 (Oct 2008), pp 44-47.) noted that the U.S. Air Force's contribution to counterinsurgency in Iraq was looking for individuals and small groups to strike with bombs from unmanned aerial vehicles.

[15] Gp Capt A.P.N. Lambert, 'Air Power and Coercion', *Air Power in its Wider Context*, Stuart Peach, ed., London: HMSO, 1998, pg 267.

[16] Galula, pg 7.

[17] Ted Robert Gurr, *Why Men Rebel* (Princeton, NJ: Princeton University Press, 1970), pg 12.

[18] The classic case is the 1968 Tet Offensive in South Vietnam. Although a tremendous tactical loss for North Vietnam and their Viet Cong allies, it was a strategic victory because it invigorated the anti-war movement in the U.S. and destroyed the Viet Cong as an effective fighting force, letting the U.S. eliminate a future political problem for North Vietnam.

[19] Mao Zedong, *On Protracted War*, at **http://www.marxists.org/reference/ archive/mao/selected-works/ volume-2**, May 1938, pg 19, accessed 21 Apr 2010.

[20] Mao Zedong, pg 24.

[21] Lambert, pg 278. This list is vaguely reminiscent of the 5-Ring model of strategic paralysis proposed by air power theorist, John A. Warden, III, 'The Enemy as a System', *Airpower Journal*, (Spring 1995). Warden placed the enemy leadership at the centre of five concentric rings. If prevented from directly targeting the leadership, then strategists and planners should design a campaign to isolate or neutralise the centre through actions in the outer rings. The further one ventured from the centre, suggested Warden, the more difficult and the longer it would take to achieve strategic paralysis of the leadership. The additional rings, in order from the centre outwards, were Organic Essentials (energy, money), Infrastructure, Population, and Fielded Forces.

[22] Eric Hoffer, *The True Believer: Thoughts on the Nature of Mass Movements* (New York: Perennial Classics, 2002, originally published in 1951).

[23] Gurr, pg 24. 'The existence of what the observer judges to be abject poverty or "absolute deprivation" is not necessarily thought to be unjust or irremediable by those who experience it… if people have no reason to expect or hope for more than they can achieve, they will be less discontented with what they have, or even grateful simply to be able to hold on to it'.

[24] Eric Hoffer, 144.

[25] Eric Hoffer, 149.

[26] *Joint Doctrine Publication 01* (Shrivenham, U.K.: Development, Concepts and Doctrine Centre, Dec 2008), pg 3-22.

[27] This is based upon Joint Doctrine Note 2/08, *Integrated air-land Operations in Contemporary Warfare* (Shrivenham, U.K.: Development, Concepts and Doctrine Centre, Aug 2008), pg 2A-7, though it is my interpretation to relate these doctrinal conditions to the political nature of irregular warfare.

[28] General Sir Frank Kitson, *Low Intensity Operations: Subversion, Insurgency, and* Peacekeeping (St Petersburg, FL: Hailer Publishing, 2007 reprint), pg 77.

[29] By 'political sanctuary' it is meant the protections that accrue once insurgent leaders are afforded diplomatic recognition by the United Nations and the like, e.g., Yasser Arafat from the Palestinian Liberation Organisation. 'Social sanctuary' is status accorded by the global or regional media. While the government may restrict the leader's movements and access, their life is not in danger because of their 'celebrity' status, e.g., Nelson Mandela from South Africa and Aung San Suu Kyi in Burma.

[30] Kim Sengupta, 'Under their flag, but still under fire', *The Independent*, 26 Feb 2010, pg 37.

[31] Christina J.M. Goulter, 'The RAF in Counter-Insurgency Warfare: British Intervention in Greece, 1944-45', *Air Power, Insurgency, and the "War on Terror"*, Joel Hayward, ed. (Cranwell, UK: Royal Air Force Centre for Air Power Studies, 2009), pg 105.

[32] Air Commodore Paul Colley, 'Soldiers are from Mars and airmen are from Venus: Does air power do what it says on the tin?', *Royal Air Force Air Power Review*, Vol. 11, No. 2 (Summer 2008), pg 106.

[33] The terms are from Colin S. Gray. An excellent example of this was reported by Anthony Lloyd in *The Times* on Monday, 1 Mar 2010, pg 35. 'Significant leaders of the Pakistani Taleban have been killed or captured in an onslaught of frontier ground and air attacks….The kind of hits the leadership has taken…the [Pakistani Taleban] is no longer significant…. It doesn't exist any more as an umbrella organisation that can influence militancy anywhere'. The men of action have been eliminated and the movement is currently ineffective.

**ROYAL
AIR FORCE**

Modern Airpower, Counter Insurgency and Lawrence of Arabia

By Group Captain Clive Blount

TE Lawrence, - more popularly known as 'Lawrence of Arabia' – is now widely considered as one of the most successful leaders of insurgent warfare. His leadership of the rising of the Arab tribes of the Hejaz against their Ottoman overlords during the First World War has been widely studied, and his main works contain a treasure trove of thought on irregular warfare. Introducing the notions of 'eating soup with a knife' and the 'kingfisher flash', they give the modern military officer much to ponder, especially engaged as we are in live operations against a modern insurgent threat. This article, based on previous work published in the USAF's 'Air and Space Power Journal', describes Lawrence's activities during the Arab Revolt, and introduces Lawrence's thoughts on insurgency. In particular, it looks at Lawrence's philosophies from our vantage point as modern airmen; specifically turning around Lawrence's theories on how to conduct irregular warfare against a technologically superior threat in order to examine the possible roles of modern airpower in countering a modern insurgency that is governed by Lawrence's principles.

Introduction

One of the more enigmatic and eccentric of English heroes, TE Lawrence - more popularly known as 'Lawrence of Arabia' - has risen in the military psyche from obscure young archaeologist to one of the key thinkers and writers, and indeed, in his day, one of the most successful practical leaders, of what has become the widespread modern phenomena of insurgent warfare. His leadership of the rising of the Arab tribes of the Hejaz against their Ottoman overlords has been widely studied by military minds as diverse as Mao Tse Tung and John Boyd.[1]

Although his main works - *'The Seven Pillars of Wisdom'*[2] and *'The Mint'*[3] - are widely known, beloved of staff college tutors and oft-quoted (although I suspect rather less widely read!), it is a relatively minor article, originally written for *The Army Quarterly* and reprinted in the 1939 volume *'Oriental Assembly'*,[4] that brings together the nuggets of his ideas and is a treasure trove of thought on irregular warfare; it is a resource that it is worth revisiting in the light of modern experience. In addition to introducing the notions of 'eating soup with a knife' and the 'kingfisher flash', his description of the Evolution of the Arab Revolt, which commenced in June 1916, gives the modern airman much to ponder, especially when engaged in live operations against a modern insurgent threat. In an effort to stimulate debate, this article will describe Lawrence's activities during the Arab Revolt, and thereby introduce Lawrence's thoughts on insurgency. In particular, I will

discuss his views from our vantage point as modern airmen - more specifically turning Lawrence's exposition on irregular warfare around in an attempt to examine the possible roles of airpower in countering an insurgency that is governed by the principles that Lawrence espoused.

During the First World War, the Ottoman Empire (ruled by what is now modern Turkey) sided with Germany and Austria-Hungary against the Entente Powers. Generations of poor treatment by their Ottoman overlords caused Grand Sharif Hussein, as the head of the Arab nationalists and ruler of Mecca, to enter into an alliance with the United Kingdom and France against the Ottomans in June 1916. Hussein had become convinced that the Ottoman Government[5] was planning to depose him at the end of the war and began an exchange of letters with the British High Commissioner in Cairo, Sir Henry McMahon. This correspondence, which has since become highly controversial, convinced Hussein that Arab commitment to the side of the Triple Entente would be rewarded by an independent Arab empire encompassing a wide swathe of the middle east, with the exception of British Imperial possessions and British interests in Kuwait, Aden, and the Syrian coast.[6] French and British naval forces had cleared the Red Sea of Ottoman gunboats early in the war so the maritime flank was secure. The port of Jidda was attacked by 3,500 Arabs on 10 June 1916 with the assistance of seaplanes and naval gunfire support from British warships; the Ottoman garrison surrendering 5 days later. By the end of September

1916, Arab armies with Royal Navy support had taken the coastal cities of Rabegh, Yenbo, and Qunfida; the remaining Ottoman forces in the Hejaz numbered some 150,000 well-armed regular troops.

In October 1916, the British Army in Cairo sent Lawrence, a young officer previously employed on cartography and relatively minor intelligence roles, to assist in liaising with Hussein's Arabs. Lawrence spoke Arabic well and had travelled extensively in Arabia as an archaeologist before the war. Lawrence's initial contribution to the revolt was convincing the Arab leaders (Hussein's sons Ali, Faisal Abdullah and Zeid) to co-ordinate their actions in support of British strategy. He persuaded them not to attack and attempt to drive the Ottomans out of Medina, but instead devised a strategy whereby the Arabs attacked the Hejaz railway along which the Medina garrison was supplied and reinforced. This tied up far more Ottoman troops, who were forced to protect the railway and repair the constant damage, whilst still using up resources defending Medina against harassing attacks.[7] A plan was devised to mount the attacks from ports along the Red Sea, initially from the coastal city of Wajh. On 3 January 1917, Faisal began an advance northward along the Red Sea coast with a force of around 10,000 men and some 1200 camels; he was to be resupplied by the Royal Navy (RN) from the sea. However, moving such a large force took time and the RN, in the shape of HMS *Hardinge*, arrived first at Wajh on 22 Jan 1917, commencing an attack the next morning. Wajh surrendered on 25 January 1917 to a small force

of British and Arabs landed from HMS *Hardinge*; they were joined by Faisal's main force within 36 hours.[8] Following the loss of Wajh, the Ottoman leadership abandoned their intended plan to capture Mecca and consolidated their defensive position in Medina with small detachments scattered along the Hejaz railway. The Arab force deployed in three main groups. Ali's force threatened Medina, Abdullah operated from Wadi Ais harassing Ottoman communications and capturing their supplies, and Faisal based his force at Wajh. Camel-mounted Arab raiding parties had an effective radius of around 1000 miles carrying their own food – which consisted mainly of a form of flour from which they made a simple form of bread - and taking water from a system of wells approximately 100 miles apart[9] … an enviable support requirement by the standards of today's logisticians! Putative allied air support was most effective during the campaign, both in provision of striking power[10] and in resupply.[11]

The Arab Revolt tied up some 30,000 Turkish troops along the Hejaz railway, prevented a link-up between the Turkish forces in Arabia and the Germans in East Africa and, by adopting harassing 'hit and run' tactics, gradually weakened the Turkish Armies by small scale attrition. The actual defeat of the Turks was, however, directed by Britain's General Sir Edmund Allenby. Nicknamed "the Bull," Allenby launched a successful offensive from Sinai the Autumn of 1917, sweeping up into Palestine to occupy Jerusalem in December 1917. His advance was delayed by severe winter weather in 1917-18 and continuing stubborn

Turkish resistance, but in the following year, with the Arab irregulars on his right flank, he advanced to eventual victory; taking Damascus on 1 Oct 18, and Beirut on 8 Oct 18. The use of air power in this stage of the campaign was crucial, and there are several references to its use in *Seven Pillars*.[12] Further south in the Ottoman Empire in Mesopotamia (modern Iraq), the British had overturned early disasters (in 1916, 8,000 Anglo-Indian troops had surrendered to the Turks at Kut – despite an early attempt to use air support to resupply the beleaguered garrison) and, under the leadership of General Maude, captured Baghdad on 15 March 1917;[13] by the end of 1918, Iraq was in British hands. The war against the Turks came to an end on 30 Oct 18 when Turkey signed the Mudros armistice.[14] The Arab peoples of the Hejaz and Syria were justly proud of the part they had played to secure Allied victory and looked forward to the Arab homeland promised to them by McMahon. However, they were soon to be disappointed as the extent of the Anglo-French Sykes-Picot agreement,[15] and the ramifications of the Balfour Declaration[16] in support of Zionist aspirations for a Jewish homeland, became more widely apparent. The scene was thus set for the series of events that became the genesis of the current problems in the Middle East. In addition to the cause of an Arab Palestine that sits at the centre of modern conflict, the deep-seated resentment based on the perceived betrayal of the Arabs by the British after the Revolt still provides a motivation for anti-western sentiment. Osama Bin Laden referred to this betrayal when, in his first public pronouncement post 9/11, he stated

that 'our nation has tasted humiliation and contempt for more than 80 years.'[17]

Lawrence's thinking on the conduct of desert warfare developed as the campaign progressed and his writings contain much useful discussion and clear indications of how his ideas were derived. However, at the end of the chapter on the Arab Revolt in *Oriental Assembly* (and also contained in '*The Seven Pillars of Wisdom*'[18]), Lawrence helpfully sums up his view of insurgent warfare in fifty words:

'*…Granted mobility, Security (in the form of denying targets to the enemy), time, and doctrine (the idea to convert every subject to friendliness), victory will rest with the insurgents, for the algebraic factors are in the end decisive, and against them perfections of means and spirit struggle in vain*'.[19]

So what does Lawrence mean by these 'fifty words'? What follows is an examination of these factors in detail, firstly in an attempt to fully understand Lawrence's thinking, before moving on to examine possible ramifications and opportunities for the use of modern airpower in countering such a strategy.

First, *mobility*. Lawrence was seeking the ability for his insurgents to move at will across the battlespace in which they operated. He points out that the number of conventional troops that would be required to fully secure the Hejaz was huge – over 600,000 – so the Turks could only occupy certain areas or hold wider areas for only short periods. The success of the insurgency depended on his ability to bypass these areas and to operate fluidly in the interstitial space. He likens the Turkish Army as 'plants, immobile as a whole, firm-rooted,

nourished through long stems to the head' whilst the insurgents 'were an influence, an idea, a thing invulnerable, intangible, without front or back, drifting about like a gas.'[20] As his early recommendation not to recapture Medina shows, he had no use for territory – rather Lawrence exploited the fact that the enemy would adopt a conventional approach - that of attempting to dominate ground - and would use this fact to tie up enemy forces and to create a logistical drag on the enemy system. Attacks on Medina were to continue, but solely to force the enemy to use up ammunition and supplies, and to heighten the importance of the Hejaz railway – the protection of which then became another burden for the Turkish Army. Air Cdre Julian Stinton, in his otherwise excellent 'viewpoint' in *Air Power Review*[21] discusses modern Counter-Improvised Explosive Devices (IED) operations as a 'critical tactical facet' - which such operations undoubtedly are - but then dismisses the movement of land forces by air as an alternative, suggesting that would surrender the ground to the enemy and would have the effect of fixing 'us' further. I would take issue with this last point and argue that the reliance on land Lines of Communications (LOCs) and the slow speed of movement on land is fast becoming our 'Hejaz Railway'. Air mobility, one of the four fundamental Air and Space Power roles,[22] frees a commander from reliance on land routes and enables rapid movement of troops and material throughout the theatre – to be delivered where and when the commander wishes, with little pre-notice, and enabling us to dictate the pace of the campaign.

As an historical aside, the Turks used many methods, including primitive airpower, in a 'Counter-IED campaign' to keep the Hejaz railway open,[23] flying recce aircraft forward of trains to detect the disturbed sand and tracks associated with mining activity and any insurgents waiting in ambush. Air counter-IED operations have therefore certainly been a facet of counter-insurgency for some time.

I appreciate that current doctrine for stabilization requires 'boots on the ground' to win 'hearts and minds' and to provide security for Other Government Department (OGD) and other Non-Government Organisation (NGO) activity, but at what stage do 'boots on the ground' become part of the problem and when does the activity required to protect such a force, with its inevitable 'collateral damage', lead to alienation; when do 'liberators' becoming 'invaders'? If it accepted that 'Boots' are indeed required then their movement around the battlespace, and their resupply, open up potential targets for the insurgent. Attacks on NATO convoys and bridges in the Khyber Pass region have recently illustrated this point – a land force requires much heavy materiel and Afghanistan has no Red Sea maritime flank! The continuing tragic loss of young soldiers to IEDs is fast becoming the focus of both military planners and, via an increasingly inquisitive media and with a government fighting for its life, with the population at home. Any opportunity to reduce our physical footprint, and dependence on soldiers in 'harm's way', by the use of airpower is surely a good idea? We must not lose track of the fact, in our many studies of insurgent tactics and culture, and the tactics

of the 'Underdog', that Air is our 'asymmetric advantage', especially if we can continue to protect our aircraft; moving by land merely proves targets for the insurgent – which was Lawrence's view of the Turkish Army. In the same edition of Air Power Review as Air Cdre Stinton's 'Viewpoint', Gp Capt Carl Scott clearly articulates the advantages of Air over soldiers on the ground in terms of persistence, tactical surprise and collateral damage, among other factors.[24]

In addition to reducing the reliance on land LOCs, modern air power can seriously hamper the insurgents' ability to 'drift about like a gas'. The use of air striking power is well documented[25] and, indeed, played a successful part in 'air policing' operations in the Middle East very early in Airpower's history. However, more modern use of air power in asymmetric warfare has, for various reasons subject to endless debate, been somewhat inconsistent in its contribution to campaign success and has failed to provide 'what it says on the tin'. The cause has not been helped by enthusiastic airmen… and politicians… perhaps making over-optimistic claims about the efficacy of air power. However, recent advances in technology have enabled rapid, tailored effect with unprecedented accuracy and, coupling reach and, increasingly, persistence with this increasing technical capability, the utility of air striking power is developing a pace. However, we can be an awful lot smarter about how we use airpower, and we are seeing rapid developments in the use of air assets to give the commander a far more useful capability, some would say fundamental capability, against

Lawrence's strategy - the ability to know what is going on across the battlespace. A complete and accurate picture enables the commander to 'fix' the insurgents - not in the traditional physical sense of pinning them in space, but multi-dimensionally, with the ability to dislocate their decision cycle by destroying **their** *mobility* and denying them the opportunity to move undetected and strike at will. Air power then becomes the 'gas', particularly against an asymmetric opponent with no air capability, and the enemy becomes increasingly rooted. As Air Cdre Stinton states in his article, the '*Find*' function has become a key role, although '*Understand*' may be a more accurate descriptor. Lawrence himself says;

'*The corollary of such a rule was perfect 'intelligence', so that we could plan in certainty. The chief agent must be the general's head; and his understanding must be faultless, leaving no room for chance.*'[26]

So what does Lawrence mean by *Security*? He states that 'rebellion must have an unassailable base, something guarded not merely from attack, but from the fear of it.[27] Lawrence used the Red Sea ports as a start point and was able to rely on the Royal Navy's dominance of the area to secure his base. The Arab revolt is only one of several examples in modern history of an insurgency using a secure flank for re-supply. North Vietnamese forces used bases and supply routes in neutral Cambodia and Laos, throughout the Vietnam War, to support the insurgency by the Viet Cong in the South – the so-called Ho Chi Minh trail. This forced the United States into the first of several difficult moral

dilemmas that it was required to face during the conflict – did they maintain international legitimacy, and the moral high ground, but accept that the North could re-supply its forces at will or did they risk condemnation by interdicting targets in 'neutral' territory? Currently, our opponents in Afghanistan clearly rely on their influence in the North West Tribal areas of Pakistan as a neutral secure base.[28] Any damage to international relations with the (unwilling?) host nation is a 'win' for the insurgent who can add more allies to his cause. When that host nation is nuclear armed and struggling to remain stable, such a 'win' may have far reaching strategic consequences.

