

# Air Power Review

Volume 19 Number 1

Spring 2016

---

## **'A Gift to Our People': The Use of Drone Technology by Islamist Insurgents**

Group Captain Clive Blount and Mr Charlie Sammut

## **Cyberspace Conflict: A New Phenomenon or an Extension of the Enduring Role of Information Warfare?**

Squadron Leader Paul Withers

## **A 'Miserable Damn Performance'? The Effectiveness of American Air Power Against Insurgency in Vietnam**

Squadron Leader Dan Shaw

## **How Important were Personality, Ego and Personal Relationships to British Air-Land Integration in the Western Desert and Normandy?**

Wing Commander Paul Rait

## **Viewpoints**

Wing Commander André Adamson and Colonel Peter Goldfein

Mr Greg Baughen

## **Book Reviews**

Wing Commander Gerry Doyle

Wing Commander Mark Presley

Squadron Leader Ralph Dinsley

The Reverend Dr (Squadron Leader) David Richardson

Flight Lieutenant Alexander McKenzie

Lieutenant Colonel (Retd) Richard Newton (USAF)

---

**A Peer Review Journal by the  
RAF Centre for Air Power Studies**

# **See The Royal Air Force Air Power Review On-Line**

[www.airpowerstudies.co.uk](http://www.airpowerstudies.co.uk)

## **Air Power Review**

is the professional  
flagship publication  
of the Royal Air Force

# Royal Air Force Air Power Review

**T**he Royal Air Force Air Power Review is produced under the auspices of the Royal Air Force Centre for Air Power Studies. The publication aims to provide a forum for 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 those of the individual authors and do not necessarily represent those of the UK Ministry of Defence, or any other department of Her Britannic Majesty's Government of the United Kingdom. Further, publication of those views should not be considered as constituting an official endorsement of factual accuracy, opinion, conclusion or recommendation by the UK Ministry of Defence, or any other department of Her Britannic Majesty's Government of the United Kingdom.

Contributions from both Service and civilian authors are sought provided the submission is original and unpublished. Any topic will be considered by the Air Power Review Editorial Board provided that it contributes to existing knowledge and understanding of the subject. Articles should comply fully with the style guide published at the RAF Centre for Air Power Studies website, [www.airpowerstudies.co.uk](http://www.airpowerstudies.co.uk); essentially they should be between 4,000 and 10,000 words in length, list bibliographical references as end-notes, and state a word count. Shorter articles and those which offer more of a personal opinion will also be considered for inclusion as a 'viewpoint'. A payment of £230 will be made for each full article published, or £75 for a published viewpoint. Additional constraints apply for payments to Service personnel for which details are available from the editor.

Feedback from readers is encouraged and those wishing to comment on published articles or make suggestions for how APR can better meet the needs of the broad air power community can do so by contacting the Editor at the address below. The Editor reserves the right to publish feedback in part or in full, where it contributes meaningfully to the debate.

All material for publication should be submitted in a Microsoft Word compatible format by e-mail. Digital pictures are not generally required but where they are necessary for an article, they should be saved as TIFFs or JPEGs at 300dpi or greater. Final design format for article presentation on the printed page will be at the discretion of the Editor.

## **Please send articles to:**

Directorate of Defence Studies (RAF)  
Room 202, Greenhill House  
Shrivenham  
Swindon  
Wiltshire SN6 8LA

**E-mail:** [enquiries.dds@da.mod.uk](mailto:enquiries.dds@da.mod.uk)

## Editor

Gp Capt Paul Wilkins  
Director Defence Studies (RAF)

## Production and Design

Air Media Centre

General enquiries on Journal distribution  
may be made to the following address:

**Deputy Director of Defence Studies (RAF)**  
**Room 202, Greenhill House**  
**Shrivenham**  
**Swindon**  
**Wiltshire SN6 8LA**  
**Tel: 01793 314847**

**E-mail:** enquiries.dds@da.mod.uk

ISSN: 1463-6298

Those wishing to be placed on the distribution  
list should write direct to the Editor.

The views expressed are those of the authors  
concerned, not necessarily the MOD.

All rights reserved. No part of this publication may be  
reproduced, stored in a retrieval system, or transmitted  
in any form without prior permission in writing from  
the Editor. Unless by prior arrangement, articles and  
photographs will not normally be returned.