So, does the insurgent's security provide a 'target set' for the modern airman? Well, again it comes down to the 'find' function. The domination of the high plateau of air, and indeed space, enables the construction of complete situational awareness. Whilst air cannot provide the entire picture, and as FA&SOC 2009 says 'plumb the depths of strategic nuance and tactical complexity,'[29] traditional properties of air power - technological capability, ubiquity and reach - must be increasingly supplemented by persistence and backed up with vastly increased processing and analysis to ensure that the enemy cannot 'hide', enabling us to strike both whenever we want to, and using the most appropriate strike assets. Perhaps more importantly, it also gives us the option to strike only IF we want to – reliable situational awareness may mean that our cause may be better served by **not** striking, thus preserving intelligence sources, keeping the 'known' enemy guessing and reducing the risk of collateral

damage, potentially handing the enemy a propaganda coup. The drive when faced by a fleeting target is always to attack, for fear of being unable to re-acquire the target if it is lost to 'view'. A more robust picture enables the commander to choose his moment and, if more tactically desirable, merely 'watch' rather than 'shoot'. I would also argue that a neutral base is useless to the insurgent if they can be targeted the instant they leave its protection. In addition, and although very controversial, history has shown that the delivery of effect into a neutral 'haven' by air is considerably more acceptable (or perhaps more deniable?) than the presence of a raiding, or invading land force – examples include Nixon's bombing of Cambodia or, more recently, UAS-launched missile strikes against Taleban leadership in Pakistan. We as airman are of course fully aware of the psychological effect of attack from the air but it could perhaps be best summed up in this context by Gp Capt Scott, who quotes an insurgent speaking to the New York Times: 'We pray to Allah that we have American soldiers to kill… these bombs from the air we cannot fight.'[30] The psychological effect is more than a security issue; it also heavily influences Lawrence's *doctrine* which I shall discuss shortly.

Friendly conventional forces also have a 'security' issue. The current cry is always for more troops to fulfil our security tasks. However, it is also recognised that force protection is vital if our forces aren't merely to become targets for insurgency. In addition, our footprint in theatre must be strictly controlled if the 'teeth to tail' ratio is to remain efficient in

terms of fighting power. Although air bases require force protection and logistic support, I would argue that air power is a very efficient way of using real estate in theatre and is certainly effective in terms of effect delivered versus support infrastructure. Especially if the unique reach of air power can be utilised and power can be projected from outside the immediate area of operations. The ratio of combat effect to supporting forces has always been an issue, Sir Robert Thompson, renowned expert in counter-insurgency and known for his leadership role in the Malayan emergency, had this to say about the US presence in Vietnam in the latter stages of the conflict:

How many Americans, out of 500,000, were only defending each other, writing memos to each other, and how many were actually making a positive contribution to the future security of Vietnam?...[31]

I have already briefly mentioned *Doctrine*. When Lawrence talks of *Doctrine*, I think it is clear that this means ideas – ideas to unify and motivate his force, and ideas to motivate the support of the population at large. Lawrence states that a rebellion can be successful with only 2% of the population active in a striking force as long as the remaining 98% is passively sympathetic.[32] I would stress here the word 'sympathetic'… not 'supportive', merely sympathetic. He goes on to state that:

'We had not won a province until we had taught the civilians in it to die for our ideal of freedom: the presence or absence of the enemy was a secondary matter'.[33]

The battle for the hearts and minds of the indigenous population is a

well-understood and permanent fundamental of western counter-insurgency doctrine, but the methods of winning this battle are many and varied. I have argued the strengths of air power to provide a 'hands off' capability and reduce the footprint of the 'foreign soldier', adding to campaign legitimacy and popular support. The presence of foreign troops hands a potential propaganda victory to the insurgent – 'How can this government be legitimate if it relies on the infidel?' However, it is also well known that a stray bomb can provide a very effective enemy propaganda victory so application of force from the air must be carefully controlled and accurately delivered.[34] We must also not dismiss the moral effect on the enemy. Strike from the air is difficult for the insurgent to counter, as I have postulated previously, it is our 'asymmetric advantage' and thus badly affects morale – particularly if the strike is unexpected and in an area thought to be safe. John Boyd, creator of the 'OODA'[35] loop, was clear that the aim of a commander should be to create 'moral conflict' – '…to increase menace, uncertainty and mistrust in the mind of the enemy whilst increasing initiative, adaptability and harmony within friendly forces…',[36] and indeed quoted Lawrence as stating that the commander must 'arrange the mind' of the enemy.[37] It is in this area that the primacy of emerging information operations becomes apparent. Thomas X Hammes, in his treatise on the development of 21st Century warfare, *The Sling and the Stone*, suggests that his Fourth Generation Warfare (4GW) takes place tactically in a low intensity conflict, but that, at the operational

level '…all an opponent has to move is ideas.'[38] Again, Lawrence was a trendsetter: '…the printing press is the greatest weapon in the armoury of the modern commander.'[39]

I have left *time* until last. Speed has always been a key property of air power[40] and the ability to react, theatre-wide, is a major advantage we hold. It is our key asymmetric advantage and, applied thoughtfully, should enable the commander to drive the rhythm of the battle. Again, the fascination of 'boots on the ground' and 'dominating ground' would be known to Julius Caesar and Wellington – surely we must use our advantage to dominate the conflict in all dimensions rather than merely to support a 'conventional approach? Time also plays a key role in the insurgent's campaign plan. His aims are long and absolute. Unwilling to compromise on the eventual end state, most insurgencies are willing to be patient and to fight a long campaign. Western, conventional forces, with democratic governments, are rarely afforded that luxury, with the need to justify the continuing expense and increasing casualty toll to constituents, and public opinion being a key driver – especially when, to them, it is a 'war in a far flung land' rather than a fight for survival in a disputed homeland. Democratic governments will always have problems fighting long drawn out campaigns against distant threats. Loss of life and material will exacerbate those problems and will drive public opinion and hence government decision-making. As Robert Thompson said of Vietnam '…the South can only lose it on "the Hill"'.[41] The lessons of many years of 'Southern Watch' over Iraq show just

how much military, coercive, effect Air Power can deliver with little political controversy at home.

TE Lawrence was an enigmatic, ascetic, character who was the subject of much controversy during his lifetime. On return from the war, and after attending the Paris Peace negotiations – where he was dismayed by the British and French attitude towards Arab independence - he eventually shunned publicity and, in 1922, enlisted in the ranks of the RAF as AC John Ross. He was soon discovered and was forced to leave the RAF, enlisting as a private in the Royal Tank Regiment. After 2 years service, friends in the Prime Minister's office enabled a transfer back to the RAF, and Lawrence was posted as an airman to RAF Cranwell. He retired from the RAF in February 1935 and only 2 months later died in a motorcycle accident near his home in Dorset.[42] Basil Liddell Hart argued that:

Military History cannot dismiss him as merely a leader of irregulars; he is... a strategist of genius who had the vision to anticipate the guerrilla trend of civilised warfare that arises from the growing dependence of nations on industrial resources'.[43]

Conventional employment of modern, joint, expeditionary force has proved an expensive and controversial means of countering modern insurgencies and has had historically, at best, mixed success. The 'traditional' use of airpower as a panacea to an unconventional threat has also proved problematic, and of limited effectiveness. By examining the concepts espoused by TE Lawrence for the conduct of irregular warfare, and by careful consideration of

historical campaigns, I propose that imaginative application of modern airpower, and in particular airpower as a provider of the 'find' - and where possible, 'understand' functions - holds the key to countering future insurgencies. We must be bold, both as airmen in pushing the boundaries of new air capabilities and thinking more radically than we have ever done in the past about our way of doing business, in order to fully utilize our 'asymmetric advantage' and, whilst recognising the need to truly understand the motivation and mindset of potential adversaries, use our unique strengths to fight on our terms and at our pace. John Nagl quotes former US Secretary of Defense Donald Rumsfeld, referring to the US Special Forces cavalry 'charge' at Mazar-i-Sharif in November 2001:

'*The Lesson… is not that the US Army should start stockpiling saddles. Rather it is that preparing for the future will require new ways of thinking, and the development of forces and abilities that can adapt quickly to new challenges and unexpected circumstances*'[44]

Military airmen have always been innovators… but have always had to guard against those in the joint arena that merely see airpower as enabling a 'view over the hill', 'flying trucks' or 'joint fires'. The fundamental air power properties of agility, reach, ubiquity and speed of response,[45] combined with the imminent development of a persistent presence in theatre and minimal tactical footprint, will allow air power to play a much greater role in denying an insurgent enemy the requirements stated in Lawrence's 'fifty words' - without providing the enemy a target

set, exacerbating political problems and risking the political sensitive, and tragic, casualties that the 'boots on the ground' that a conventional joint force may attract. It is my view that with an innovative approach, emerging technology and a willingness to confront 'sacred cows', Air and Space Power is on the verge of delivering what we airmen have always promised.

Notes

[1] Robert Coram, *Boyd: The Fighter Pilot who Changed the Art of War*', (Back Bay Books: New York, 2002)

[2] TE Lawrence, *Seven Pillars of Wisdom*, (Jonathan Cape: London, 1935)

[3] TE Lawrence, *The Mint*, (Jonathan Cape: London, 1973)

[4] TE Lawrence, Oriental Assembly, (Imperial War Museum: London, 1939)

[5] TE Lawrence, *Seven Pillars of Wisdom*, p50

[6] Margaret Macmillan, *Peacemakers – The Paris Conference of 1919 and Its Attempt to End War*, (Murray: London, 2002)

[7] Adrian Greaves, *Lawrence of Arabia, Mirage of a Desert War*,(Phoenix:London, 2008)p88

[8] James Barr, *Setting the Desert on Fire*, (Bloomsbury: London, 2007) pp 91-93

[9] Lawrence, *Oriental Assembly*, p124

[10] Barr, *Setting the Desert on Fire* p145

[11] Lawrence, *Oriental Assembly*, p127

[12] Lawrence, *Seven Pillars*, pp 613-5

[13] Barr, *Setting the Desert on Fire,* p120

[14] Wiliam L Cleveland, *A History of the Modern Middle East*, (Westview Press: Oxford, 2004) p155

[15] The Sykes Picot agreement was a secret treaty signed between Britain and France in May 1916 and, in essence, agreed a division of former Ottoman lands in the Middle East between France and Britain. See

Cleveland p163

[16] The Balfour Declaration was contained in a letter from Arthur Balfour, the then British Foreign Secretary, to Lord Montagu, a leading British Zionist, on 2 Nov 17 and contained affirmation of Britain's future support for a Jewish Homeland in Palestine. See Cleveland p 244.

[17] Osama Bin Laden. Reported in **http:news.bbc.co.uk/I/hi/world/ south_asia1585636.stm**, quoted in Barr, p314

[18] Lawrence, *Seven Pillars*, pp 193-7

[19] Lawrence, *Oriental Assembly*, p134

[20] *Op cit* p120

[21] Air Cdre Julian Stinton, 'Integrated Air Operations - Some Ramifications for our Modus Operandi', *Air Power Review*, Vol 11, Number 3, Winter 2008.

[22] AP3000, Fourth Edition, p41

[23] Eg see Barr *Setting the Desert on Fire,* p110

[24] Gp Capt Carl Scott, 'Letter from America', *Air Power Review*, Vol 11, Number 3, Winter 2008, p80

[25] (Future Air and Space Operational Concept (FA&SOC) 2009, p2-5, AP3000, p50.

[26] Lawrence, *Seven Pillars of Wisdom*, pp 193-7

[27] Lawrence, *Oriental Assembly*, p133

[28] For a recent example see *The Times*, 12 Feb 2009, p35

[29] FA&SOC 2009 p2-4

[30] Gp Capt Carl Scott, 'Letter from America', *Air Power Review*, Vol 11, Number 3, Winter 2008, p80.

[31] Sir Robert Thompson, *Make For the Hills* (Leo Cooper:London, 1989) p168

[32] *ibid* p134

[33] Lawrence, *Oriental Assembly*, p118

[34] AP3000 p51

[35] Observe-Orient-Decide-Act

[36] Coram, *Boyd* p337

[37] Lawrence, *Seven Pillars*, p 193

[38] Thomas X Hammes, *The Sling and the Stone – on war in the 21st Century*, (Zenith Press: St Paul, MN, 2006)

[39] Lawrence, *Oriental Assembly*, p118

[40] AP3000 , p16

[41] Thompson, *Make For the Hills,* p182

[42] Adrian Greaves, *Lawrence of Arabia, Mirage of a Desert War*, (Phoenix: London, 2007) p230

[43] Basil Lidell Hart, *TE Lawrence in Arabia and after*, (Cape:London, 1948) p 438

[44] John A Nagl, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam*, (University of Chicago Press: Chicago, 2002) p xxi

[45] AP3000 p16

ROYAL
AIR FORCE

The RAF in Command:
The Policing of Mesopotamia
from the Air

By Captain Paul Horne

At the conclusion of the Great War the fledgling Royal Air Force faced a new struggle for survival. Having existed as an independent service for less than seven months it was naturally at great risk in the new, rapidly demilitarising world in which it found itself with the Army and the Royal Navy keen to revert to the pre-war, two Service, status quo. The Royal Air Force needed to justify its existence and quickly. To the RAF's hierarchy Imperial policing seemed to offer the most immediate and cost effective method of demonstrating the RAF's continued utility and securing their hard won independence. This article examines the circumstances which lead to the RAF taking command of security within the British Empire's newest mandate, Mesopotamia, and how they went about the task; both in the air and on the ground.

Introduction

At the conclusion of the Great War the British Government found itself in an unenviable position; four years of war had brought the nation to the brink of bankruptcy. Its arms race was now turned into a race to disarm as treasury sought to slash its expenditure on the armed forces. A restive public put pressure on their political masters as they sought to return to some semblance of normality following four long years as a martial society. The pace at which the Government went about demilitarising was relentless:

"In 1919 [defence spending] was about £604 million a year; a year later the level had dropped off to £292 million. In the succeeding year, the level fell to £110 million. The rapidly declining budget caused severe force reductions. The three and one-half million man force in 1918 was 800,000 in 1919; and by 1920 the figure stood at about 370,000. In just under 23 months the British military structure had been reduced by at least... 89 percent."[1]

However, following the dismemberment of the Ottoman Empire the British Government found that its own Empire had expanded to include the troublesome region of Mesopotamia. In 1920 there were over 60,000 British and Indian troops garrisoning Mesopotamia at considerable cost to the treasury and when, in the summer of 1920, the simmering political tensions in the region boiled over into full scale revolt even this vast force was unable to put down the offensive. The revolt was eventually suppressed at a cost of 1,040 killed and missing soldiers with a further 1,228 wounded but it

had required the re-enforcement of the garrison by nineteen Battalions of the Indian Army and a further two RAF Squadrons.[2] Moreover the fiscal cost of the campaign sent shockwaves through Westminster:

"In order to maintain control of a minor colonial mandate with little strategic value, British military operations had cost the treasury 40 million pounds, considerably more than the British had spent in supporting the Arab revolt against the Turks in World War I."[3]

Such enormous expenditure in men, material and money contrasted sharply with the RAF's recent success in the British Somaliland campaign against the 'Mad Mullah' Said Mohammed Bin Abdulla Hussan and his 10,000 Dervish followers. Here a joint force consisting of "one RAF squadron working in collaboration with the local gendarmerie regiment, the Somaliland Camel Corps and a battalion of the King's African Rifles"[4] succeeded where the army had failed on numerous previous occasions and drove the Mullah out of the British protectorate once and for all, capturing or finally dispersing his followers; all at the relatively negligible cost of only £84,000.

Policing the Empire by air was an attractive prospect to both the RAF and the Government; for Lord Trenchard, the Chief of the Air Staff, it offered him the opportunity to carve out a new role for the RAF which would ensure its survival and prevent it being broken up and returned to the two senior services who were resentful of the claims this young upstart made upon the defence estimates. For the government the benefits of such a scheme were tangible fiscal gains

as the estimated cost of garrisoning Mesopotamia would fall from £25 million a year under the army[5] to the £5 – 6million that was being offered to the RAF to take on the task.

The RAF took command of all British military forces within Mesopotamia on 1st October 1921. This force, under the command of Air Vice-Marshal Sir John Salmond, was composed of "eight RAF Squadrons and four RAF armoured car companies, 15,000 Iraqi levies and police and six Indian army brigades."[6] As we can see, Sir John Salmond had a vast array of troops at his disposal, the majority of which were land based rather than airborne. Nonetheless, it was, naturally, his airborne forces which would shape the most radical changes in the policing of this unstable land.

Mesopotamia's insecurity stemmed from three main causes; the continued overtures being made by the Turks towards the Mosul region; the unsettled and potentially rebellious Kurdish tribes in the north and the marauding desert tribes and raiders from Njed in the south. Such diverse and overlapping threats to security created a complex political and military landscape for the RAF to operate in. In addition to these pressures junior commanders received no formal doctrine to support their new venture of air policing within a state until 1924 and the guidance given to them prior to this was often "more policy orientated than... operationally orientated, and from an air commander's view would have been considered constraints on air actions."[7]

Nonetheless, the RAF quickly adapted their operations to best confront the challenges that they faced and they had a number of methods at their disposal. Chief among their uses of air power were offensive bombing (with or without the support of ground troops), punitive strikes, interference and propaganda.

The first real challenge to the RAF's authority came in 1922 as the Turks crossed the border and entered the disputed Mosul province:

"Imperial troops were defending the area, but were having a rough of it when the RAF began attacking Turkish outposts in November 1922. The bombing campaign intensified in December, and in February 1923 a combined air-ground campaign effectively ejected the last remaining Turkish forces from the area."[8]

The RAF had secured a resounding victory for the much maligned policy of air policing; by operating in close concert with ground troops they had acted as a force multiplier and enabled a victory that ensured the border between Mesopotamia and Turkey was no longer in dispute.

However, this type of all out offensive action was rare during the RAF's tenure policing Mesopotamia; more usually the RAF policed its mandate using a combination of punitive strikes and interference. Punitive strikes were an old and well known method of policing the Empire and had in the past followed a reasonable set pattern: a rebellious tribe would transgress in some way shape or form, a mobile column of varying size would march or ride out to the tribal centre where they would burn crops, destroy encampments or villages and possibly killing any rebels who were foolish enough to make a stand.

Such expeditions were undoubtedly

successful but they were slow and manpower intensive too. The speed and the reach of a small force of aircraft meant that "air control meant substituting aerial bombardment for the traditional ground-based punitive expedition"[9] and this smaller, faster force was by no means less destructive:

"*within 45 minutes a full-sized village... can be practically wiped out and a third of its inhabitants killed or injured by four or five planes which offer no real target and no opportunity for glory or avarice.*"[10]

The potential to launch such a rapid, violent response ensured that the tribal regions soon appreciated that the government's retribution would soon follow hot on the heels of any transgression. Indeed the extended reach and speed meant that punitive raids could be employed to punish offences that would have previously been deemed too minor to launch a ground expedition:

"*in several instances [the RAF] bombed tribes who refused to pay their taxes... Once tribes got the message that the British were really serious about paying taxes, fiscal cooperation seems to have been the order of the day, and tax compliance in Iraq reached a satisfactory level.*"[11]

Whilst these punitive air expeditions were at least as lethal as their predecessors mounted by ground troops the RAF began to develop its doctrine of 'interference'. Sir John Salmond had realised "that aircraft achieve their result by their effect on morale, by the damage they do, by the interference they cause to the daily routine of life and not through the infliction of casualties."[12]

It was the ability of the RAF to strike at the same tribe or village, day after day for an indefinite period, with relatively little risk to aircrew, which made interference so effective:

"*the real weight of air action lies in the daily interruption of normal life which it can affect, if necessary for an indefinite period, while offering negligible chances of loot or of hitting back... [air action] can knock the roofs of huts about and prevent their repair, a considerable inconvenience in winter time. It can seriously interfere with ploughing or harvesting – a vital matter – or burn up stores laboriously piled up and garnered for the winter. By attacks on livestock, which is the main form of capital and source of wealth to the less settled tribes, it can impose in effect a considerable fine or seriously interfere with the actual sources of the tribe – and in the end the tribesman finds it much the best to obey the government.*"[13]

Such interference quickly brought recalcitrant tribes to order as they realised the harsh consequences facing their families should this harassment continue. However, in stark contrast to the punitive raids mounted by ground troops, air action also reduced the residual resentment felt towards government forces through sound use of intelligence and propaganda both during and after the action.

The RAF utilised the junior officers of its ground forces for the purpose of intelligence gathering. These officers acted as the military attaché to local political officers or governors[14] and "it was their duty to familiarise themselves with the district to which they were accredited in such a manner that, should air operations suddenly be required, they would be

enabled to make such arrangements as were necessary to ensure that aircraft found their correct targets."[15]

Having then identified their targets leaflets would be dropped the transgressors spelling out in clear terms what they had done wrong, what action the government intended to take and how they might avoid this action. If this initial attempt to avoid violence failed leaflet drops and propaganda from loudspeakers fitted to the aircraft continued to emphasise "the peaceful intent of the British demands and stressed the futility of resistance against the impersonal, invulnerable and ubiquitous air force"[16] throughout the bombing or interference campaign.

The RAF's use of air as a means of delivering propaganda both before and during these operations was complemented by the use of aircraft after a campaign "as a means of positive contact with the former enemy: doctors were flown to the remote sites when needed, natives were evacuated to large medical facilities if required, messages were delivered from one local chief to another in the course of normal flying duties and similar acts of good faith were performed."[17] Such acts had a great deal of influence upon these recently pacified communities and served to reinforce the positive benefits of accepting government rule.

Whilst air policing was able to punish and even rehabilitate recalcitrant tribes in Mesopotamia, air power alone was seldom enough to influence or quell more organised and hard-line resistance. When, in 1923, the Kurdish leader Sheik Mahmud and his followers began

a guerrilla campaign which sought to re-establish Kurdish autonomy or even independence, the attempts to put down this insurgency by air power alone were unsuccessful and the aircraft of the RAF had to take a supporting role:

"*The RAF bombed Suliamania [the Kurdish capital] for many months without noticeable effect on the morale of Mahmud and his supporters. In the operations against Mahmud, the air force cooperated with the army and police columns trying to corner the rebels. The army columns were often mounted as light as possible. The primary role of the RAF in such operations was reconnaissance, and in this role the aircraft proved fairly effective. When the British/Iraqi troops cornered the rebels, the RAF provided heavy firepower in the form of close air support.*"[18]

This tough and politically motivated opposition had shown that air power alone could not overcome formidable opposition. Nonetheless the RAF were able to adapt their tactics and assume the subordinate role within the combined air/ground campaign which eventually defeated the Kurdish uprising and forced Sheik Mahmud into exile. Such versatility highlights the fact that the RAF's developing doctrine of Air Control was not firmly rooted in the concept of bombing one's enemies into submission and aircrews could adapt their tactics to best suit the nature of each individual threat.

By 1925 it was clear that Air Control had been successful in policing Mesopotamia and the critics back in the United Kingdom had been silenced. Indeed, plaudits flooded in from every quarter. Henry Dobbs, the High Commissioner, boasted that

"Air Control has been so brilliantly, magnificently successful that it has far outstripped the expectations of the Cairo Conference of 1921"[19] whilst the Secretary of State for the Colonies, Leo Amery, was of the opinion that "a general rising against the government was almost inconceivable."[20]

Whilst many observers in the United Kingdom saw Air Control as being exclusively exercised by the bomber it is important to remember that "Air Control occurred when the Air Ministry assumed responsibility for the defence of a particular region of the empire"[21] and the RAF's successes in policing the tribes in Mesopotamia was as much to do with the successful integration of ground troops into their operations as it was their ability to launch successive, rapid and long range strikes.

It is worthwhile examining the role the RAF's method of targeting played in their successful policing of Mesopotamia. Traditional utility targeting is perhaps best epitomised in Col. John Wardens Five Concentric Rings (Fig .1)
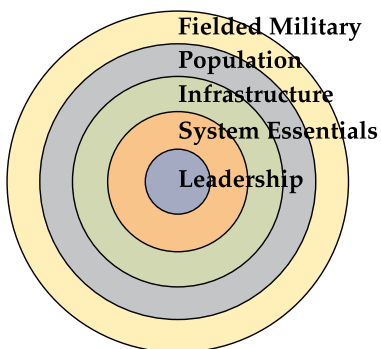

Fig. 1[22]

Col. Warden selected five general areas or

systems that he believed were key centres of gravity to exploit any foe. The systems Warden picked were: leadership, organic essentials, infrastructure, population and fielded military force. One could envisage this model as a series of five concentric rings with the most important element at in the centre and progressively less important ones moving outward. A way to think about defeating an enemy was to attack the concentric circles from the inside out. That is, disable the most important centre of gravity first and work outward to less important rings.

Such a theory would have appeared radical to an Air Force formed amidst the bloody attritional slog of the Great War. Indeed the RAF's early campaigns in Mesopotamia against the Turks seem to have conformed to this doctrine of chipping away at the outer layers of the circle. Nonetheless, the RAF seem to have attempted to strike at the 'centre' of their enemy with their bombing of Suliamania during their campaign against Sheik Mahmud, although with little success. It must have become quickly apparent that such utility based bombing was unsuited to their objectives in a country such as Mesopotamia. Utility targeting has the best effect whilst utilised in inter-state conflicts rather than against the disparate tribes and ethnic groups that made up Mesopotamia.

However, the RAF did make considerable progress in moving away from a purely attritional doctrine throughout their time in Mesopotamia. As we have seen, although capable of inflicting grave casualties the RAF moved towards an interference based policy of policing. Such a policy more closely resembles the modern model of value

targeting (Fig. 2)

Physiological Needs
Safety and Social Needs
Belonging and Social Activity Needs
Esteem and Status Needs
Self-Realisation and Fulfillment Needs

Fig. 2[23]

Value targeting's aim is that "while eliminating or in some cases even ignoring the utility of [the enemy's] warfighting tools, to attempt to change their behaviour by holding their more highly valued but 'lower' and stronger needs at risk."[24] Such a system well suited the RAF who were, by and large, policing a people with no real warfighting tools which posed a suitable target. By striking at their 'safety and security needs', along with their 'belonging and social activity needs', by means of their interference campaign the RAF were targeting and denying that which the recalcitrant tribes valued highly – the ability to conduct their daily routine according to their own needs or desires.

There were of course criticisms of Air Control chief among these was the assertion that Air Control had only a transitory effect and that it lacked the ability to hold and dominate ground. Another was that " Air control was never as effective as advertised, and it could not provide answers to the political causes of colonial insurgencies. Except in the case of minor policing, airpower served mostly as a support arm to ground forces."[25] I believe these criticisms

are somewhat misguided, the RAF were not in Mesopotamia to solve the ethnic problems of this young nation but to police it in a manner that enabled it to be administered effectively and their inability to dominate ground was made up for by their ability to strike further, more quickly and more continuously than ground troops alone and with far less risk to those aircrews involved.

These aircrews also acted as a force multiplier in their engagements in support of ground troops. Their ability to conduct reconnaissance and give Close Air Support gave the ground forces the advantage on many occasions. It is also important to note that the task of policing Mesopotamia fell to the RAF – not just its aircrews. The system of intelligence networks, the propaganda campaigns, the armoured car squadrons, the development of the doctrine of interference and the close air/ground relationship all had an important part to play in the RAF's policing mandate; indeed one must question whether a police force modelled around the older empire model would have fared as well.

Such a ground led campaign would have certainly cost more in men and money; throughout their ten year tenure policing Mesopotamia the RAF lost only fourteen aircrew killed by enemy action and eighty-four wounded[26] and within a year of taking control they "had reduced British expenditure in the region from about £23 million to around £4 million"[27] and this is the crux of the issue – the RAF were despatched to Mesopotamia with two objectives; one of their own making and one of the Government's. The latter was to

police the mandate at a cost which would be acceptable to the British people – which they achieved beyond a shadow of a doubt. The former was to secure a role for themselves, and their survival as a separate service, amid the post-War cost-cutting and demilitarisation. Here again the RAF achieved a resounding success, securing once and for all their future as a fully independent service.

Notes

[1] Longoria, MA, *A Historical View of Air Policing Doctrine: Lessons From the British Experience Between the Wars, 1919 – 1939* (Alabama: Air University Press, 1993) p. 7/8

[2] Corum, JS "The Myth of Air Control: Reassessing the History," *Aerospace Power Journal* (Winter 2000) p. 3

[3] Ibid.

[4] Hall, D, "Ruling the Empire out of the Central Blue: Royal Air Force and Counter-Insurgency (COIN) Operations in the Inter-War Period" *Air Power Review*, 10:2 (2007) p. 71

[5] Towle, PA, *Pilots and Rebels: The use of Aircraft in Unconventional Warfare, 1918 – 1988* (London: Brassey's, 1989) p.15

[6] Hall, D, "Ruling the Empire out of the Central Blue: Royal Air Force and Counter-Insurgency (COIN) Operations in the Inter-War Period" *Air Power Review*, 10:2 (2007) p. 71

[7] Longoria, MA, *A Historical View of Air Policing Doctrine: Lessons From the British Experience Between the Wars, 1919 – 1939* (Alabama: Air University Press, 1993) p. 21

[8] Ibid p. 20

[9] Corum, JS "The Myth of Air Control: Reassessing the History," *Aerospace Power Journal* (Winter 2000) p. 4

[10] Salmond, Notes on the employment of the air arm in Iraq cited in Corum, JS "The Myth of Air Control: Reassessing the History," *Aerospace Power Journal* (Winter 2000) p. 5

[11] Corum, JS "The Myth of Air Control: Reassessing the History," *Aerospace Power Journal* (Winter 2000) p. 6

[12] Salmond, correspondence file in AIR/338 taken from Longoria, MA, *A Historical View of Air Policing Doctrine: Lessons From the British Experience Between the Wars, 1919 – 1939* (Alabama: Air University Press, 1993, p. 21

[13] Salmond to Trenchard, 29 Sep. 1923: Trenchard Papers, C11/27/1432 taken from Gray, PW, "The Myths of Air Control and the Realities of Imperial Policing" *Air Power Review* Vol. 4 No. 2 (2001) p. 44

[14] Hoffman, B, *British Air Power In Peripheral Conflict, 1919 – 1939*, (Santa Monica: RAND, 1989) p. 15

[15] Glubb JB, *War in the Desert: An RAF Frontier Campaign*, (London: Hodder & Stoughton, 1960)

[16] Dean, DJ, *Air Power in Small Wars: the British Air Control Experience*, handle.dtic.mil/100.2/ADA215899

[17] Ibid

[18] Corum, JS "The Myth of Air Control: Reassessing the History," *Aerospace Power Journal* (Winter 2000) p.6

[19] Omissi, DE, *Air Power and Colonial Control: The Royal Air Force 1919 – 1939* (Manchester: Manchester University Press, 1990) p. 35

[20] Ibid p. 35

[21] Longoria, MA, *A Historical View of Air Policing Doctrine: Lessons From the British Experience Between the Wars, 1919 – 1939* (Alabama: Air University Press, 1993) p. 2

[22] Wijninga, WW and Szafranski, R, "Beyond Utility Targeting: Towards Axiological Air Operations," *Air Power Journal* Vol. 3 No. 2 (2006) p. 139

[23] Ibid p. 143

[24] Ibid p. 147

[25] Corum, JS "The Myth of Air Control: Reassessing the History," *Aerospace Power Journal* (Winter 2000) p. 13

[26] Parsons, DW, *British Air Control: A Model Application of Air Power in Low-Intensity conflict? handle.dtic.mil/100.2/ADA215899* p. 9

[27] Omissi, DE, *Air Power and Colonial Control: The Royal Air Force 1919 – 1939* (Manchester: Manchester University Press, 1990) P. 36

Air Power lessons from the counter insurgency operations in Malaya, Borneo and Aden

By Squadron Leader James Parker

The conduct of counter-insurgency is, understandably, currently subject to much scrutiny. The aim of the following article is to analyse the strengths and weaknesses of air power as applied during the counter-insurgencies of Malaya, Borneo and Aden in the 1950s and 1960s, and to apply the key lessons to the conduct of contemporary operations. It will be argued that offensive air power can be extremely effective, especially following recent technological developments, but unintended civilian casualties can have a more detrimental impact on the overall campaign. Thus, air power's non-violent contribution has played a more valuable role. In particular, air transport aircraft – notably helicopters – can be important force multipliers in terms of tactical mobility, re-supply and casualty evacuation. Furthermore, the roles of surveillance, reconnaissance and psychological operations should not be overlooked as they too can have a significant effect. However, it is self-evident that air power is not applied in isolation during any counter-insurgency. As history has proved, joint and co-located headquarters are to the advantage of all concerned. Finally, air power practitioners should remember that the political context is of paramount importance to the overall success of any counter-insurgency.

Introduction

This article aims to analyse the strengths and weaknesses of air power as applied during selected counter-insurgencies conducted within Southeast Asia in the 1950s and 1960s, and will attempt to relate key lessons to the conduct of contemporary operations. In order to do this, the essay will explore the fundamental principle that aircraft can contribute more than just an offensive capability and explosive effect, with the aim of explaining how air power practitioners have learned to complement both military and civilian activities. As will be outlined, the Royal Air Force was generally regarded as effective in the counter-insurgency operations of Malaya, Borneo and Aden primarily because of the non-destructive impact it delivered, and that lesson endures today.

This article will initially highlight some of the successes and limitations of offensive air support and then consider the importance of military command relationships. The merits of air transport activities, surveillance and reconnaissance capabilities and psychological operations will then be reviewed because commanders have increasingly realised their effectiveness in supporting both military and civilian activities. The Royal Air Force has been involved in numerous counter-insurgencies, but the historical examples will be drawn exclusively from those of Malaya (1948-60), Borneo (1962-66) and Aden (1963-67). These were some of the more significant operations, but also highlight the apparent paradox to air power practitioners that their efforts were important – but not fundamental – to the result of the campaign. Indeed, the Royal Air Force's role was broadly similar in all three examples, but the crucial factor was a difference in political approach. Consequently, Borneo was determined as a positive outcome and Malaya is still regarded as a model for counter-insurgency conduct; however, Aden was a strategic failure that undermined any tactical achievements. Although every insurgency is unique, there are many common themes regarding the application of air power in the three historical examples that are still applicable to contemporary operations, and these will be highlighted throughout.

Offensive Air Power

Land forces have traditionally regarded offensive action as the principal role of air power during counter-insurgency operations. Close Air Support effectively assisted troops in contact during the Aden campaign, when 'ground attack aircraft … were frequently called in to strike rebel forces' that were within close proximity of British infantry but out of artillery range.[1] However, in Malaya the insurgents usually withdrew before strike aircraft could react,[2] so more often than not their greatest effect was deterrence rather than destruction. The value of these lessons is still apparent today in Afghanistan, where ground forces can be rapidly allocated Close Air Support to defeat insurgents fighting tactical engagements. Nonetheless, then as now, careful co-ordination and control procedures are required between land and air forces to maximise the effectiveness of the latter's support. For example, attack aircraft were the only means of

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preventing rebels from over-running an isolated Special Air Service patrol on one occasion in Aden[3] although the arrangements for directing the aircraft were improvised[4] due to insufficient planning. Fortunately, 'forward air control techniques were steadily refined'[5] during the Aden campaign, with improved planning, training and communications increasing the overall effectiveness of offensive air power. The use of experienced forward air controllers was also a factor in the Borneo campaign,[6] so that air attacks not only caused maximum damage to the insurgent but also minimum civilian casualties. For much the same reasons, on current operations there is a continuing requirement for sufficient personnel to be properly trained and equipped for the important role of forward air control.

Offensive air support was conducted in Malaya both against specific targets – such as terrorist camps – and areas of jungle judged to contain insurgents.[7] Unfortunately, 'the impact of offensive strikes was greatly limited' because the dense jungle canopy not only absorbed much of the weapons' explosive force but also made target acquisition difficult.[8] Consequently, it was argued that piston-engine aircraft were more effective for counter-insurgency operations than the newly introduced fast-jets, because their slower speed meant pilots had longer to locate targets.[9] However, it was recognised then – and remains true today – that the Royal Air Force 'will have to fight the war with the equipment … [they] have for other types of war'[10] because a two-tier inventory is unaffordable. Furthermore, subsequent developments in platforms

(including unmanned aerial systems and attack helicopters as well as fast-jets) and weapon technology (particularly advanced targeting pods and smart-bombs) now enable British combat air power to operate effectively in all types of conflict. Thus, practitioners have learned the importance of developing and acquiring equipment for a broad range of applications rather than procuring it purely for contemporary counter-insurgency operations, thereby maintaining a balanced force structure for war fighting and counter-insurgency. Given increasingly stringent financial constraints, this is likely to prove a key challenge for policy-makers and will inevitably be the subject of much future debate.

The importance of adapting strategy to minimise civilian casualties was also a lesson learned during the featured campaigns. The negative effect of civilian injuries and deaths on the 'hearts and minds' campaign was well understood in Borneo by those in command[11] as they had seen the benefits of a controlled approach to minimising civilian casualties in Malaya. Today when the 'population is the prize' there remains much concern over the possible adverse consequences of employing unnecessary or indiscriminate air delivered munitions because they can alienate the local population.[12] These concerns are even greater in contemporary operations as improved global communications enable near-instantaneous media coverage, so the use of air power faces 'criticism and scrutiny from a much wider and potentially less sympathetic audience.'[13] As such, non-lethal escalation measures by

low flying Close Air Support aircraft are employed whenever feasible in Afghanistan.[14] Also, the (former) Commander of the International Security Assistance Force directed that 'minimizing civilian casualties is of paramount importance' and any caused by coalition forces must be immediately acknowledged in the media.[15] All this underlies the fact that offensive air power can really only treat the violent symptoms of an insurgency and not the root cause, which requires an integrated civil-military approach – including the contribution of other forms of air power.

Command and Control

Operations in Malaya, Borneo and Aden revealed that command and control relationships are crucial to the overall effectiveness of counter-insurgency operations, but that the overarching political and strategic approach will ultimately determine the success or otherwise of a counter-insurgency campaign. In particular, it was learned in Malaya and Borneo that 'military operations are always subordinate to political considerations'[16] because 'military action counts for little unless its effect contributes tangibly to a clearly defined strategic or operational end state.'[17] However, in Aden 'the British never developed the apparatus of civil-military co-operation that had proved so effective in Malaya' and Borneo because for political reasons no overarching Director of Operations was appointed,[18] which is one of the factors why the campaign was ultimately unsuccessful. This lesson has been reinforced in Helmand with the establishment of a Foreign Office post that outranks the Task Force Commander, to head the Provincial Reconstruction Team.[19] Nevertheless, the British government must underpin these command and control relationships with the necessary will to conduct counter-insurgency operations. The Labour government's Defence Review in 1966 concluded (primarily due to a changing strategic outlook coupled with economic pressures) that Britain would not maintain its military bases in Aden beyond 1968, a decision that 'contributed to the escalating violence'[20] as it gave succour to the insurgents. There are parallels to the demands between 2003 and 2009 for a date to withdraw from Iraq, albeit more because the initial invasion had been unpopular and the subsequent counter-insurgency appeared unwinnable, which arguably ultimately undermined the effectiveness of British military action, including air power. Thus, it is worth remembering that politicians rather than military commanders are the key to determining the final outcome of a campaign.

While the role of politicians is paramount, the military can make its contribution more successful if it adapts a cohesive approach rather than operating along single-service lines. It has been argued that in Malaya the Royal Air Force 'appreciated the support role as being the dominant role for air power in counterinsurgency warfare,'[21] but did not become a mere adjunct to land operations. The creation of a Joint Operations Centre during the Malaya Emergency 'was the keystone of the inter-service co-operation on which the campaign was fought and won,'[22] and resulted in better allocation of aircraft because airmen understood

the tactical importance of each task as a consequence of their close working relationship with Army colleagues. Joint headquarters are still important for air and land components to better understand each other's requirements, capabilities and limitations. However, Afghanistan counter-insurgency operations see the Headquarters of the International Security Assistance Force in Kabul and the Combined Air Operations Centre in Qatar because the latter is also responsible for air operations elsewhere in the region. An Air Coordination Element is forward based, but its critics have stated that the weight of air planning effort is too far removed from theatre – and liaison therefore more difficult (not least due to communications difficulties) – which can mean operations are not as fully integrated as they might have been otherwise.