## Editorial Board:

**Gp Capt P Wilkins**, D Def S (RAF), Chairman

**Mr S Cox**, Head of AHB (RAF)

**Air Cdre (Retd) Dr P Gray**, Senior Research Fellow,  
University of Birmingham

**Mr A Jones**, GO, Air Media Centre, Air Cmd

**Dr I Gooderson**, DSD, JSCSC

**Dr D Hall**, DSD, JSCSC

**Dr P Lee**, University of Portsmouth, RAFC

**Dr J Fennell**, DSD, JSCSC

**Dr D Jordan**, DSD, JSCSC

**Sqn Ldr P Baroni**, SO2 D Def S (RAF), Secretary

**Photographs Courtesy of:** Air Historical Branch

**Print:** Williams Lea



Ground crew refuel and re-arm one of the first  
Supermarine Spitfires to land in France, a Mark IX  
of 441 Squadron RCAF, at the advanced landing  
ground at B3/Ste-Croix-sur-Mer, Normandy, on the  
afternoon of 10 June 1944.



Defence chiefs have backed a multi-million pound  
package to extend pioneering cyber training at a  
Lincolnshire airbase until 2019. Soldiers and airmen  
will be training at the Air Battlespace Training  
Centre (ABTC) at RAF Waddington for at least the  
next five years.



Martin Maryland II, Serial No. AH284, of 39 Squadron,  
undergoes routine servicing on a landing ground in  
the Western Desert as another aircraft returns from a  
reconnaissance in the Summer of 1941.

# Air Power Review

Volume 19 Number 1

Spring 2016



An air-to-air right rear view of two F-100D Super Sabre aircraft streaking over South Vietnam on their way to an assigned target. The aircraft provided much of the tactical air support to Allied ground forces fighting in Vietnam.



A Royal Air Force Reaper RPAS (Remotely Piloted Air System) at Kandahar Airfield in Afghanistan.

8

## 'A Gift to Our People': The Use of Drone Technology by Islamist Insurgents

Group Captain Clive Blount and  
Mr Charlie Sammut

26

## Cyberspace Conflict: A New Phenomenon or an Extension of the Enduring Role of Information Warfare?

Squadron Leader Paul Withers

44

## A 'Miserable Damn Performance'? The Effectiveness of American Air Power Against Insurgency in Vietnam

Squadron Leader Dan Shaw

56

## How Important were Personality, Ego and Personal Relationships to British Air-Land Integration in the Western Desert and Normandy?

Wing Commander Paul Rait

80

## Viewpoints

Wing Commander André Adamson and  
Colonel Peter Goldfein  
Mr Greg Baughen

96

## Book Reviews

Wing Commander Gerry Doyle  
Wing Commander Mark Presley  
Squadron Leader Ralph Dinsley  
The Reverend Dr (Squadron Leader)  
David Richardson  
Flight Lieutenant Alexander McKenzie  
Lieutenant Colonel (Retd) Richard Newton (USAF)



Armourers of 241 Squadron about to load two 500lb General Purpose bombs onto Hawker Hurricane TacR.IIC, HV638, at Souk el Arba ('Sloane Square'), Tunisia.

# Foreword

by Squadron Leader Paul Baroni

**W**elcome to the Spring 2016 edition of Air Power Review (APR) at what is a pivotal time for the RAF. We go to press shortly after the Chief of the Air Staff (CAS), Air Chief Marshal (ACM) Sir Andrew Pulford's launch of a major RAF change programme entitled *Thinking to Win*, which sees the RAF take the timely choice to reinvigorate the Conceptual Component of its fighting power.

In a disarmingly honest, insightful assessment of the state of the RAF's Conceptual Component, ACM Pulford and the *Thinking to Win* programme's goal is to 'apply air power more effectively today and more imaginatively tomorrow, by clarifying our focus, inspiring innovation and advocating the influence of air power'. Comprising eight key initiatives, ranging from creating a common RAF vision through to facilitating cultural and organisational change, the intention is to set a solid foundation for a second century of UK air power. APR was originally established to drive discussion and provoke debate on air power matters from practitioner and academic alike. The relatively rapid changes in our operating environment have now added space and cyber power and we will look forward to the additional dialogue that *Thinking to Win* is set to ignite not just for the UK, but globally.