Air Transport

Air transport's non-destructive capabilities have supported both military and civilian activity during past British counter-insurgency operations, particularly in the forms of mobility, re-supply and casualty evacuation. Air transport aircraft have significantly increased the tactical mobility of ground forces and the development of helicopters was a major contributory factor. Analysis of Malaya suggests that without helicopters 'four times as many ground forces would have been required'[23] to overcome the limited mobility given the terrain and infrastructure, significantly influencing how future counter-insurgency operations would be conducted.[24] In Borneo[25] and Aden this approach was continued, where

it was regarded that 'helicopters were the key to the mobility and speed of the [military] campaign.'[26] In contemporary operations commanders continue to apply these same lessons, with troops exploiting the surprise achieved by aviation manoeuvre ranging from a battle group assault to a patrol bounce. However, it is crucial that sufficient helicopters are available to achieve tactical mobility, which was not always the case in Borneo[27] or Aden[28] – reflecting both the cost and the complex engineering of this relatively new capability, which limited procurement of extensive numbers of aircraft. Paucity of assets was a noteworthy issue in Afghanistan that has been somewhat alleviated by the recent American surge, but it still remains that while 'Commanders on the ground have sufficient helicopters to undertake their key tasks … greater availability of these helicopters would give them more flexibility in the planning of deliberate offensive operations.'[29] Fortunately, debate over whether air or land should command and control helicopters at the tactical level, which manifested itself during Malaya and Aden[30] with resultant conflicts in tasking priorities, is no longer a noteworthy problem because British assets are deployed within a Joint Helicopter Force under command and control of an Army headquarters.

While helicopters have proved highly successful in terms of achieving tactical mobility where the terrain and threat would have inhibited other forms of ground and air transport, use of fixed-wing aircraft has also been important. For example, in Borneo 'ninety troops were loaded into a Beverley, which made a swift landing

on Seria airfield where the troops leapt clear'[31] and ultimately re-took the town although the aircraft suffered damage from small arms fire. The lesson for contemporary operations is for air power practitioners to balance what air transport aircraft can achieve, for example surprise, speed and reach, in relation to the risks involved. Nowadays, the increasingly high value attached to fixed-wing aircraft means the benefits need to be compelling given the impact of recent Royal Air Force Hercules C130 aircraft losses.[32] Furthermore, not all historical examples have been positive – particularly those attempting to achieve tactical mobility by parachuting. In Malaya 'experience showed that about half of the troops dropped in any operation would in fact become caught in the trees,'[33] causing injury to some and adversely affecting what the unit involved could subsequently achieve. Consequently, this underlines the requirement for suitable operational risk management.

Air transport can also be used with less risk and more reward to further civilian aspects of counter-insurgency operations. In Malaya, 'on one occasion aborigines were flown to Kuala Lumpar to show the falsity of insurgents' claims about the collapse of the government.'[34] The credibility of the nascent Afghan civil administration was similarly strengthened in 2002 when the Royal Air Force flew Hajj pilgrims to Mecca from Kabul because the Afghan airline could not meet the demand.[35] In both examples, minimal effort by one facet of military capability generated disproportionate benefit for those conducting counter-insurgency campaigns as it boosted local perceptions of the British military,

as well as the reputation of the civil power. Therefore, even when aircraft may be sparse and the perceived opportunity cost to military tasking is high, non-military tasks can be the most effective means to further progress towards the overall end state.

Aerial re-supply was another crucial force multiplier, especially in Malaya and Borneo. For example, although British forces were outnumbered ten to one in Borneo, they were successful as the Army could dominate the jungle 'because of air re-supply'[36] rather then expend much effort and resource on simply sustaining itself. Of note, 'ninety per cent of the logistic supply within Borneo was by air, both air-landed and air dropped.'[37] However, 'although aerial re-supply played a vital role in Malaya, it played a far smaller role in Aden and, although important, did not have the decisive impact.'[38] This was because the Malayan jungle was much more impenetrable than the Radfan desert – despite its mountains and lack of roads - and the city of Aden itself. Thus, air power's comparative advantage over ground manoeuvre very much depends on the operating environment itself. Today, aerial re-supply is a critical capability in Afghanistan, where convoys to forward operating bases are fraught with danger from improvised explosive devices. Thus, helicopters are often used for logistics purposes, thereby contributing to the maintenance of political will for the campaign because these tasks help reduce casualty numbers. In addition, Royal Air Force Hercules C130 aircraft can conduct air despatch to re-supply forward operating bases and mobile reconnaissance patrols, allowing them to conduct longer

operations as a result.

The post-Word War Two development of casualty evacuation by aircraft, particularly helicopters, proved 'momentous'[39] and 'became a vital component in operations.'[40] Soldiers could receive medical treatment in hospital within hours of being injured without requiring a patrol to be abandoned, and by the end of the Malaya campaign almost 5,000 casualties had been transported by helicopter.[41] In Aden, 'between April and September 1964 alone, five Army pilots [evacuated] 89 serious casualties'[42] from the Radfan. Arguably, troops fought that much harder because they knew they would soon receive hospital treatment if wounded; another immeasurable benefit of air power. Military planners have consistently put this knowledge into practice since then, and during modern-day operations in Iraq and Afghanistan coalition forces routinely conduct life-saving casualty evacuation missions. In Malaya, injured civilians were also picked-up, which duly strengthened the 'hearts and minds' aspects of the campaign'.[43] Injured civilians in Afghanistan are often moved by helicopter to coalition medical facilities, which can then be publicised by media operations to improve perceptions amongst the population of the military's role in counter-insurgency operations.

Surveillance and Reconnaissance

'Good intelligence is undoubtedly one of the greatest battle-winning factors in counter-insurgency warfare.'[44] Human intelligence is likely to be the most valuable source of information for counter-insurgency; however, airborne surveillance and reconnaissance are able to complement such activity,[45] as occurred during the Malaya, Borneo and Aden campaigns. In Malaya, photographic reconnaissance was undertaken to produce maps and generate aerial photographs for intelligence and briefing purposes.[46] These 'were used during nearly all ground and air operations as a matter of course and materially contributed to any success which they had'[47] as troops could familiarise themselves with the ground on which they would operate. In Aden, 'the absence of accurate maps made on-the-scene reconnaissance, which could only be done from the air, essential;'[48] thus, highlighting the flexibility and speed of what aircraft could achieve. This function of air power is unlikely to be decisive in itself, but has usefully contributed to the overall effectiveness of military operations.

Fast-forwarding to Afghanistan, photographic reconnaissance has benefited from the advancement of technology. Aircraft advanced targeting pods can down-link images to troops on the ground in real-time and analysed pictures can be e-mailed from the collecting aircraft's base location to the requesting battle group headquarters extremely quickly. Satellite technology facilitates more accurate mapping by cartographers. Updated maps indicate newly constructed compounds that can significantly affect collateral damage estimates. Furthermore, technology can be applied to images collected from airborne reconnaissance platforms to identify potential improvised explosive device locations, greatly assisting convoy commanders to plan their routes. Unfortunately, technological advances can also be

used against coalition forces; for example, commercial satellite imagery websites allow insurgents to better target their indirect fire attacks.[49]

Surveillance has also proved an effective facet of air power. In Malaya, airborne surveillance 'occasionally got fairly good spotting'[50] of 'terrorist hideouts'.[51] It is difficult to quantify the effect achieved, but numerous insurgent camps and cultivations were located over a sustained period.[52] Deception tactics by aircrew were required to retain surprise as insurgents became 'extremely conscious of aerial surveillance and were liable to move away from an area if they thought they had been spotted … on the assumption that it heralded the presence of ground forces or imminent air-strike action.'[53] That said, the deterrent effect achieved by these surveillance aircraft contributed to the overall attrition of the insurgents. However, the Malayan weather – especially heavy cloud in the afternoon – meant that constant monitoring was not achievable. The importance of surveillance was also realised in Aden, where 'the British employed helicopters in crowded urban areas to alert ground forces to any sign of trouble (such as crowds massing, incipient riots, etc.) as well as to spot terrorist movement.'[54]

Today, visual surveillance is more likely to be conducted by unmanned aerial systems, but even these 'can be limited by the weather'[55] – particularly wind and cloud – and their noise can alert the enemy. Insurgents in Afghanistan coalesce even more rarely than those in Malaya. This makes locating them through visual surveillance alone more difficult. The development of

technology has helped overcome this historical difficulty, with the introduction of platforms such as the Royal Air Force's Sentinel Airborne Stand-Off Radar aircraft, which conduct wide-area radar sweeps to cross-cue (alert) visual surveillance aircraft to a potential target. Similar effects can also be achieved utilising signals intelligence platforms.

Psychological Operations

Psychological operations may require more niche capabilities than traditional warfare, but previous operations suggest a potentially positive contribution to overall campaign success. In Malaya air power facilitated a large-scale psychological operations campaign to undermine support for the insurgents and their cause. In total, the Commonwealth air forces delivered nearly 500 million leaflets and broadcast almost 4,000 hours of voice recordings.[56] Significant numbers of those who surrendered attributed their actions to hearing or seeing these products, which arguably played a greater role than force in defeating the insurgent,[57] even if 'the exact number who were thus persuaded will never be known.'[58] Measuring the success of non-destructive warfare is still very difficult, although it is possible to assess effectiveness based upon predicted reactions, which may be observed by airborne surveillance.

Not all attempts to utilise air power for psychological operations have been successful. The British attempted to 'reimpose a form of air control'[59] during 1964 in the Radfan and leaflets were occasionally dropped to provide warnings that a punitive air bombardment of a

specific target would follow. This type of air policing and control was limited as (unlike during the inter-war period when such techniques were similarly applied) the effects were quickly broadcast and poorly perceived by a global audience. Such actions would not be countenanced nowadays, but non-violent psychological operations in Afghanistan have been used to publicise tangible reconstruction achievements and they have also attempted to influence insurgents that are deemed reconcilable.[60] In this way, psychological operations are not only used to gain military advantage, but also enhance civilian campaign activities such as improving the perception of governance amongst the local population. Air power's reach can mean it may be the only way of delivering the desired message.

The Royal Air Force did not initially possess aircraft to effectively broadcast the psychological operations messages in Malaya, but these were soon procured from the United States.[61] Today, there are similar challenges regarding balanced force structures. Technology allows messages to be broadcast onto televisions and radios (rather than by loud-speakers on aircraft) but the Royal Air Force lacks platforms with this capability despite their utility in both high and low-intensity warfare. Consequently, American aircraft must be requested, but might be subsequently tasked elsewhere, potentially adversely affecting the credibility of British psychological operations if such broadcasts had been promised at a certain time. Nonetheless, air power's non-violent contribution to psychological operations – if applied appropriately

– can help change the cognitive environment, which is more likely to yield successful results in the longer-term than offensive air support.

Conclusion

In conclusion, analysis of Malaya, Borneo and Aden indicates that offensive action is not the sole effective means of employing air power when conducting a counter-insurgency campaign. Close Air Support can be effective at the tactical level, but the impact of civilian casualties – particularly when highlighted by the media – although unintended can have adverse strategic consequences. Thus, the non-violent contribution of air power has often played a more valuable role. Air transport is a critical capability of tactical mobility. Certainly the development of helicopters has enabled more effective delivery means and brought a sea change with regard to casualty evacuation, while aerial re-supply continues to be an effective force multiplier. Crucially, air power can generate disproportionate advantages to the conduct of what would normally be considered civilian lines of operation, such as improving the perception of governance, although the apparent cost to military activity may prohibit practitioners from employing such methods. Technology has particularly enhanced surveillance and reconnaissance platforms (which are increasingly space-based) and psychological operations capabilities; however, while these non-destructive capabilities can achieve great success, they must be applied appropriately and the effects may initially be difficult to quantify.

The military campaigns of Malaya,

Borneo and Aden have provided lessons about the importance of military command structures. Joint and co-located headquarters offer the best construct to fully integrate all military efforts; thereby increasing the likelihood that air power is a valued partner playing a supporting role rather than an adjunct to land operations – to the advantage of all concerned. Nonetheless, air power's roles and command chain are just a few pieces in the complex jigsaw of counter-insurgency. Whether the picture will be successfully completed depends very much upon the overall political approach. For example, in Aden 'air power had proved a winning factor in a lost war.'[62]

In sum, the experience gained from Malaya, Borneo and Aden 'continues to inform Royal Air Force thinking with respect to the role of airpower in small wars.'[63] When applied appropriately, the non-violent as well as strike capabilities of air power can be extremely effective and therefore contribute much to the overall counter-insurgency operation. In conclusion though, history has demonstrated to air power practitioners that their efforts can help win battles of both bullets and minds, but politics is equally important to determining the result of the campaign.

Notes

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**ROYAL
AIR FORCE**

'The Strategic, Moral and Conceptual Significance of Victory in the Battle of Britain'

By Air Commodore Russ La Forte

One of the few truly strategically significant battles in history, British victory in the Battle of Britain was pivotal to the course and outcome of the Second World War. German attainment of air superiority in 1940 would have led to the eventual defeat of Britain either by direct aerial attack, blockade, and/or by invasion. British capitulation would very likely have had fatal consequences for the Soviet Union facing an earlier and stronger German offensive, would have encouraged accelerated Japanese expansion in the Far East, and probably delayed US entry into the War. The principal strategic significance though, was the effect upon the *moral* component of British and German fighting power. Victory in the Battle spawned a moral cohesion that exerted a powerful grip on the British psyche in 1940, a grip that continues even today to permeate our national cultural, popular and political DNA. In this respect it was an event in British military history like no other.

Introduction

'The contest between the British and German air forces in the late summer of 1940 has become a defining moment in our history, as Trafalgar was for the Victorians'

Richard Overy[1]

Churchill's memorable phrase, *'Never in the field of human conflict was so much owed by so many to so few'*, encapsulates the standard perception of the strategic significance of the 'Spitfire Summer' of 1940. However, perhaps inevitably with the passage of time, this perception is often clouded by hyperbole and inaccuracy, leading revisionists to challenge the traditional story of the Battle of Britain, positing an imminent German invasion and a united Britain as a myth. Nevertheless, Overy's assertion hints at the iconic status that the Battle enjoys in the psyche of the British Nation. The achievements of the 'Few' had profound geo-political and moral implications at the time and still exert a powerful grip today, shaping key elements of our sense of British national identity - for good and bad. Why and how should this be so? The purpose of this article is neither to provide a historical narrative of the course of the Battle of Britain, nor to examine the reasons for British victory, both of which of have beaten a deservedly well-trodden analytical path. Instead, this article will focus holistically upon the *significance* of the victory in 3 areas.

Firstly, the article will examine the geo-political implications of the RAF's victory in the Battle of Britain to the course and outcome of the Second World War. Would the loss of air superiority to the Germans have led to the *invasion* of Britain, and if so, could it have succeeded? Would the loss of air superiority to the Germans have led to the *defeat* of Britain? What could have been the consequences of British capitulation? Secondly, in a critical area that has received comparatively little attention in the plethora of research on the Battle; the article will examine the strategic significance of victory to the British and German moral components of fighting power. This section will also address its enduring effects today upon the RAF and the British people. Finally, the article will address the significance of the Battle to the conceptual component of fighting power: innovation, the ability to learn and adapt, and doctrine. Analysis will include the doctrinal primacy of air control: the assertion that 'no warfighting operation on land or at sea anywhere within the spectrum of conflict can be satisfactorily concluded without control of the air'[2] remains as axiomatic in 2009 Afghanistan as it did in 1940 Britain. Importantly however, this final section will also identify themes from the Battle for the broader (and topical) doctrinal context of cultural understanding.

STRATEGIC SIGNIFICANCE OF VICTORY:

THE COURSE AND OUTCOME OF THE SECOND WORLD WAR

'Hitler knows he will have to break us in this island or lose the war'

Winston Churchill, 18 Jun 1940

British sources cite the period of the Battle of Britain as the 10 July to 31 October 1940, comprising 4 phases: firstly (10 July to 7 August), attrition of

RAF fighters, using the bait of attacks on Channel shipping; secondly (8-23 August), attacks against Fighter Command infrastructure; thirdly (24 August to 6 September) the main focus of attacks switches to London; finally (7 September to 31 October), attacks further extended to a wider variety of economic targets. Temporally imprecise, the Battle petered-out rather than reaching a climactic conclusion, with the Luftwaffe failing to achieve its aim of air superiority over southern Britain. Any assessment of the strategic significance of this failure to the outcome of the War must be clear about German strategic objectives - difficult, given that Germany herself was unclear, not least her intentions regarding the invasion of Britain.

With Russia the focus of Hitler's national strategic aim, a diplomatically-negotiated peace with Britain was preferred in order to concentrate military resources upon 'tackling the Russian problem'. Churchillian defiance in May was seen as a bluff, and a crucial month passed, waiting for the British to recognise their 'militarily hopeless situation'. The Germans had identified (as the Allies did in 1944) the *political* risks of a failed landing, with the Armed Forces High Command reporting to Hitler on 11 August 'Under no circumstances must the landing operation fail. The political consequences of a fiasco might be far more far-reaching than the military'. With the Nazi regime divided on the matter, Hitler appealed for Britain to see sense in a speech to the Reichstag on 19 July, 'In this hour I feel it to be my duty before my conscience to appeal once more to reason and common sense in Great Britain … I can see no reason why

this war must go on'. The appeal was dismissed peremptorily in a 22 July BBC broadcast.

German military opinion was similarly divided. The tipping point for a quick, decisive invasion had been missed. Liddell Hart's view is typical, 'If the Germans had landed in England any time in the month following the fall of France, there would have been little chance of resisting them.'[3] Kesselring (commanding Luftflotte 2) and Fricke (Head of Naval Plans) had urged in vain that the British be followed across the Channel after Dunkirk, before they could recover. Extraordinarily though, there appeared to be no plans in place, inducing the 'morass of uncertainty in which German strategy was labouring during this period.'[4] On 16 July, Hitler issued his 'Directive No16', 'I have decided to begin to prepare for, and *if necessary* to carry out, an invasion of England … and *if necessary* the island will be occupied' - the caveats are revealing. The Germans considered 3 possible military courses of action to defeat Britain: air and naval blockade, direct air attack, and seaborne invasion - either as the main effort or a later *coup de grâce*. The unenthusiastic Army had no qualms about taking on its shattered British counterparts, but was deeply apprehensive about its vulnerability whilst embarked, lobbying for a wide front of 90 miles to stretch British defences. Conversely, Admiral Raeder, conscious of British naval superiority, argued for a narrow, mine-covered corridor, but in fact favoured a policy of blockade. Meanwhile, Goering assured Hitler that the Luftwaffe would check RN and RAF interference. The only thing

that they all agreed upon was the necessity for air superiority as an essential prerequisite to all military options. Ultimately, they were all to be disappointed, and when one considers his later complete unwillingness to accept 'excuses' from the military, Hitler's agreement on 12 October to postpone SEALION until Spring 1941 is indicative of his true strategic priority.

If the Luftwaffe *had* achieved air superiority in 1940, a vanguard of 3 to 4 German divisions could have overwhelmed British defences with relative ease. Dunkirk had decimated the British Army who, even supported by the 'brassard and shotgun' Local Defence Volunteers, would have unable to contain, let alone repel Blitzkrieg. A far greater deterrent was the RN who, despite recent losses, dwarfed her German counterpart. The RN would have battled courageously, potentially causing serious damage, especially to German second and third echelons (for which, there was a dire lack of suitable landing craft). However, the Germans could have mitigated naval interdiction by securing airfields on the South Coast. Furthermore, the RN would have been mauled by the Luftwaffe in the narrow confines of the Channel.[5] In just one week of the Battle's first phase, the Luftwaffe sunk 3 destroyers and seriously damaged another 2 in the Channel, leading the RN to abandon Dover as a base on 29 July and withdraw northwards. Liddell Hart had no doubt that Luftwaffe air superiority would have led to Britain's defeat, whether by invasion or otherwise, 'Had Hitler concentrated on defeating Britain, her doom would have been almost certain … although he had missed

the best chance of conquering her by invasion, he could have developed such a stranglehold, by combined air and submarine pressure, as to ensure her gradual starvation and ultimate collapse'.[6] Joseph Kennedy, the US Ambassador in London, was similarly unequivocal on 2 August, 'if the Germans possessed the air power everybody supposed, they would put the RAF out of commission, after which British surrender would be inevitable.'[7] Britain's capitulation in 1940 would have been catastrophic, initially for Russia. Wavell would have been unable to launch his offensive on the Italians in Africa, with no consequent German reinforcement requirement. There would have been no British intervention in Greece in Spring 1941, and absence of British support would have deterred the March 1941 coup in Belgrade. Consequent German campaigns in Greece and the Balkans were successful, but diverted valuable combat power and induced several weeks delay in the launching of Barbarossa. A (stronger) Wehrmacht would otherwise have reached Moscow before the onset of winter. Hitler's failure to conquer Britain before attacking Russia resulted in him having to fight a war not on the 2 fronts often claimed, but on *several* fronts in 1941. These included: aerial bombardment and naval blockade of Britain; defensive garrisoning of Occupied Europe; an expeditionary force in North Africa; counterinsurgency campaigns in Greece, Yugoslavia and Crete against guerrillas sustained from Britain; and interdiction of British convoys to Russia. Meanwhile, what of Japanese aspirations? The collapse of France had accelerated Japanese invasion of

French Indo-China and thus British Far Eastern possessions, principally Hong Kong and the Malay Peninsula, would very likely have suffered the same accelerated fate in 1940 had London capitulated. Japan could then have focused upon Australia and India, arguably delaying the attack on Pearl Harbour.