Our first article is a co-authorship by civil servant Charlie Sammut and Group Captain Clive Blount of the UK's Development, Concepts and Doctrine Centre (DCDC). *'A Gift to Our People': The Use of Drone Technology by Islamist Insurgents* is a fascinating paper which makes an important contribution to the debate on Remotely Piloted Air Systems (RPAS) and their proliferation amongst Islamic insurgents in the Middle East. Dissecting the tactical utility of RPAS and the capabilities currently being wielded by insurgents, the authors highlight how establishing a strategic narrative for insurgent groups is at the heart of their employment of RPAS. The paper argues that the appearance of drones, at centre stage, in propaganda videos from groups as disparate as ISIL, Hezbollah and Hamas, point to the emergence of distinct cultural meaning that has been seized by these insurgents; meanings which should be seen in the context of power, legitimacy, allegiance and credibility. RPAS look set to become pivotal platforms in the insurgent's armoury, in a drive towards air power symmetry between state and non-state actor.

Building on the theme of information operations and strategic messaging, Squadron Leader Paul Withers, a CAS' Fellow and experienced cyber practitioner, writes our second article - *Cyberspace Conflict: A New Phenomenon or an Extension of the Enduring Role of Information Warfare*. A prolific regular to APR, the author published *What is the Utility of the Fifth Domain?* in our spring edition last year, which can be downloaded from our [www.airpowerstudies.co.uk](http://www.airpowerstudies.co.uk) website. The latest article starts with an accessible and useful history of cyberspace conflict, providing valuable context and background for both the cyber expert and ab initio alike.

The author points to the criticality of information as a key and integral part of warfare, examining the development of the science of cybernetics and the 'symbiotic relationship' that existed between advances in military and computer technology. This relationship meant that with the arrival of the information age, information warfare would be a logical bedfellow, with all of the threats and opportunities made possible by an unrelenting and exponential advance in technology. At the core of the article, however, is the emergence of cyberspace as a full operating domain and the associated progress that the UK has made in developing an integrated, strategic approach in this area. The reader is left with clarity of understanding on the need for more detailed study of cyberspace history to shape future strategy, concepts and doctrine.

In a departure from contemporary and future developments, Squadron Leader Dan Shaw provides our third article; *A 'Miserable Damn Performance'? The Effectiveness of American Air Power Against Insurgency in Vietnam?* Despite a seemingly historical focus, there is considerable pull-through, parallels and lessons for irregular warfare campaigns today – highlighted and made clear by the author throughout the paper. Indeed, the thrust of Shaw's thesis is to apply the lessons from combating a technologically over-matched opponent as seen in Vietnam, to the current conflict against Daesh in Syria and Iraq. Echoing the theme of the previous article, the lessons of combining kinetic and non-kinetic effects are made stark when set against a sophisticated adversary in irregular warfare adept in the application of propaganda, persuasion and information warfare. The author points to the nearly 400,000 tons of napalm being dropped between 1963 and 1971, which though kinetically effective, has entered popular consciousness on how not to fight a 'war amongst the people', with all of its' negative connotations in undermining the moral narrative. Shaw concludes that running an effective COIN campaign requires a credible, strategic vision with tailored narratives for disparate audiences. The military pillar of which air power is a part must be aligned to this overarching strategy and not a strategy in itself.

Our final article in this edition extends further into air power history and back to the Second World War but continues to resonate today. Examining the dynamics and relationships behind forging Air-Land Integration (ALI) in the North Africa and Normandy campaigns, Wing Commander Paul Rait's article *How Important were Personality, Ego and Personal Relationships to British Air-Land Integration in the Western Desert and Normandy?* contains salutary warnings for leaders at all levels today.

In an insightful paper, the author discusses the development of ALI as a concept in the Second World War and how it was implemented as a result of interpersonal relationships based upon trust, cooperation and a jointery in the Western Desert, only to be partly undermined

by a paucity of these characteristics in the 1944 Normandy campaign that followed Operation OVERLORD. Air Chief Marshal Tedder, Field Marshal Montgomery and Air Marshal Coningham eventually combined effectively to leverage the full force of ALI in the fight against Rommel in the Western Desert, where the British Army had its first real taste of major success in battle thus far in the War. However, as the author illuminates, these successes were not without interpersonal friction and rivalry but nevertheless were achieved due to the degree of autonomy they had to fight the war in North Africa, despite deteriorating personal relationships. As the author tracks this deterioration through the course of the Second World War, with Tedder, Montgomery and Coningham assuming more responsibility for British and Allied military operations, there is a conclusion that ALI in Normandy functioned *in spite* of them, due to its successful incubation in the Northern Desert and with subordinates subsequently running the ALI relationship.

Our Viewpoint this time is written by Colonel Peter Goldfein of the United States Air Force (USAF) and Wing Commander André Adamson from the RAF. Both serving as exchange officers to the French Air Staff in the Strategy Division, they are ideally placed to co-author *The Trilateral Strategic Initiative – A Primer for Developing Future Airpower Cooperation*. The Trilateral Strategic Initiative (TSI) was established between the Air Forces of the UK, US and France in 2010 with the aim of furthering cooperation, integration and alignment in future combined operations between these nations. An active, developing partnership based upon a central theme of innovation it has worked to develop organisational and strategic level activity, complimentary to both sovereign and NATO capabilities. Goldfein and Adamson make a convincing case for continued cooperation based upon shared interests, austerity and the ability to respond quickly to future threats.

This edition sees the inclusion of a reader reply to a previously published article in APR. Matthew Powell's *The Battle of France, Bartholomew and Barrett: The Creation of Army Cooperation Command* was published in our Conceptual Component Special Edition in spring last year and has solicited a response from Mr Greg Baughen, author of *The Rise of the Bomber: RAF-Army Planning 1919 to Munich 1938*. Once again, ALI is the theme, but Baughen casts an alternative light on the differences between the War Office and Air Ministry in countering the German Wehrmacht and Luftwaffe's offensive against the British Expeditionary Force (BEF) in 1940. Baughen points to a reluctant, obstructive Air Staff in their liaison with the War Office on battlefield Close Air Support (CAS) and fighter cover whereas Powell highlights the Army's lack of tactical and operational understanding in the application of air power during the Battle of France. Both, however, reveal two Services failing to engage constructively to create a more effective, Joint fighting force and pursuing single service,



blinkered interests to the detriment of the prosecution of the wider war effort – behaviours still witnessed some 75 years on in many militaries around the world.

APR Spring 2016 concludes with six book reviews spanning space, ethics, morality and the history of UK air power. James Moltz, the prolific US space security expert, authors our first two titles *Crowded Orbits: Conflict and Cooperation in Space* (Columbia University Press, 2014) and *The Politics of Space Security: Strategic Restraint and the Pursuit of the National Interest* (Stanford University Press, 2011) and are reviewed by Wing Commander Gerry Doyle and Wing Commander Mark Presley respectively. Squadron Leader Ralph Dinsley then reviews *War: What is it Good For?* (Profile Books, 2015) written by Stanford academic Ian Morris who makes the controversial claim that war has actually benefited humanity over the ages, as well as harming it. His additional thesis that war is evolving beyond recognition provides food for thought and an interesting perspective on the future character of conflict. Stephen Pinker's *The Better Angels of our Nature: A History of Violence and Humanity* (Penguin Books, 2012) reviewed by The Reverend (Squadron Leader) David Richardson continues the theme of war and humanity, attempting to demonstrate an actual diminution in war and violence - both in society and between individuals - convincingly illustrating that modernity has brought about a change for the better. *No Good Men Among the Living* (Picador, 2015) is our penultimate book review and is provided by Flight Lieutenant Sandy McKenzie. Author Amand Gopal tracks the initial successes of the US invasion of Afghanistan through to a subsequent catalogue of strategic and tactical mistakes that ensured defeat was grasped from the jaws of victory in the very early stages of the conflict, provoking a prolonged insurgency, spanning over a decade and that still continues today. Finally, to close, we conclude with Barry Renfrew's *Wings of Empire: The Forgotten Wars of the RAF, 1919 – 1939* (The History Press, 2015) reviewed by Richard Newton, former USAF aviator and a faculty member at the US Joint Special Operations University. Renfrew's book tracks the RAF's colonial conflicts that introduced the important concepts of air policing and air control in the inter-war period.

We leave you with the message that RAF CAPS, publisher of APR, is branching out and now has a Facebook page. Find us at <https://facebook.com/RAFCAPS/> for daily insights into air, space and cyber matters – we invite you to come and get involved in the debate.

# 'A Gift to Our People': The Use of Drone Technology by Islamist Insurgents

By Group Captain Clive Blount and Mr Charlie Sammut

---

**Biography:** Charlie Sammut is an Arabic speaking civil servant with over 7 years experience in the Middle East and a keen interest in Counter Terrorism and regional politics. Gp Capt Blount is Assistant Head Strategy, Concepts (Air and Space) at Development, Concepts and Doctrine Centre and is working on future strategic challenges to UK security and future air concepts. Both authors are graduates of the University of Cambridge MPhil International Relations programme, 2008.