Seeking another term in the forthcoming November 1940 US election, Roosevelt walked a tightrope of public opinion between vociferous opposition to entanglement in foreign wars, and concern over German and Japanese aggression, and German victory in the Battle would seriously have compounded Roosevelt's dilemma. Hallion describes the impact in the US of the RAF's victory thus, 'it ended forever the aura of Nazi invulnerability, greatly encouraged the pro-British interventionist lobby, and launched the US on the road to rearmament',[8] a bold assertion probably correct only in the longer term. US policy remained firmly isolationist in 1940 and 1941, with British lobbying instilling sympathy but not belligerence. But whilst British victory in the Battle did not bring the US into the War, it 'did create circumstances that allowed US political and military leaders to contemplate the prospect seriously.'[9]

THE STRATEGIC SIGNIFICANCE OF VICTORY: THE MORAL COMPONENT[10]

'These are the King's enemies. These are Huns attacking England, our small country, intent upon invasion and eventual occupation. We are on our own against this Teutonic monster, this arrogant bully, this invader of small countries … Well, there's not many of us,

but we'll knock shit out of some of you, at least for as long as we can … attack, get stuck in, and trust in the Lord'

(Pilot Officer Geoffrey Wellum,[11] September 1940).

Leadership

The Battle had significant consequences for the leadership on both sides. Victory had fundamental, enduring benefits to Churchill's reputation, coming to personify the 'bulldog spirit' of Britain's (and his) 'finest hour'. Promoting public ambivalence, even dislike in many quarters in May 1940, Churchill was idolised by the end of the year, and even in 2002 was voted 'the greatest Briton of all time' in a BBC poll.[12] Meanwhile, the machinations of senior RAF leadership during and after the Battle provided 'a backdrop of soap-opera proportions.'[13] Dowding, Fighter Command's victorious Commander-in-Chief became, according to Sir Arthur Harris, 'the only commander who won one of the few decisive battles in history and got sacked for his pains'. A whole host of personal issues and Service politics lay behind Dowding's dismissal, but the crux of the issue was his failure to grip his subordinates, most notably the increasingly acrimonious relationship between Park and Leigh Mallory. Fighter Command's poor night-time performance in the subsequent Blitz was the final blow, Churchill was compelled to intervene, and Dowding was dismissed on 14 November. Other casualties included Newall (Chief of the Air Staff) and Park, who was moved sideways into a training appointment.

The consequences of defeat to the

Nazi leadership were not immediate, but a seed was sown. For Hitler, it represented 'His first great failure, of far greater ultimate consequence than all his victories.'[14] Furthermore, Goering was damaged militarily as head of the Luftwaffe, and politically as Hitler's deputy. Following earlier stunning victories, 'defeat was a shock, especially to Goering and his Luftwaffe generals whose incompetence was revealed all too clearly by post-battle recriminations. All at once it was realised that the war was by no means won as Hitler continued to claim.'[15] Defeat also dealt a serious blow to the Luftwaffe's reputation as the World's strongest air force, 'the air offensive against England would reveal to the enemy the limitations and weaknesses of the Luftwaffe and thus rob Germany of the strongest military-political trump card she then held'.[16]

Motivation

For the British, this was a 'Just War' not only of national survival, but with 10 nations already under Nazi occupation, Britons readily subscribed to Churchill's extrapolation 'Upon this battle depends the fate of Christian civilisation'. It was a view shared in US political circles, 'any concession on the part of the British Government would destroy forever the chance of eradicating the forces which are threatening our own civilisation, with England silenced, the force of democracy would be annihilated'.[17] Churchill also posited British victory as crucial to the morale of Occupied Europe, 'The fact that the British Empire stands invincible, and that Nazidom is still being resisted, will kindle again the spark of hope in the breasts of hundreds of millions of downtrodden or despairing men and women throughout Europe'. This sense of moral integrity bolstered the RAF and public will to fight, summarised by Wellum thus: 'Bloody Nazis, somebody has got to stop them.'[18] This resolve was seriously underrated in Berlin, and if the air offensive and threat of invasion was an attack upon British morale, it backfired spectacularly. By the end of 1940, Germany faced a British public far more determined to fight than it had been at the beginning. On 21 June, the British Ministry of Information reported 'difficulty arose in satisfying people that the war could be won'. By November, the mood had changed with a recommendation that the ubiquitous slogan 'Britain can take it!' be changed to 'Britain can give it!' German faith in the decisive effect of aerial attack upon civilian morale had crystallised during the 1940 Blitzkrieg, particularly Rotterdam. This influenced Goering's decision (supported by Kesselring) on 7 September to switch the main effort from Fighter Command bases to London, a decision now regarded as the turning point of the Campaign. Meanwhile, Luftwaffe morale ebbed away as the battle progressed, as Adolf Galland, one of their most noted fighter aces later observed 'failure to achieve any noticeable success, constantly changing orders betraying lack of purpose and obvious misjudgement of the situation, and unjustified accusations had a most demoralising effect on us fighter pilots, who were already overtaxed by physical and mental strain.'[19]

Moral Cohesion

For the military, moral cohesion comprises professional ethos, self-

esteem and tradition; yet RAF policy in the immediate aftermath of the Battle was not to glamorise Fighter Command and its individual aces. The reasons were partly institutional. Now in the House of Lords, Trenchard resisted the commemoration of only part of the Service and had difficulty coming to terms with 'merely' a defensive battle. Dowding's subsequent controversial dismissal was also problematic. Furthermore, for much of the population, the worst of the Blitz was yet to come. The focus was thus on deliverance from invasion rather than victory, and the Service as a whole. Bomber Command had taken the fight to the German heartland, invasion shipping and barges. Coastal Command conducted anti-invasion patrols, attacking shipping and German-controlled ports. The Roll of Honour in Westminster Abbey's Battle of Britain Memorial Chapel, lists 1495 aircrew killed - 449 from Fighter Command, 718 from Bomber Command, 280 from Coastal Command and 34 from the Fleet Air Arm. Not listed, is the still all-too-often overlooked sacrifice of the 185 RAF personnel killed on the ground by the Luftwaffe. Undoubtedly, the fighter pilots of 1940 saw themselves as a special breed, a view reinforced by Churchill's invocation of 'The Few' as the heroes of the Nation. The First World War had generated the notion of fighter pilots as the 'knights of the sky', where in contrast to trench carnage, aerial warfare provided 'detachment, chivalry and manliness, a new elite, lone warrior.'[20] However, stereotypes can be misleading. 'Sailor' Malan, commanding 74 Squadron in the Battle, espoused an altogether more aggressive approach. Asked how he

felt about shooting down German bombers, he replied that he preferred to send them home badly damaged: 'With a dead rear gunner, a dead navigator, and the pilot coughing up his lungs as he lands. It has a better effect on their morale'. In the contemporary RAF, the Battle still enjoys iconic status as its historical 'blue riband' event. Indeed, annual Battle of Britain parades, cocktail parties and the Memorial Flight provide the principal fora through which RAF units engage socially with the local community.

The strategic significance of the Battle upon the moral cohesion of the British nation was palpable. In early-1940, the British people were far from united, and there were enclaves of defeatism even within Government, including the Foreign Secretary, and a cabal of 30 MPs headed by Lloyd George. Other opposition included an unholy alliance of pacifists, fascists and communists. However, public opinion was overwhelmingly behind Churchill. Paradoxically, the fall of France had been met with widespread relief across the social spectrum, from the chirpy doorman who remarked to a Minister 'at least we've made it to the final sir, and we're playing at home!', to the King, who wrote to his mother on 27 June, 'Personally I feel happier now that we have no allies to be polite to.'[21] As the Battle continued, morale strengthened. People appreciated that they could contribute directly to the war effort (the Spitfire Fund for example) and were on the front line, under fire, watchful for invasion, spies and German paratroops. Churchill recognised a growing sense of a 'people's war' serving as an extraordinarily powerful rallying

effect, 'a white glow, overpowering, sublime, which ran through our Island from end to end.'[22] Of course, this was not an exclusively British affair. The Empire was well represented amongst the 'Few'. Amongst the top ten aces were 2 New Zealanders and an Australian. Poles accounted for 20% of 'kills', and the Czech pilot Joseph Franticek was the Battle's highest scoring ace with 17 victories.

Once the Battle was over, its full significance was not immediately apparent as the Blitz raged on. Then in March 1941, the Air Ministry published the pamphlet 'The Battle of Britain', and the seed of legend germinated. Public interest exploded. More than a million copies were sold in Britain alone, 300 000 on the first day and 15 million in all. From this seed, newsreels, movies, books, even children's comics blossomed in enduring thematic abundance. Today, whilst the impact of all events fades over time, the Battle still exerts on the British psyche, a powerful influence like no other military event in our history. It was a unique battle of national survival fought over a landscape that represented the 'crown jewels of English national identity',[23] like the white cliffs of Dover and St Paul's Cathedral, witnessed by large swathes of the public. The notion of Britain alone, defiantly championing freedom against European totalitarianism underpins what critics term a 'Little England' psyche that began in 1940. France had capitulated, allowing German (and from October, Italian) bombers free access to British skies. 'Never since the days of Nelson had the British been more conscious of living on an island, or happier with

the dispensation of Providence.'[24] Today, we see an enduring effect in popular culture: Spitfire Beer 'Bottle of Britain' advertisements; the chant 'Ten German Bombers' is a staple amongst England football supporters; the campaign to erect a statue of Keith Park in Trafalgar Square, to name but a few. Perhaps more sinister is the British National Party's use of the strap-line 'Battle for Britain' and Spitfire imagery in their 2009 European Election Campaign. In sum, 'The principal effect of post-war British history has been to convince many policy-makers that Britain's destiny must always remain separate from that of Europe. In particular, the development of a federal Europe, which appeared to threaten British independence, awoke disturbing memories of 1940.'[25]

THE STRATEGIC SIGNIFICANCE OF VICTORY:

THE CONCEPTUAL COMPONENT[26]

'The real, the ultimate reason why Hitler failed to invade England was that he failed to understand her'

(Peter Fleming)[27]

Conceptual Innovation

British innovation proved a battle-winning trait, yet there seemed an inability to learn and adapt after victory had been won. The reverse was the case for the Luftwaffe, indicating that organisations learn more from defeats than victories. Baldwin's famous 1932 assertion 'the bomber will always get through' chimed with RAF predilection for the strategic bomber as a safeguard for independence against a predatory Navy and Army. It was not until 1936 that Air Defence was given

new impetus, exploiting new radar and aircraft technology, and reorganising into the functional commands that proved ideal for the air defence of the UK. During the Battle itself, Newall intervened quickly to correct Churchill's potentially suicidal assertion that it was better to shoot the Luftwaffe down over France than Britain, and the RAF adapted its tactics quickly against the more battle-hardened Luftwaffe. Yet these lessons proved curiously non-adhesive after the Battle. For example, the first action of Dowding's replacement was to order RAF fighter sweeps over occupied France, thereby effectively reversing the force gradient disadvantages that the Luftwaffe had suffered, unsurprisingly resulting in more RAF pilots killed than the Battle of Britain (including Tedder's eldest son, Dick). Furthermore, the failure to recognise the deduction of its own Intelligence Reports on the ineffectiveness of aerial attack upon civilian morale obviously escaped Bomber Command's attention as it pursued its implacable assault on German cities throughout the War.

Conversely, the Luftwaffe was slower to innovate but learned quickly. Fatally and unlike the German Navy, they had discounted radar's potential, 'an extraordinary advantage which we could never overcome throughout the entire war.'[28] They had even captured a mobile set at Dunkirk, but considered it ineffective. Luftwaffe analysts concluded that the RAF's Integrated Air Defence System limited flexibility and would be swamped by mass attacks. Goering's micromanagement during the Battle was unhelpful and inconsistent, with fighters left free initially early to attrit

their RAF counterparts, and then tied to the bombers in order to ensure bombing objectives were met. On 15 August, he even removed British radar from the Luftwaffe target list. Nevertheless, the fact that the Luftwaffe's next target, the Soviet Air Force, was destroyed in 2-3 days, suggests they had learned from their mistakes.

Doctrine - Air Control

Arguing for the doctrinal primacy of air control is pushing on a long-open door; indeed, it was the only thing that all German commanders agreed upon in considering Op SEALION. Churchill's views were also clear - 'The only real security upon which sound military principles will apply is that you should be master of your own air'. Virtually all air theorists accept the premise of the first of Meilinger's seminal Ten Propositions of Air Power, 'Whoever controls the air generally controls the surface.'[29] The 6-day Israeli victory of 1967 and the 1991 Gulf War are but 2 examples. Of course, Meilinger was talking about conventional war and not 'wars amongst the people'. The US and Soviet Union lost the Vietnam and Afghan Wars respectively despite air superiority, but this reinforces the point that, as with Germany in the Battle of Britain and the Coalition in 2010 Afghanistan, the achievement of air control is almost never an end in itself. Nor, in modern operations is complete air supremacy achievable, even against 'primitive' opposition. The tipping point for the Soviets in Afghanistan was Mujahideen acquisition of Stinger MANPADS; eventually, the Soviets were to lose 451 aircraft (including 333 helicopters) in the campaign. Today,

Coalition fast jets in Afghanistan are largely immune once airborne, but insurgents do contest the lower airspace with SAA and MANPADs. The airbases from which they operate are also regular targets for insurgent ground attack, and aircraft are particularly vulnerable as they take off and land.

British doctrine has recently been reviewed to better reflect air power in contemporary operations. For example, the 7 air power roles identified in the previous edition of AP 3000 (British Air Power Doctrine) have been reduced to 4, a change anticipated in both JDN 2/08 (Integrated Air-Land Operations) and the new Future Air and Space Operational Concept. Crucially though, 'Control of the Air' retains its primacy as the foremost of the roles.[30] In addition to opening with Montgomery's 1942 axiom 'If we lose the war in the air; we lose the war, and we lose it very quickly', JDN 2/08 evokes the powerful image of the Gulf War of 2003 when 'coalition soldiers did not look up at the sky in dread in the way that those they fought did.'[31] If anything, the importance of air control in modern operations has increased commensurate with rising demand for air-provided intelligence and 'soft' psychological effects such as shows of presence and force that provide battle-winning effects against asymmetric adversaries, as well as reassuring friendly forces. As Richard Holmes observed about 1 PWRR in Maysan Province 'The AC130 effect on morale was palpable.'[32] It remains the case though that air superiority alone is meaningless without the political will to exploit it, with hard power if required - as events in Bosnia and Somalia proved.

Doctrine - Cultural Awareness

The recently-issued JDN 1/09 (Cultural Awareness) opens with the quote 'To operate without cultural understanding is to operate blind and deaf.'[33] This was certainly true of German strategy in 1940. The failure to have planned for the need to defeat Britain militarily after the fall of France was 'a failure in foresight, an error in psychology rather than in pure strategy.'[34] After the British rejection of Hitler's compromise peace in 1940, Goebbels told his staff on 22 July 'With their totally different, un-European mentality, the British are unable to believe that the offer made in the Führer's speech was not just a bluff but meant seriously'. Subsequent German propaganda was a cultural red flag to a bull, it was 'sheer folly to try to browbeat the British with the threat that their country was about to be occupied, it instilled in even the sceptic, the slacker and the dullard a sense of the immediacy of the danger.'[35] On 1 August, when the Luftwaffe dropped leaflets of Hitler's 'Last Appeal to Reason' speech, the British press delighted in photographing people cutting them up, threading string through them and fastening them to the toilet door. Rather than inducing mass panic, social upheaval, and blame for Churchill for prolonging the war, 40000 civilian deaths in the Battle and the subsequent Blitz merely served to intensify hatred of the Germans, bolster national unity and stiffen resolve - a lesson seemingly missed by Bomber Command. Whilst focusing almost exclusively on cultural understanding of the adversary, JDN 1/09 does acknowledge the need for self-awareness to avoid ethnocentrism,

an innate belief in one's own cultural superiority, a trap that the Nazis continually fell into, and one the Coalition should keep in mind whilst dealing with contemporary Islamist insurgencies.

Conclusion

'By their valiant deeds our fighters had saved Britain and saved civilisation. After myself seeing the camp at Auschwitz, I know the fate which would have been in store for us apart from that deliverance. Their deed saved the world from the most terrible attack ever made on the fellowship of men.'[36]

Hewlett Johnson, Dean of Westminster Abbey, 19 September 1945

The strategic significance of victory in the Battle of Britain was decisive and its effects enduring, as John Keegan asserts, it 'inflicted on Nazi Germany its first defeat. The legacy of that defeat would be long delayed in its effects; but the survival of an independent Britain which it assured was the event that most certainly determined the downfall of Hitler's Germany.'[37] In 'straightforward' geo-political terms, the course and outcome of the Second World War would have been fundamentally different. German attainment of air superiority in 1940 would have led to the eventual defeat of Britain either by direct aerial attack (unlikely on its own), blockade (in conjunction with the U-Boat fleet), or by invasion (whether it be an early opposed landing or, more likely, as a final *coup de grâce* in conjunction with the first 2, a foretaste of Coalition strategy in the 1991 Gulf War). British capitulation would very likely have had fatal consequences for the Soviet Union facing an earlier and stronger German

offensive, would have encouraged accelerated Japanese expansion in the Far East, and probably delayed the entry of the US into the War. The principal effect though, both at the time and, importantly to this day, was the strategic effect upon the *moral* component of British fighting power, Overy again, 'The Battle of Britain mattered above all to the British people, who were saved the fate that overtook the rest of Europe. The result was one of the key moral moments of the war, when the uncertainties and divisions of the summer gave way to a greater sense of purpose and a more united people.'[38] To this day, victory in the Battle, and the British spirit engendered thereafter continue to exert a powerful grip, for good and occasionally bad, on the British psyche. In this respect it is an event in British military history like no other.

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[3] Liddell Hart, B. H., *History of the Second World War* (London: Pan, 1973), p741.
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[9] Overy, Richard, "How Significant was the Battle?", in *The Burning Blue: A New History of the Battle of Britain*, eds. Addison, Paul and Crang, Jeremy A (London: Pimlico, 2000), p270.
[10] The moral component of fighting power is about getting people to fight, and comprises leadership, motivation and moral cohesion - Joint Doctrine Publication 0-01, *British Defence Doctrine*, Shrivenham, DCDC, 2008, p4-5.
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[26] The conceptual component of fighting power comprises conceptual innovation (how military thinking changes over time in response to new contexts, challenges and technologies) and doctrine.

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[29] Meilinger, Colonel P S, *Ten Propositions Regarding Air Power, Monograph* (Maxwell Air Force Base, School of Advanced Airpower Studies, 1995).

[30] The 4 roles are Control of the Air, Mobility and Lift, Intelligence and Situational Awareness, and Attack.

[31] Joint Doctrine Note 2/08, *Integrated Air-Land Operations in Contemporary Warfare* (Shrivenham: DCDC, 2008), p2-2.

[32] JDN 2/08, p2-10.

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ROYAL
AIR FORCE

Adding Brain to Brawn:
The School of Advanced Air and
Space Studies and its Impact
on Air Power Thinking

By Dr Tamir Libel and Dr Joel Hayward

Especially after the Second World War, understanding air power became a
high priority for military practitioners, policy-makers and theorists, with the
United States leading the quest for sound ideas and concepts for most of the
following five decades. In the late-1980s the United States Air Force took this
issue so seriously that it established a very senior graduate school to provide
critical education to officers considered likely to gain promotion into strategic
posts. This article traces and assesses the development and role of the School
for Advanced Air and Space Studies in order to determine why it originated
and what influence, if any, it has actually had on American and other air power
thinkers. The article concludes that, with its faculty and students at the heart
of air power scholarship, some of their books serving as standard texts, and
with students going into influential senior posts, the SAASS has lived up to and
possibly exceeded the expectations of its founders. Indeed, it is hard to identify
a more influential centre of excellence in air power education than the SAASS,
or even at this stage to find a peer.

Introduction

Air power has neither ended war nor ended civilisation, as Winston Churchill once warned it might, yet it has undeniably become the dominant form of military force and it is generally considered indispensable across the entire spectrum of war. The first set of grand ideas about its potential use as a tool of strategy, flowing from the First World War, were speculative at best and later led to misapplications during the Second World War and later conflicts. Understanding air power — particularly the relative strategic contributions of independent and integrated air power — became a high priority for military practitioners, policy-makers and theorists, with the United States leading the quest for sound ideas and concepts for most of the last five decades. In the late-1980s the United States Air Force took this issue so seriously that it established a very senior school to provide critical education to officers considered likely to gain promotion into strategic posts. This article will trace and assess the development and role of the School for Advanced Airpower Studies (which later gained the edition of space as a focus) in order to determine why it originated and what influence, if any, it has actually had on American and other air power thinkers.

Genesis

At the end of the seemingly conceptually stagnant 1980s, General Larry Welch, Chief of Staff of the United States Air Force, felt convinced that his service had lost its way in terms of strategic concepts and ideas and that American air power doctrine had become "largely a group of unsupported declarations that seemed designed primarily to protect the equities of airpower." In contrast, he argued, the USAF needed coherent and comprehensible strategy and doctrine that would provide "substance".

Welch initially tried to increase the intellectual horsepower of his service by engaging officers at colonel rank in new initiatives and programmes. Yet after arriving at a conclusion that indirect interventions would prove inadequate, and that the colonel rank was probably too late, he rather boldly decided on a solution that would, rather ambitiously, create "agents of change". As part of his intellectual enrichment strategy, he established a "school" within the Air University designed to teach critical air power thinking at the strategic level as a logical follow-on, for selected students, from the Air Command and Staff College (ACSC). This new specialist unit, the School of Advanced Airpower Studies, tucked away above the Fairchild Library (now gloriously re-titled the Fairchild Information Research Centre), would annually enrol only twenty-five majors (or even some lieutenant colonels) who possessed the "talent, vision, and interest to pursue strategic studies".

The idea of educating a select cadre of the most talented graduates of the Air Command and Staff Course within a bespoke first-rate graduate-level, strategy-oriented air power studies programme closely matched the U.S. Army's aspirations for its School of Advanced Military Studies (SAMS). The simultaneity of, and obvious similarities between, both activities should not be seen as

intellectual theft by one service or other. Similar things often develop simultaneously but in conceptual isolation, and neither the USAF nor the Army worried much about one-upmanship during this period when both services, and indeed the Marine Corps (but not yet the Navy), were searching for the best ways to develop innovative and adaptive, critically minded officers who could excel in the art of command in contexts of ambiguity. Indeed, Welch merely commented that he was aware of "the difference in the concentration on fighting doctrine and its relationship to strategy in the Army and the Air Force".

One scholar who has researched the establishment of the SAAS — Professor of Military Theory and History Dr Harold Winton, a former army officer and Deputy Director of the Army's SAMS before he joined the SAAS — feels certain that Welch acted out of a deep and genuine conviction that the higher educational system of his air force had not proven capable of developing the cadre of strategists that it would need to confront the challenges of the future.[1] It would be wrong to suggest, of course, that Welch was a lone visionary; a Christopher Columbus of air power thinkers. His views were widely shared by other educationally minded senior officers, and key personnel within Air University (AU) had already begun to weigh the possibility of establishing a syllabus that would constitute a "second year" to follow on from the ASCS. Their aspiration was primarily to educate future AU faculty members in military history and additional relevant disciplines, yet after General Welch made his

desires public in June 1988 at a hearing of the House Armed Services Committee Military Education Panel in response to questions from the Honourable Ike Skelton, the AU staff slightly refocused and significantly accelerated its work.[2] These efforts led to the founding of the SAAS in 1988 with the inaugural course commencing in the summer of 1991 with 25 students. They graduated in June 1992.[3]

Creating strategic thinkers

The ten initial faculty members did not want their new school to focus on producing leaders or warriors, but more ambitiously (and vaguely) on developing strategists. Their objective differed from the convention in professional military education institutions, which focused mainly on the teaching of leadership, management and planning. The faculty staff seemed less concerned by conforming to official definitions of strategy and the orthodox methods of conveying strategic concepts. Wanting students to feel free to experiment with ideas, yet within a discursive context that demanded logic and evidential underpinning, they introduced a comprehensive and rigorous liberal educational program that initially rested — perhaps not surprisingly given that six of the ten faculty members were historians — on a firm foundation of historical inquiry.[4] As a consequence of this unusual approach, the curriculum did not concentrate on the strategy of airpower *per se* but on the art of utilising military power effectively as a component of political discourse. This approach has led to some supporters of air power over the years to view the SAAS as a joint

professional military institution.[5]

Not everything taught rested so firmly upon history, with the main exceptions being courses on "Decision Making" and "Coercion and Denial Theory" taught between 1991 and 1994 by Robert Pape,[6] later famous as the author of a groundbreaking and highly influential analysis of air power, *Bombing to Win: Air Power and Coercion in War*.[7] Pape argues that air power has proven far more coercive, and thus strategically effective, when used against fielded forces and military objects than when used against civilians, civilian objects or industrial targets. Not all air power advocates accept Pape's ideas and his book even prompted a counterpoint in the form of explicit debate in the periodical *Security Studies* as well as a collected volume of adversarial papers edited by Cold War historian and nuclear strategist Jonathan Frankel.[8] Few air power thinkers have ever attracted such attention and aroused such passion. Despite Pape not being mentioned even once by Stephen Chiabotti is his own article on the SAAS,[9] the influence of this innovative thinker on the early years (and early students) of the SAAS should not be underestimated. As former SAAS professor James S. Corum recalls, Pape "got a lot of people excited".[10]

When former command pilot Colonel (Dr) Phillip S. Meilinger became Dean of the institution in June 1992,[11] after having worked in the Doctrine Division at the Air Staff among other postings, he presented his new teaching team with his reflections on the strengths and weakness of the curriculum and the teaching and learning philosophies. They relied excessively on historical case studies and methodologies, he argued, and needed to be broadened. He later recalled that the curriculum was "virtually a history masters program" and admitted that his efforts to create greater breadth caused irritation to some of the historians.[12]

Eschewing many of Pape's ideas (which he later described as "interesting, but not very cogent or reasoned"[13]), and believing in the merits of industrial web theory (but not of morale targeting), Meilinger recommended the inclusion of two new courses: economics and technology. Air power, he believed, possessed an unequalled ability to achieve direct strategic effects by striking critically vulnerable elements within an enemy nation's industrial system. This was a vastly better way to use air power than to invest in close battle, which would inevitably place airmen unnecessarily in harm's way as they sought to fight Clausewitzian battle according to traditional, but now largely redundant, ideas on war, combat and chivalry.

Wanting SAAS students to understand economics (and economies) so that they could better understand how to conceive strategic concepts geared towards victory through air power, Meilinger not only introduced a course on technology, doctrine and strategy, but actively recruited an economist onto the faculty.[14] His search for the right person led him to hire Lieutenant Colonel Maris "Buster" McCrab, a former F-16 pilot with a doctorate in economics, and to empower McCrab to design a new course on economic warfare. The resulting course, which Meilinger later lauded for its success and

influence, involved students choosing countries, analysing their economic systems and designing relevant air strategies to bring them to defeat. McCrab gained promotion to full colonel while at SAAS and was eventually posted out.[15] Meilinger also recruited Major Bruce DeBlois, who held a PhD in physics from the University of Oxford, in order to design and teach a course on the relationship between warfare (and especially aerial warfare) and technology. As part of DeBlois' course the students visited Air Force laboratories, initially including those at the Wright-Patterson airbase in Ohio and at the Kirtland airbase in New Mexico.[16] Meilinger also added and taught a course on the theory of air power which was in some ways comparable to the course on military theory taught by Harold Winton. Recalling these first years, Meilinger remembers that Ken Feldman's course — which highlighted the Allison models of organisational decision-making —"was also very popular, not only because of its intrinsic worth, but like Pape['s courses], it offered a relief from the relentless history courses."[17] Interestingly, Meilinger later commented that, after his eventual departure, the historians' dominance returned to the faculty staff, curriculum and scholarly methodology.[18]

Few educational deans seem to possess the autonomy enjoyed by the SAAS's first leaders. Trusted to lead by consensus, but largely accord to his own vision and judgment, Meilinger virtually had a free hand with course construction, the design of curricula and courseware, assessment strategies and quality control. He also enjoyed significant freedom in the

recruitment, development and career management of faculty members. He remembers also working hard to find suitable and attractive placements for the programme's graduates and writing the types of recommendations that would suitably strengthen their promotional prospects.[19] Meilinger's logic is eminently reasonable:

If you could not guarantee top assignments to graduates, it would be difficult to recruit new students. I would go around to ACSC, as well as the equivalent schools at Leavenworth, Quantico and Newport, and give a briefing on SAAS in the fall of each year in order to drum up support and solicit applications. It was crucial during those talks that I emphasized the issue of follow-on assignments. As I say, how else could I induce the fast burners to apply for another year of school — and a gruelling one to boot — if the end result would only be a normal, mediocre assignment at its conclusion? I had to make the SAAS experience worthwhile — practically as well as intellectually.[20]

The prolific Meilinger encouraged his team towards excellence not only in teaching, but also in the publication of scholarship, with articles and other small pieces flowing at an impressive rate into the pages of the USAF's *Airpower Journal*. As well as researching and writing on their own specialist areas, Meilinger's colleagues published, with his support and urging and sometimes under his direction, some truly seminal collaborative works on air power. Most important of these was the thorough and influential anthology, *The Paths of Heaven: The Evolution of Airpower Theory*, with its essays written by former or serving SAAS colleagues (and, impressively,

two essays by former SAAS students, Fadok and Felker) with commendable conceptual consistency.[21] The book — still a standard work — does seem to push a certain line of thinking; that independent air campaigns have tended to bear greater fruit than integrated campaigns, but there can be no suggestion of Meilinger demanding a consensus. During the first five or more years after Gulf War I, most air power thinkers felt tremendously positive about independent air power's contribution to coalition victory and optimistic about its likely future successes against other foes.

During his time as Dean, Meilinger also published (in 1995) *Ten Propositions on Airpower*, a small and widely distributed (and very widely cited) book espousing what he considered to be the air power equivalent of principles of war.[22] He preferred the term "propositions" to "principles," hoping it would engender debate and discourage conformity and rigidity of thinking. Also very much a product of its time, *Propositions* extolled independent strategic air operations and incorporated several of the views popularised by the equally influential fellow American, John Warden III, then hailed (with some exaggeration) as the architect of coalition air power successes against Iraq in 1991. Warden served as Commandant of the Air Command and Staff College for three years while Meilinger was Dean of the SAAS, and the latter is clear that Warden had a "significant impact" on thinking across the two institutes.[23] He adds that SAAS students seemed more open to Warden's ideas than some faculty members, who apparently disliked

his relative lack of formal education.[24] Warden's prominence within SAAS and wider debates on air power nonetheless remained unchallenged throughout the 1990s, although it has diminished markedly since the commencement of the so-called Global War on Terror in 2001.

During the tenure of Colonel (Dr) Robert C. Owen, Meilinger's replacement as SAAS Dean from June 1996 to late in 1998, the focus of the curriculum shifted more from strategic thought to operational planning. According to Owen, who was promoted to Dean from within the faculty, the school had not devoted quite enough attention to joint warfare at theatre (operational) level.[25] He intended his revised curriculum to expose students to a broader range of opinions, to furnish them with historical examples that would strengthen their understanding of waging warfare, and to cause them to reflect on how to apply their new knowledge.[26] Interestingly, Owen recalled that certain Air University Deans and members of faculty, especially in the Air Warfare College, expressed loathing for the SAAS and even tried to undermine it on occasions.[27] Support from the highest echelons of the Air Force, which both Meilinger and Owen recall with some gratitude, gave the SAAS a degree of top-cover and prevented excessive mischief. Meilinger remembers that he sometimes had more high-ranking visitors than he could easily manage.[28]

Wargames proved an important component in the curriculum. As early as Meilinger's tenure as Dean, annual SAAS wargames occurred in collaboration with the Army's and Marine Corps' sister institutes: the

SAMS and the School of Advanced Warfighting (SAW). During Meilinger's tenure wargames took place at Maxwell Air Force Base's modern wargames centre.[29] This tradition continued during Owens' tenure with a theatre-level wargame occurring each spring that included students from SAMS and SAW. Within the latter the students received the roles they were to play from participants from the other services, this being done with the intention of strengthening their joint ethos and increasing their understanding of the other services' limitations, strengths and aspirations.[30]

A time of change

9/11 may not have "changed the world," as many pundits unconvincingly commented for the first few years following that grim day of dreadful attacks in 1991, but it *did* change the SAAS. Its graduates had always been in high demand for key staff and command positions. Yet "the day after Sept. 11, my phone was ringing off the hook," Lieutenant Gen Donald Lamontagne, Air University Commander, said in 2003.[31] "People responsible for planning for this new kind of war wanted to know where the SAASS grads were. General Jumper, (chief of staff of the Air Force), clearly understands the Air Force need for SAASS graduates". Actually, as Lamontagne added, the review leading to changes at the school occurred a year earlier, and it not only ushered in greater focus on counter-insurgency operations, but also *and perhaps especially* on space power. The most telling sign that the SAAS would be different after 2002 was that — reflecting "the growing importance of space capabilities to

the warfighter and the need for air and space strategists"— it would no longer be the SAAS, but the SAASS: the School of Advanced Air and Space Studies.[32]

The Air Force's desire for a reoriented curriculum with a strengthened emphasis on equipping and encouraging airmen and women to analyse ways of optimally integrating air and space power came with tangible benefits for the re-titled School: renovated library facilities (which provided greater space), an increase in students to forty per year, and four additional faculty members with doctoral degrees to join the ten already in the team.[33]

In recent years the SAASS curriculum has retained characteristics inherited from the SAAS: robust and weighty inter-disciplinary demands upon the students and a high academic standard. In 2008, for example, the curriculum included courses in organisational theory, quantum mechanics, religion, political science, history, psychology and information studies. The students were required to consume and debate a lot more written information than was usually demanded in professional military educational institutions. During the year they read close to 35,000 pages (including the 150 books they received from the institution).[34] These books stayed with the graduates after the latter had completed their studies and constituted a contribution to their personal military library.

In many ways the SAAS / SAASS course resembles most other Anglo-American staff colleges, with students sitting through presentations by faculty members and guest experts, attending staff rides (ten days in

Europe or Asia) and visiting key units and participating in or observing their activities (such as the Air Operations Center exercise at Hurlburt Field). Most of the interactive teaching and learning takes the form of syndicate room discussions, which involves groups of up to ten students debating key issues in robust intellectual exchanges.[35] Although these are not assessed in a traditional sense, students nonetheless have to prepare written papers and, at the end of the course, offer verbal presentations under exam conditions that resemble (and at two hours long are more rigorous than most) university viva voces.[36]

Each student researches and writes a substantial (50 to 80-page)[37] thesis which is based on original sources and a humanities methodology and which answers a central question approved by the faculty after hearing it presented in the form of a research proposal. The evidential foundation of the thesis must be broad and strong, its argument must be coherent and consistent and its expression must be lucid and compelling. Students choose their topics in consultation with mentors and, although pressure exists within the air force for them to research and write on "sponsored topics" — that is, topics chosen by air force institutions and agencies in order to answer outstanding questions relating to immediate service needs — the faculty professors (each student gets a direct supervisor) are most keen for students to embrace topics because of personal interest. Students find their theses time-consuming, frustratingly difficult and exhausting, and initially express a degree of negativity about the activity that gradually dissipates over time. Indeed, student surveys

show that five or so years after their courses most students had revised their initial assessments and come to see their theses as the most effective and rewarding part of their time at the SAASS.[38]

These theses have become a wonderful resource for scholars, who have not only utilised sources and ideas from the best of them while researching at the Fairchild Research Information Center and the USAF Historical Research Agency, but also while undertaking internet exploration via the Military Research Library Network portal (MERLN, accessible at **http://merln.ndu.edu**) and even via major internet search engines. For example, one of the authors of this article (Joel Hayward) has been utilising the SAASS theses for many years and even incorporated them into his PhD research during the mid-1990s. Released on the internet for public utility according to the "fair use" clauses of American copyright law, they turn up in the bibliographies of many scholarly works on air power and have become increasingly influential. A cursory trawl of the internet will turn up many books and monographs that either grew out of these theses or used them in significant ways. Noteworthy among them is Ellwood P. Hinman IV's *The Politics of Coercion: Toward a Theory of Coercive Airpower for Post-Cold War Conflict*, which grew out of his SAASS thesis and first appeared as a CADRE Paper published by the Centre for Aerospace Doctrine, Research and Education.[39] Robert P. Givens's *Turning the Vertical Flank: Airpower as a Maneuver Force in the Theater Campaign* is another example of a SAASS-thesis-turned-CADRE-Paper.[40] Interestingly, students on graduate courses within

the sister services have also utilised the SAASS theses. For example, one MA thesis undertaken by a major attending the US Army Command and General Staff College in 2004 explicitly acknowledged that he had modelled the methodology within his own MA thesis on that found within a SAASS thesis.[41]

For the SAASS the issue of credibility based on quality is vital. In pursuit of appropriate academic accreditation it held a continuous, detailed self-study for the Department of Education, which sent evaluation teams to the School a number of times. After it had successfully completed the evaluation process and Congress had authorised it to award a Master of Arts degree the SAASS applied in 1993 to the regional body of authorisation: the Southern Association of Colleges and Schools. Its successful application made the SAASS the first among the institutions of Air University to receive permission to award a master ate.[42]

The United States Air Force does not designate specific roles for the sought-after graduates of SAASS or give them any promotional assurances. Yet most of them find their way into central command and control roles throughout the Defense Department. In order to receive a SAASS graduate, agencies need to submit clearly explanatory requests since the demand is three times greater than the number of available graduates. Requests go to the Air Force Deputy Chief of Staff for Operations and Plans who classifies and determines priorities and the School Commandant, following on from the tradition that Meilinger established, makes his own

recommendations as to where the graduates should be placed. They consider the students' professional background, performance and personal preferences. With these recommendations providing guidance, the Air Force Personnel Center remains the body that actually finalises the placements.[43]

During the SAASS' first years the placement of its graduates apparently occurred in a slightly different way. Owen reports that he received requests for placements of graduates directly from three-star and four-star commanders.[44] The former were able to request placements for graduates only if they were in combat roles or at Air Force Headquarters. Based on his thoughts on students, Owen compiled a list of priorities and a list of candidates with the aim of filling as many positions as possible with suitable candidates. Generally he allotted two graduates to three-star Joint Force Air Component Commanders (JFACC) who had been involved in real combat operations, and not more than one graduate in response to any other requests (which he found himself unable completely to satisfy). After he had compiled what he considered ideal placement lists, he passed them to the Commander of Air University, a lieutenant general, and to the Deputy Head of the Air Force General Staff, a full general.

Owen believes he was the only one of the School's Commanders to have the mandate to place its graduates in this fashion and he gained this authority from the Chief of Air Staff despite strong opposition from the Air Force Personnel Center.[45] In the opinion of Stephen Chiabotti, the Deputy

Commandant of SAASS in 2008, too much attention was probably devoted to the first placements of graduates at the expense of the development of more holistic career paths, especially as the Air Force regards the education given at the School to be an important contribution to the entire career of the officer and not to be a post-specific training and educational activity.[46]

In any event, no-one can doubt that this world-class graduate school is at the forefront of professional military education and that its graduates, considered to be among the Air Force's brightest officers, ordinarily go on to posts or roles of significant influence. Compiled data attests that, out of the graduates of the first sixteen classes, every one of the graduates gained promotion to OF5 (colonel) and 95% to OF6 (one-star), and, among those with enough seniority to reach the general-officer board, almost 25% reached OF7 (two-star) and higher. No fewer than eighteen graduates have reached flag rank by 2008.[47]

Conclusions

With its faculty and students at the heart of air power scholarship, some of their books serving as standard texts, and with students going into influential senior posts, the SAASS has lived up to and possibly exceeded the expectations of General Welch and its other founders. Indeed, it is hard to identify a more influential centre of excellence in air power education than the SAAS / SAASS, or even to find a peer. The Australian Air Power Development Centre probably comes closest, but it is a think-tank and research centre rather than a school, and it is not reasonable to compare its impressive

output — short courses, workshops, conferences, papers and books — to the transformational nature of the SAAS / SAASS curriculum. That would be like comparing apples and oranges. The Royal Air Force's own Centre for Air Power Studies resembles the Australian institute far more than it does the American school, and no-one else on earth is providing a graduate-level education in air power studies with the completeness, robustness and inherent criticality of the USAF's school. King's College London's new modular MA, Air Power in the Modern World, aspires to reach the qualitative bar set by the SAASS, but it may be some years yet before it can match the annual enrolment level and strategic student placement success of the American school.

Notes

[1] For a review of professional military educational programs in the USAF between 1945 and 1988, please see Richard L. Davis and Frank P. Donnini, *Professional Military Education for Air Force Officers: Comments and Criticisms* (Montgomery, Alabama: Air University Press, 1991).

[2] Harold R. Winton, "The Creation and Sustainment of Advanced Warfighting Institutions," in Russell Parkin, ed., *Warfighting and Ethics: Selected Papers from the 2003 and 2004 Rowell Seminars* (Canberra: Land Warfare Studies Centre, 2005), pp. 7-51. Stephen D. Chiabotti, "A Deeper Shade of Blue: The School of Advanced Air and Space Studies," *Joint Force Quarterly*, Issue 49 (2008), pp. 73-74. Also see the SAASS website: **http://www.au.af. mil/au/saass/history.asp**

[3] Winton, p. 14.

[4] Chiabotti, "A Deeper Shade of

Blue," p. 74. *Air Force Catalog: Academic Year 1999-2000* (Maxwell Air Force Base: Air University Press, June 2000), pp. 87-88.

[5] Chiabotti, "A Deeper Shade of Blue," p. 76.

[6] Email from Phillip S. Meilinger to Tamir Libel, 14 July 2008.

[7] Cornell University Press, 1996.

[8] Frank Cass, 2004.

[9] Chiabotti, "A Deeper Shade of Blue".

[10] Email from James S. Corum to Joel Hayward, 20 May 2010.

[11] The title of the head of school later changed from Dean to Commandant.

[12] Email from Phillip S. Meilinger to Joel Hayward, 18 May 2010.

[13] Email from Phillip S. Meilinger to Tamir Libel, 14 July 2008.

[14] Ibid.

[15] Email from Phillip S. Meilinger to Joel Hayward, 24 May 2010.

[16] Ibid.

[17] Email from Phillip S. Meilinger to Joel Hayward, 18 May 2010.

[18] Ibid.

[19] Email from Phillip S. Meilinger to Tamir Libel, 14 July 2008.

[20] Email from Phillip S. Meilinger to Joel Hayward, 19 May 2010.

[21] Air University Press, 1997. Meilinger deliberately had a non-SAAS faculty member, Irving B "Bill" Holley, write the conclusion precisely because he had no official connection to SAAS and could thus look objectively at the set of ideas. Email from Phillip S. Meilinger to Joel Hayward, 19 May 2010.

[22] Washington, DC: Air Force History and Museums Program, 1995.

[23] Email from Phillip S. Meilinger to Joel Hayward, 18 May 2010.

[24] Email from Phillip S. Meilinger to Joel Hayward, 19 May 2010.

[25] Email from Robert C. Owen to Tamir Libel, 28 August 2008.

[26] Ibid.

[27] Ibid.

[28] Email from Phillip S. Meilinger to Tamir Libel, 28 August 2008.

[29] Email from Phillip S. Meilinger to Tamir Libel, 14 July 2008.

[30] Email from Robert C. Owen to Tamir Libel, 28 August 2008.

[31] "Strategy School changes Name, Expands", *US Air Force Press Release*, 20 February 2003, available at: **http://findarticles.com/p/articles/mi_prfr/is_200302/ai_2639567258/pg_2/**

[32] Ibid.

[33] Ibid.

[34] Chiabotti, "A Deeper Shade of Blue," p. 75.

[35] Ibid., p. 75.

[36] *Air University Catalogue Academic Year 2007-2008* (Maxwell Air Force Base: Air University Press, October 2007), p. 43

[37] Ibid.

[38] Chiabotti, "A Deeper Shade of Blue," p. 75. *Air University Catalogue Academic Year 1999-2000*, p. 91.

[39] University Press of the Pacific, 2005.

[40] Air University Press, 2002.

[41] Patrick N. Ahmann, Maj USAF, "Bombing for Effect: The Best Use of Airpower in War," A thesis presented to the Faculty of the US Army Command and General Staff College in partial fulfilment of the requirements for the degree of Master of Military Art and Science (General Studies), Fort Leavenworth, Kansas, 2004, p. 36. Found at: **http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA428549&Location=U2&doc=GetTRDoc.pdf**

[42] Email from Phillip S. Meilinger to Tamir Libel, 14 July 2008.

[43] Chiabotti, "A Deeper Shade of Blue," p. 76.

[44] Email from Robert C. Owen to Tamir Libel, 28 August 2008.

[45] Ibid.
[46] Chiabotti, "A Deeper Shade of Blue," p. 76.
[47] Ibid.

Historic Book Review

Bombing to Win : Air Power and Coercion in War
By Robert Pape

Reviewed by Air Commodore Neville Parton

This is the very last in the series of Historic Book Reviews, which started over 4 years ago with Maurice Baring's *RFC Headquarters*. In that time a broad range of books have been considered which, in one way or another, hold a special place within the world of air power writing. It is therefore highly appropriate to finish with Professor Robert Pape's *Bombing to Win*, which is the first publication in this series to have been written by an individual with no direct military experience – and yet managed to fundamentally challenge conventional thinking about the use of air power. Indeed the story is all the more interesting as the path that Professor Pape followed was not that the one he had planned - so let us start by examining the writer's story.

Robert Pape had never planned to be an academic, and certainly not to study air power – in fact his original desire from high school was to join the US Government's Foreign Service, and it was this aim which initially led to him becoming an undergraduate at the University of Pittsburgh. Here, in his words, he 'fell in love' with the subject of political science, and graduated *summa cum laude*[1] with both a BA and an MA, having become particularly interested in the areas of international relations and political theory. Still aiming for a career in the Foreign Service, but having

become seized by John Dunn's work on the democratic (or otherwise) nature of Soviet society, Pape then moved to the University of Chicago to undertake doctoral work, with an initial PhD subject area aimed at the theory underlying the 'meaning of democratic institutions'. As is often the way with PhDs however, this was to change significantly due to the influence of a key individual – in this case John Mearsheimer – who introduced the young student to the world of security studies. Reading Schelling's *Arms and Influence* and Walzer's *Just and Unjust Wars* led to a growing interest in both coercion and the use of air power, which would come together to form the basis of his final dissertation topic, which was to consider why coercive air power did not work for the US in Vietnam.[2] Pape's political science background meant that this was approached in a very specific manner, with the development of a detailed data set examining the use of air power in previous conflicts – which would underpin the development of all his theories in this area. Following the award of his PhD in 1988, Pape moved to the University of Michigan on a post-doctoral fellowship aimed at enabling him to publish his thesis as a series of articles and a book - as he had realised that expanding the data set would help in providing further

evidence for his theories.

1990 and the first Gulf War saw a significant change in Pape's status, as the media looked for individuals who could provide knowledgeable comment on events, and especially putting air power's role in context. At this point, Pape also began to consider that this subject area was likely to be of perennial interest, and could sustain a career in academia, albeit some further work would be needed in order to further develop the dissertation into a really sound publication. However, despite the clear importance of air power in Gulf War I, in the academic world there was still a lack of interest in the subject – and it was against this background that Pape received a phone call from Mark Clodfelter in 1991, making him aware of the opportunities for academics at the newly-formed School of Advanced Air and Space Studies (SAASS) at Maxwell Air Force Base, Alabama – and suggesting that he should apply. Following a visit and interview, at which it was clear that the USAF 'thinking' community was already taking Pape's views seriously, and consequently that this would be a good location to complete work on the book. In fact, from the author's viewpoint *Bombing to Win* was immeasurably strengthened by the interaction that took place with the staff and students at Maxwell, including the commandant – one Colonel John Warden.

At this point Pape was faced with a dilemma: still thinking about the possibility of a career in the Foreign Service - even if this was becoming steadily more remote, but enjoying the intellectual aspects of academic life – if not so certain about some of the other elements. From a personal perspective his articles were getting coverage in reputable publications and the book was complete, when a fresh challenge arrived in the form of an offer from Dartmouth to go and teach in a very different environment – and one which would lead to a significant change in direction. After moving to Dartmouth in 1996, as he started teaching international relations theory, he became aware that much of the prevailing thought about the use of sanctions – and in particular the effectiveness of economic sanctions – appeared to be based on a poor understanding of what was actually providing the coercive effect. Work in this area led to further success, and in 1998 Pape was considered for award of tenure.[3] This required, amongst other parts, sending a file of his work around ten other respected academic institutions to gather their thoughts on his academic worth; however, in this case it also led to a suggestion from Stephen Walt, an outgoing member of the Political Science department at the University of Chicago, that Pape should be considered as his replacement. Following a highly successful – and emotional – trial lecture, Pape was offered the post and took up tenureship as a Professor of Political Science in 1999. At this stage he had begun to take an interest in the linkage between technology and great power politics, which might have led to his next book had it not been for the events of 9/11. This led to a rapid re-engagement with the media, and subsequent research into the phenomenon of suicide attacks, where his interest was particularly fired by the Tamil Tigers, whose

widespread use of such tactics clearly indicated that this was not, as many had suggested, a largely Islamic-fundamentalist issue. Furthermore, the way in which attacks were clustered gave many indications of being directed as part of campaign plans in which they were being used for coercive effect, with the linking factor being their use largely against occupying powers or forces. Again Pape's political science background came to the fore, and a detailed database was rapidly built to allow worthwhile analysis and deductions to be produced. Professor Pape is now the Director of the Chicago Project on Security and Terrorism, and his most recent publication is firmly based within this subject area.[4]

Running clearly throughout all of Professor Pape's work is a fascination with, and deep understanding of, the subject of coercion, allied to a rigorously analytical approach to research. This combination has enabled deep insight into a range of issues, and that understanding provides a perfect jumping-off point for our consideration of his first, and perhaps best-known, book.

Bombing to Win is, as has already been noted, a different book from the others in this series in a number of ways, and one of the most obvious is that it is written from a social science perspective, which looks upon historical events as being conducive to a form of analysis that is more commonly found in science and engineering. As this approach may not be generally familiar to readers of APR, a small digression at this point seems appropriate. Fundamentally, the origins of social science lie in a belief that there are laws,

approximating to those in physics or chemistry, which apply to the way in which people behave.[5] In the field of international relations perhaps the best-known example is that of the Correlates of War (C of W) study, which set out to examine a number of conflicts, over a 2,000 year timeline, and from this study to determine causal laws related to warfare.[6] Of course, there are some issues with this approach that could be seen as problematic, such as how a war is defined: for the C of W project one of the definitions was that there had to be a minimum total death-count of 1,000 people to qualify for inclusion, which in turn meant that events such as the Falklands War were excluded from the study. However, the general approach is to study a number of previous events, having first codified them to allow deductions to be made following the study, and from the analysis to deduce the relationships/laws between the factors.[7] In conventional science, proof would then be provided by using the deduced laws to make predictions regarding particular behaviour, which could subsequently be tested and verified. In the social science area, and particularly that of international relations and security studies, such an approach is clearly difficult, and instead the general approach is to apply the laws to previous examples and see if they correctly predicted the actual result. The difficulty in many cases is that the same data set used to verify a particular 'law' is that which was used to derive the law in the first place. Nevertheless, it does represent a serious attempt to bring a credible form of analysis to an area where it is particularly difficult to identify the importance and interaction of the

manifold factors involved.

So – onto the specific example. Pape lays out his stall early on and is not backwards in identifying what the book sets out to do, which is to examine how coercion has, or more to the point has not, worked in the past, and from this to draw lessons for the future. Four broad existing coercive theories are identified: the first suggesting that coercion is a matter of national resolve, with victory going to the side which is more committed, whilst the second emphasizes balance of interests, with whichever side has most to lose likely to prevail. The third considers that it is the vulnerability of a state's civil population to air attack that is the decisive factor, with leverage coming from 'punishing' a large portion of the population; and the fourth relates to the balance of forces, with destruction of military targets the key to success. However, Pape argues that these theories are inadequate for a number of reasons, with the major factor being their over-simplicity. He also identifies that it is important to differentiate between deterrence and coercion, as whilst related, the coercive case is by far the more difficult to achieve. Another particularly valid criticism identified is the general lack of any explanation in the extant theories of the actual coercive mechanism, or in other words the way in which high explosive and incendiary effect is turned into a political or military advantage. Pape puts it thus:

… In particular, the mechanisms by which military effects are supposed to translate into political results are hardly ever studied. Reviewing literally thousands of planning documents for the preparation of this book, I found … no document, at any level of government, of more than a page to explain how destroying the target was supposed to activate mechanisms … which would lead to the desired political change.[8]

He then suggests that a far more complex model is required to satisfactorily explain the way in which coercion operates; so complex in fact that he begins by presenting his theory in symbolic form.

His hypothesis is laid out in this fashion as $R = B\,p(B) - C\,p(C)$, where:

R = *the value of resistance*

B = *the potential benefits of resistance*

$p(B)$ = *the probability of attaining benefits by continued resistance*

C = *the potential costs of resistance*

$p(C)$ = *the probability of suffering costs*

Coercion is predicted to occur when $R < 0$

Expressed in words, the theory suggests that the problem in coercion is convincing the target state that giving in to the coercer's demands will be better than resisting. Success or failure will be determined by the target state's decision-making with regard to costs and benefits, with coercion occurring if it is believed that the possible cost of resistance, taking into account the probability of suffering those costs, is greater than the likely benefits from resistance, this time taking into account the probability of resistance being successful. Therefore, the coercer must seek to alter the components in his favour – although not all the elements may be susceptible to manipulation.

Of course one of the inherent assumptions within this model is that

the individuals making the decisions are 'rational', and will effectively perform a similar (although probably unconscious) calculation before committing to such a strategy. However, a number of the cases, it could be argued, do not relate to leaders who were necessarily rational, with Hitler and Saddam Hussein immediately springing to mind. A further, related, question prompted by the equation is who exactly is it that is carrying out this calculation: is it a country's leadership, or the mass of the population, or some particular part of the country's system of government?[9]   A further potential aspect of the analysis that perhaps should be noted is that it could be questioned as to whether the campaigns chosen are all comparable. For instance, the Japan-Chinese conflict 1937-45 is treated the same as the Germany-Holland campaign of 1940, despite one being eight years in length and involving continental scope, whilst the other lasted for four days and ranged over a few hundreds of square kilometres. Of course the purpose of the coding exercise is to allow such vastly different cases to be compared, but given that the time factor is identified as being particularly important in coercion, it does give an indication as to just how complex the comparison process is.

In terms of the overall study, thirty-three cases that involved the use of air power in a strategic environment were identified and used, with five being subject to particular in-depth scrutiny. The latter comprised the campaigns against Japan in 1945, Germany in 1945, Korea in 1953, Vietnam between 1965-68 and Iraq in 1991. Of course in a review of this nature it is simply not possible to

go into the analysis in depth, but it should be noted that the investigative approach is consistent between each case, and that both the examination and supporting narrative are based upon considerable amounts of research.

So what are the conclusions drawn from this work? The fundamental deduction arising from Pape's research is that those strategies which target the civilian population do not work, whilst those that target military forces do. The former are identified as 'punishment' strategies, where the coercive mechanism involves causing suffering to a mass of the general population, whilst the latter are identified as 'denial', where the causal link is provided by denying the use of military force to the ruling power. Even here though, conventional thoughts on air power are rejected, and Pape is particularly critical of Warden's thoughts regarding decapitation as expressed in *The Air Campaign*. He argues that even in the Gulf War campaign of 1990-91, this aspect did not work well, and that the Allied effort did not in fact significantly hinder communication between the deployed Iraqi forces and their headquarters. A more fundamental point is that coercion even where successful is difficult to achieve, and generally takes far more time than first thought. However, it is the corollaries drawn from these factors that are of more concern to airmen, as Pape contends passionately that strategic bombing fundamentally does not work – in any of its generally postulated approaches. His analysis leads to a proposal that air power is best used in support of ground forces, and should therefore concentrate on how best to destroy an enemy's fielded forces – which

neatly brings us back to some of the very earliest debates on what air power's fundamental role should be – something that has been at the heart of many of the books reviewed in this series.

Whilst some elements of the analysis may be hard to accept, given some of the limitations and/or potential flaws identified, the overall deduction has a ring of truth about it, as any form of government that rules by the use of coercive force will clearly be sensitive to any action that might result in the loss or weakening of that force. Indeed, one perspective that might have provided some additional useful material would have been to consider the type of government against which coercive air power was most successfully used. This element is definitely missing, as all of the 'coerced' states considered were subject to varying degrees of totalitarian rule, thus allowing control of the population's behaviour in a way that would be difficult in a democracy. Conversely, air power's coercive effect is particularly attractive to democracies, as it offers the possibility, albeit frequently chimerical if Pape is to be believed, of achieving a desired end-state at the lowest cost in terms of its own citizen's lives. Here it is worthy of note that most coercive air campaigns have been used by democracies against totalitarian regimes. So a useful follow-on question might be to consider how effective coercive air campaigns against democracies could be, particularly if conducted by a repressive regime?

It is interesting to note that Professor Pape's subsequent work has concentrated on the area of terrorism,

and particularly suicide bombing, as a question that is left hanging is what relevance this understanding of air power might have for dealing with terrorist groups and other sub-state actors. Although as already noted, Pape is generally dismissive of the decapitation model, this might have more utility in this area – certainly the Israeli approach over recent years has focused on using air power in this manner against both Hamas and Hizbollah, albeit with widely varying results. A similar campaign is of course being waged against Al Quaeda by the US along the Afghanistan/Pakistan border, but it is perhaps too early to tell whether this is being effective, or whether Al Quaeda is too much a hydra for this approach to work.

What is most surprising is that in the fourteen years since the arrival of *Bombing to Win*, there has been no major response. A publication was due to appear in 2004 entitled *Precision and Purpose: Debating Robert A. Pape's Bombing to Win*, edited by Jonathan Frankel and under the Frank Cass label, but this has sadly never seen the light of day. Whether you agree with the methodology or conclusions of Robert Pape's book is to a degree immaterial; it has fundamentally changed the debate on the way in which 'strategic' air power works, and therefore has to be taken seriously – especially as the lack of any formal response to the publication has left it as, *de facto*, the last major public pronouncement on the subject.[10] Furthermore, the thoughtfulness and depth of the analysis, even if not concurred with, means that this is a book that should be read by anyone with a genuine interest in broadening their

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understanding of air power – and it is still readily available. However, the fact that there has been no successor publication should be of some concern, or, to echo the headline of an article title in APR a few years ago, where are the air power thinkers now?[11]

The current security situation facing the UK, in which the apparent belief is that Afghanistan and Iraq-type situations represent the likely future, calls out for analysis of the ways in which air power can best contribute to this new reality – or to demonstrate that the future scenarios are wrong. Ninety years ago, the RAF proved adept at working out how to use air power in a very different security environment that in which it had been developed – as we stand at the beginning of the 21st century, the question has to be asked – are we still up to that challenge today?

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Notes

[1] 'With highest honour'.
[2] Pape, "Coercive Air Power in the Vietnam War", International Security, Vol 15, No 2 (Autumn 1990).
[3] The award of a permanent post within a university department.
[4] The Project on Security and Terrorism is funded by the Pentagon's Defence Threat Reduction Agency, the Carnegie Corporation, the Argonne National Laboratory and the University of Chicago.
[5] Readers who would like to increase their understanding a little more in this area are strongly recommended to read Philip Ball, critical mass : how one thing leads to another (London: Arrow Books, 2005). For science fiction/fantasy aficionados an exposition of the logical end-state of this approach can be found in Isaac Asimov's original Foundation trilogy.
[6] A causal law is one of the form that if a plus b happens then c results.
[7] In this sense codification refers to a means of identifying similarities and differences: for instance a simple codification would be to identify whether wars only involved single or multiple protagonists. Here a codification could be 1 = single aggressor versus single responder, 2 = single aggressor versus coalition responder, 3 = coalition aggressor versus single responder, 4 = coalition aggressor versus coalition responder. All conflicts would then be codified into one of these groupings, which in conjunction with a number of other factors or indicators would be used to conduct the analysis.
[8] Robert A. Pape, Bombing to Win : Air Power and Coercion in War (Ithaca: Cornell University Press, 1996), p. 328.
[9] In fact this question is dealt with by the way in which codification was carried out, which is beyond the scope of this article.
[10] And therefore a worthy candidate for some aspiring air power academic or strategic thinker to challenge!
[11] GpCapt Ian Shields, "Where are the Air Power Strategists", APR Vol 11, No 1, Spring 2008.

Book Reviews

Going To War : British Debates From Wilberforce to Blair
By Philip Towle

Reviewed by Air Commodore Neville Parton

It is a great pleasure to be able to review this book by Philip Towle, who in addition to being a founder member of the RAF Centre for Air Power Studies (RAFCAPS) Academic Advisory Panel, has also been a long-term supporter of the RAF's involvement in the international relations programme at Cambridge University, where for many years he was Director of the Centre of International Studies. In addition to a myriad of other publications, he wrote one of the earliest books to examine the broader issues surrounding the use of air power in irregular warfare, *Pilots and Rebels*, which can still be heartily recommended for anyone seeking to gain a balanced, historical perspective of this area.[1]

However, *Going to War* is a very different sort of book, and one which taps directly into matters of the moment, as it provides a perfect lead-in to the ongoing Inquiry by Sir John Chilcot into the Iraq War of 2003. The aim is quite straightforward: to examine the way in which Great Britain has reached the point of committing its forces to military action over the course of the last two hundred years. This is introduced in a wonderful manner via a German newspaper headline from 1939 which read (translated) 'Forty-Two Wars in Eighty Years: A Balance Sheet of British "Peacefulness"', and leading

from this into the contrast between Britain's oft-stated peaceful intent and the frequency with which it has been willing to use its military forces to intervene in other countries' affairs.

The subject is clearly an enormous one, and a logical and well-structured approach is used. After considering the part that national culture and circumstance plays, the going to war process is examined from a number of different perspectives; moral elements as represented both by the Anglican Church and civil society, the impact of the media and literature, the role of the non-military commentators as well as their professional military counterparts, and finally the part that Parliament and public debate have to play. Specific attention is then paid to the decisions relating to Afghanistan in 2001 and Iraq in 2003, before considering the thorny issue of whether these various debates on war have had any relevance to the policy decisions that lead to the commitment of British forces.

So what conclusions does the writer reach? One interesting element is the apparent predisposition in the British character which considers that intervening in other people's problems is their responsibility, which has been demonstrated not only in the military sphere but also in the considerable number of non-

governmental organisations (NGOs) with international presence that have originated in the UK. Another keen observation is the way in which the ruling classes and then politicians have considered that the 'public' cannot be trusted to make sensible judgements in the area of foreign policy because they are too jingoistic/ simplistic/uneducated/ill-informed - choose your favourite platitude. In fact, using evidence from opinion polls and other sampling mechanisms Dr Towle shows that the public have been shown by and large to have had a generally balanced and reasonable understanding of the facts, and in these days of constant and immediate media reporting are also very aware of the impact of military action on both civilians and soldiers. And yet, as the Iraq conflict in 2003 shows, it is still possible for a small group of politicians to commit the country to war despite widespread public opposition – based on the fact that the public will generally rally to the flag once British forces have been committed. To sum up such a wide-ranging book as this is difficult, and it perhaps best in this area to let the author have the last word:

The public debate [on going to war] has widened over the last 200 years as the public have gained in confidence, but the governmental decision-making process has not improved to the same extent. The Committee of Imperial Defence was established by the government at the beginning of the 20th century to coordinate expertise on Britain's far-flung responsibilities, what is needed [now] is an effort to utilise even more wide-ranging and varied expertise when crisis threaten in the future.[2]

In this reviewer's eyes there are only

two areas that mar the books attraction. The first is that the chapter which examines 'The Professional Military' could have perhaps spent a little more time considering some of the post-Falklands conflicts that the UK has been involved in, where the interaction between military, media, society and politicians has been at time highly fraught – with the Bosnia and Kosovo crises being perfect examples. The second is aimed more at the publishers, and is a general complaint regarding the price of academic publications in the UK. A recommended retail price of £50 is going to put off most casual readers – and probably a few more professional types – with an interest in this subject. Given the advent of on-demand publication, and the general lack of significant investment in the production and advertising elements of the process, it is difficult to see how prices at this level can be justified. These are, however, minor quibbles with a book which covers a vitally important subject in considerable detail, poses some extremely interesting questions, and yet manages to remain highly readable. Although it may be out of the price range of a number of APR readers, I would still heartily recommend it – beg, borrow, or even just persuade your unit library to get a copy – you will not be disappointed!

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Notes

[1] Philip Anthony Towle, *Pilots and Rebels : The use of aircraft in unconventional warfare 1918 - 1988* (London: Brassey's, 1989).
[2] Philip Towle, *Going to War : British Debates from Wilberforce to Blair* (Basingstoke: Palgrave Macmillan, 2009), p. 165.

Book Reviews

The Evolution of International Security Studies

By Barry Buzan and Lene Hansen

Reviewed by Group Captain Ian Shields

At first sight it might be tempting to dismiss this book as being another purist, International Relations textbook that has little wider appeal to those not directly involved in academic pursuit within that particular discipline. But to do so would not only do this remarkably readable book a disservice, but fail to encourage a wider audience to read it, and hence start to appreciate the critical role that International Security Studies plays in the employment of military force to resolve political disputes. Since we, as professional air and space power exponents, are at the sharp end of such employment, it behoves us to have a wider understanding of our profession: this book will contribute most positively to that widening.

International Security Studies has its origins in the immediate aftermath of the Second World War and has variously been considered a sub-set of, or entirely different discipline to, International Relations. This in-the-camp, out-of-the-camp, adjunct to International Relations is a constant theme throughout this book, which is the first serious attempt at tracing this academic tradition through its various twists and turns, its rival camps and factions, from its inception to the present day. Above all, it traces the rise of the notion of "Security" over that of "Defence", a theme of

particular resonance as we enter a Strategic Defence Review that is likely to pay as much attention to the former as it does to the latter. This book, commendably, does not try to argue in favour of any one approach to studying International Security Studies, despite the (sometimes a little too discernable) authors' own biases; rather it lays out the path, with a minimum of fuss, that the discipline has followed.

The first three chapters set out the defining features of International Security Studies as we presently understand the term. Concepts such as the wider meaning of Security, the dangers of Western bias in studying the subject, and five key drivers (of which Great Power Politics, Technology and Events/History will resonate in particular) are explored and detailed in an accessible and sensible style. The following five chapters trace not only the development of International Security Studies but in many ways the changing nature of Defence and Security in the Western World. Early thinking was, inevitably, dominated by the Cold War, deterrence and the threat of nuclear Armageddon; the discipline – as the authors highlight – being dominated by America and American Game Theorists. But even before the end of the Cold War some thinkers were looking at new security

paradigms, a path that broadened rapidly with the fall of the Berlin Wall. This led, in the views of this book's writers, to two broad churches of traditionalists (associated, broadly, with the US and the UK) and wider approaches to Security, driven in the main European thinking on topics such as post-colonialism, new meanings of "human security" (including the impacts of climate change) and feminism. There follows a topical and thought-provoking chapter on the impact of 9/11, and whether that has changed our understanding of Security at every level, from the individual to the State, before the book concludes by considering the future and (of particular note) whether we will see a return to Great Power Politics, and the possible impacts of the continuing advances in technology.

In sum, this book, while aimed at an academic audience, deserves to be not only read but carefully considered by air and space power thinkers. It considers a period that represents over half the history of air power and all of that of space power, and in its consideration of the future and the impact of technology, offers some new insights that can help us in our present debates. While at first sight this may not seem like an obvious book to recommend, as part of a wider education and to offer new ways of examining security from an air and space perspective this book has much to offer and deserves serious consideration.

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Viewpoint

W(h)ither Air Power Education?

By Group Captain Al Byford and Group Captain Ian Shields

At the formal launch of AP3000 – *British Air and Space Doctrine* - at the Royal United Services Institution on 1 December 2009, Sir Brian Burridge delivered a critical appraisal of the RAF's newest statement of doctrine. While he strongly supported the conceptual direction of travel outlined in AP3000, a central tenet of his presentation was the necessity for the RAF to continue to invest – both intellectually and financially – in military education. If we fail to do so, he contended, the consequences would be serious, and he emphasised the point by quoting from the 2009 edition of the *Future Air and Space Operational Concept:* 'Strategic and operational air power thinking is not institutionalised, which has an adverse impact on the rapid development and exploitation of both capability and strategy.'[1] Clearly then, institutionalising military education has the potential to be a significant factor in the RAF's future development as a fighting Service. But what is military education, why is it important to air power practitioners, what is the RAF doing about it now – and what else should it do in the future? As the RAF's Director of Defence Studies and the Assistant Head, Air and Space at the Development, Concepts and Doctrine Centre, the authors have a vested interest in this topic; we have both benefited from the education

opportunities available internally, as part of service staff courses, and externally, in the form of service-sponsored non-military post-graduate education delivered at academic institutions. Additionally, both of us currently fill appointments where a broad education has clear and direct relevance to our day-to-day activities. However, we understand that the real value of military education may not be as immediately apparent across the RAF more generally: the benefits tend to be felt in the long-term rather than the short-term, and by their very nature, are difficult to measure or quantify directly. This is a potential problem at a time of financial stringency, when we will have to justify all of our expenditure and activities. Therefore, our aim in this 'viewpoint' is to act as advocates for military education, arguing that the modest sums of money and resources allocated it to represent an essential, strategic investment in the future of our service; it is a force multiplier that adds real value.

To begin, it is useful to define exactly what is meant by education, rather than the training that we traditionally deliver so well. Lieutenant General John Kiszely makes the distinction clear:

Training is preparing people, individually or collectively, for given tasks in given circumstances; education is developing

their mental powers and understanding. Training is thus appropriate preparation for the predictable; but for the unpredictable and for conceptual challenges, education is required...Likely future operations, particularly those such as counter-insurgency, are characterized by complexity, ambiguity and uncertainty and volatility – all of which add up to unpredictability – and by challenges that are not so much formulaic and mechanistic as conceptual and 'wicked'.[2]

The commandant of the Joint Services Command and Staff College made exactly the same point in 2001, but used an illuminating analogy. In the Cold War, he said, training was sufficient, because military officers were like classical musicians; skilful virtuosos on their own instruments, but playing as part of a NATO orchestra to a pre-scripted score, written some time ago, that they could rehearse again and again until they got it exactly right. In contrast, the contemporary operating environment demands military professionals who can act as jazz musicians; they still have to be just as good at playing their own instruments, but now, there is no score and they have to play by ear, improvising around a seemingly random and ever-changing theme:

We have to produce people who can look at chaos with the intellectual confidence it takes to explore it from unexplored angles and discover patterns. This applies regardless of whether they end up devising policy, briefing ministers or coming up with campaign plans.[3]

Education need not be formally taught. Reading broadly is itself a good form of self-education, and Churchill attributed much of his later success to a rigorous period of self-imposed reading in his late teens

and early twenties. But however it is acquired - as an outcome of staff training, as a formal academic course, or through self-help - education will help to develop the flexibility of mind and understanding of the wider context that is necessary to counter post-modern threats and challenges. Training can never equip an individual to withstand the shock of warfare, or to fully lift Clausewitz's 'fog of war', and this is also true of education; it can never provide a 'silver bullet'. But as the bi-polar certainty of the Cold War has been subsumed into the ambiguity of contemporary operations, it has proved to be increasingly difficult to anticipate, plan and train for every eventuality. Instead, our resilience needs to be underpinned by intellectual and conceptual agility; and this requires people who can understand and adapt to operational circumstances that are likely to be very different on each occasion that force is used. This agility, open-mindedness and imagination – as General Kiszely and Air Marshal Burridge contended – is more likely to be the product of education, rather than training.

Broad-minded thinking, developed through education, arguably becomes even more important as an individual progresses through the rank structure, because a wider appreciation of strategy, and an understanding of the links between the campaign plan and its execution, and the interaction between the political and the military spheres, cannot be simply taught; this is a realm of nuance, subtlety and interest, and is better grasped by a challenging and educated mind. There is high-level concern within the Ministry of Defence, and indeed

across government, that the United Kingdom has collectively lost the habit of strategic thinking. This *lacuna* was repeatedly identified by Lieutenant General Sir Frederick Viggers in the evidence that he recently submitted to the Chilcot Inquiry into the Iraq War,[4] and was addressed as a specific issue by the Chief of the Defence Staff in his Christmas Speech to RUSI in December.[5]

As a forward-looking and technologically-based service, the RAF is potentially better placed than the other two services, as it has always been fortunate in attracting highly capable and educated personnel at all ranks. The recently implemented Review of Office and Aircrew Development ('ROAD') study into through-career development has capitalised on this intellectual resource by enhancing the RAF's ability to educate as well as train; the links that have been established between Kings College London and Halton, Cranwell and Shrivenham are already bearing fruit in providing an external, academic input to challenge received wisdom and take personnel out of their institutional 'comfort zone'. And we are not alone in acknowledging this requirement. A recent report on the United States Air Force (USAF) attributes many of its well-publicised recent problems to a lack of intellectual self-confidence, borne of too much introspection. It recommends institutionalising post-graduate military education as an antidote:

Advanced education at first-rate institutions of higher learning must become a priority for senior Air Force officers. The service should also provide more comprehensive officer education on the US national security institutions, starting with their own and the other three Services.[6]

General Patreus, holder of a PhD himself, and the most celebrated of the cohort of American 'soldier-scholars' attributed with turning around the conflict in Iraq, endorses this recommendation. In a recent address at West Point, he identified post-graduate education at a non-military, 'top twenty-five' graduate school as one of the five most important pre-requisites for success in military leadership. The non-military emphasis is deliberate: Patreus was making the point that however laudable the training – and sometimes education – offered by military staff courses, only non-military education provides the stimulus of exposure to the fresh and provocative ideas – and people - that can challenge and reinvigorate the military establishment.

The RAF has already taken some steps along this path. The Chief of the Air Staff's Fellowship scheme offers selected individuals the opportunity to study externally at post-graduate level, and even to undertake sponsored doctorates, while those officers selected for the Advanced Command and Staff Course have the opportunity to take a Master's degree in Defence Studies. The recent initiatives by Birmingham University and Kings College London to establish part-time Masters' degrees in Air Power Studies, the first of their kind in the United Kingdom, provide further evidence that academia also appreciates that a market exists for professional military education. But are these steps sufficient?

The RAF sends some 10% of its senior squadron leaders and wing commanders to advanced staff college annually, and only a small handful of individuals, typically six a year, into academia, as Chief of the Air Staff's fellows. This does not compare favourably with the US forces, where a minimum of a Master's degree is expected for those aspiring to rise above the rank of major, and more than 15% of all USAF officers above one-star rank hold a doctorate. There is a different institutional expectation with regards to education; available resources clearly matter, but there are cultural differences too, and full-time academic education is seen as part of the career mainstream in the US armed forces in a way that is still not shared by the RAF. Despite the clearest possible direction from the highest level – witness the Chief of the Air Staff's personal endorsement and interest in the fellowship scheme – there is a perception that a year at a top university, undertaking a demanding course to gain a sought after post-graduate qualification - is a 'year out' and represents a career foul; and this acts as a disincentive to those individuals aspiring to fast-track advancement who might be contemplating a period of academic study. The career stream for those destined for highest ranks remains wedded to the cockpit and outer office appointments and, other than staff course training, offers limited opportunities for broad, academic development of the intellect. Perhaps then, our biggest challenge remains a cultural one: are we ready to accept, and even embrace, intellectualism, or are we still in thrall to the cult of the gifted amateur – or the narrowly-focused, technically adept military

professional? To quote General Kiszely again:

Some …. challenges have been or are being overcome, there are others, particularly those associated with military education and culture, which have yet to be fully recognized, let alone met, if modern warriors are to be a match for tomorrow's warfare.[7]

Obviously, the individual services have differences in outlook and attitude here. The Royal Navy, drawing on its long tradition of practical seamanship, has always tended to be sceptical about the value of theoretical education and has never been particularly rigorous about the criteria or premium it puts on either staff training or education more broadly. However, it is indicative that in recent years it has recognised that its strategic decision-making has been questionable, and it has reinstated an academic element at Dartmouth, and its own higher level academic programme, in response. In terms of the RAF, the Chief of the Air Staff's Fellowship Scheme and the senior support it implies is the envy of the other services, but the technical nature of the service is both a strength and a weakness; we attract the most highly educated recruits of the three services, but there is a sense that we put technology above ideas, and too much emphasis on equipment, rather how we to use it most effectively. Arguably, the single biggest challenge facing us remains our continuing institutional suspicion of education, and intellectualism.

Encouragingly, there are signs that this problem is generational and that a cultural change is taking place. Anecdotally, evidence suggests that the outlook on education of the cadre

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that has been exposed to a significant academic element throughout their early careers is far more positive than their more senior peers in 'middle-management' and beyond. Initiatives such as ROAD and the links to King's College London have already been mentioned. Additionally, the Chief of the Air Staff's Reading List provides a first step for self-helpers; this is refreshed annually and is a good guide to a broad range of books on air power, space power, contemporary conflicts and the nature of warfare. *Air Power Review* is widely respected and is influential as a peer-reviewed academic journal, and it has effectively been replicated by the USAF with its *Strategic Studies Quarterly Journal*. But other ideas might be initiated that would broaden the RAF's intellectual base. These include a return to a formal promotion examination from Flight Lieutenant to Squadron Leader (in line with the 'C' Exam of old), a service-wide annual essay prize for junior officers (on the model of RAF Regiment's current competition), and an annual air power debate or conference limited to squadron leader rank and below.

In a recent edition of *Air Power Review*, the Chief of the Air Staff offered a personal perspective on the future of British air and space power. He said:

In terms of people, the requirement for agility is clear, and this will increasingly demand strategic and operational thinking, in addition to the tactical proficiency that we have excelled at in the past. We need to institutionalise air power education, and nurture leaders who can deal with the complexity and ambiguity of the contemporary operating environment.[8]

These words neatly capture the 'why' of military education for the RAF: it is hoped that this article has addressed some of the 'hows'. If we had to pick just three strands to provide the best prospect of achieving the Chief of the Air Staff's aim, they would be: first, to formalise a viable career path for 'thinkers' as well as war-fighters, linked to the Chief of Defence Staff's initiative to develop a pool of strategic thinkers; second, to develop an aspiration and expectation that all those destined for two-star rank and above will have spent a year in full-time study at a major United Kingdom university; and finally, to maintain and develop the emphasis on through-career education embodied in the ROAD study.

The motto for the Royal Air Force's Centre for Air Power Studies is *concordia res parvae crescent* - work together to accomplish more. Military education is the key to achieving this aim.

Notes

[1] Future Air and Space Operational Concept 2009, p 1-9.
[2] The Shrivenham Papers No 5, *Post-Modern Challenges for Post-Modern Warriors*, John Kiszely; Shrivenham, December 2007, p. 14.
[3] http://www.guardian.co.uk/education/2001/nov/27/students.careers
[4] www.iraqinquiry.org.uk/media/39532/091209viggers-figgures.pdf
[5] http://www.mod.uk/DefenceInternet/AboutDefence/People/Speeches/ChiefStaff/20091203RusiChristmasLecture.htm
[6] Center for Strategic and Budgetary Assessments; *An Air Force Strategy for the Long Haul* by Thomas P Ehrhard, 2009, p.xii.
[7] John Kiszely, *Op Cit*, p.5.

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