---

**Abstract:** There has been much speculation on the potential use of drones by terrorists, and, as this article details, Hamas, Hezbollah and ISIS have all, to some degree used drones in their recent actions. However, it is unlikely that such Islamist groups will ever be able to rival the tactical and technological sophistication of Western drone usage; even Hizballah's relatively advanced drones have, for instance, been tracked and disrupted easily by the Israeli military. The authors of this article suggest, however, that drones have taken on their own cultural meaning – way beyond their mere technical capability. This developing cultural meaning is the subject of this article. What is it, and why has it driven three disparate Islamist insurgent groups to unite in their joint presentation of drones? What are they trying to achieve with this work, when the current tactical effect is, in reality, extremely limited? And, crucially, what does this body of work tell us about the nature of these insurgencies, and for the ways we may challenge them in the future?

---

**Disclaimer:** The views expressed are those of the authors concerned, not necessarily the MOD. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form without prior permission in writing from the Editor.

---

## **Introduction**

*"The resistance in Lebanon sent a sophisticated reconnaissance aircraft from Lebanon...It penetrated the enemy's iron procedures and entered occupied southern Palestine...it is the party's natural right to send drones into Israel whenever we want and this will not be last time"*

Hassan Nasrallah, televised speech 2013

Nasrallah's words are as pertinent today as they were in 2013. In early April 2015, Hizballah released another propaganda video showing their operational usage of drones. A couple of weeks later it was followed by a video of drone usage from another extremist Islamist insurgent group, ISIL. The videos displayed the full spectrum of drone usage in Islamist groups – while the Hizballah clip featured the professional targeting and destruction of rival Al-Nusra Front fighters in Syria using their Iranian-backed military drones<sup>1</sup>, the ISIL video was a rather more amateur shot of a commercial drone feeding back surveillance to a nascent Ops Room.<sup>2</sup> Even with the superiority of the Hizballah video, it was apparent that both groups were lacking in technological and tactical sophistication in comparison to those of more advanced drone actors, such as the US and UK. But the message they were broadcasting in the videos was the same – one of the most potent symbols of their enemies' technological supremacy was now part of their armoury, and with it, a powerful message about their own strength.

The release of these videos showed that, for these groups, the message around drones was as important as their actual usage. As if to emphasise this point, a third Islamic insurgent group, Hamas, posted a video on the Palestinian Al-Aqsa channel in late July demonstrating that they had hijacked an Israeli Defence Forces Skylark-3 drone and turned it for their own operational use.<sup>3</sup> Israeli media outlets were at pains to point out that the Skylark-3 was a tiny reconnaissance drone, utilised at up to battalion level, and certainly no threat to Israel.<sup>4</sup> But to Hamas, and their followers, the diminutive size of the drone did not matter – it was instead a subversion of technological dominance and a victory over a high-tech Goliath. A statement from the group claimed "this is a great achievement... and a gift to the Palestinian people... This demonstrates the strength of our people and its resistance".<sup>5</sup>

Despite the claims of this propaganda, and the continuing speculation from Western think-tanks (and the more alarmist media) on the potential use of drones by terrorists, it is unlikely that Islamist groups will ever be able to rival the tactical and technological sophistication of Western drone usage; even Hizballah's relatively advanced drones have, for instance, been tracked and disrupted easily by the Israeli military. To focus on their tactical, and potential tactical usage, such as the recent research by the Oxford Research Group,<sup>6</sup> is to miss the point. Drones are of course used tactically to enhance military operations; propaganda is a clear subset of such operations. But the body of political statements and propaganda about drone usage, or in which drones are used to film military operations, matter less for what they tell *us* about the operational capabilities of our opponents, but more for what they tell *them* – the

target audience of this propaganda – about the group, and so what we can learn about their own self-perception. What we can see is that, far beyond their use in surveillance or strikes, these drones are being used strategically to establish narratives around the technological capabilities of these insurgent groups, and their concomitant ability to contest the dominance of their rivals. This work has the precise aim to generate increased allegiance and legitimacy from their target audience and, in turn, to make them a much tougher, more embedded enemy to Western interests once achieved.

The Hamas video did not come in isolation, nor did those of Hizballah or ISIL. Each group has a large body of propaganda based around their drone usage, from Hizballah's twelve years worth of experience<sup>7</sup> using drone footage in speeches and propaganda videos, to the grainy videos on *Al-Aqsa* of Hamas drones flying over Israeli airspace. Perhaps most significantly are the opening shots of the propaganda video that launched ISIL, "The Clashing of Swords", are filmed from a drone hovering high above ISIL territory. That these groups are placing such high importance on the propaganda aspects of drone technology indicates just how important they have become within the tactical and strategic mindset of these Islamist insurgents, and quite how much part of our future wars they are likely to be. As Cody Poplin of the Brookings Institute states, "the appearance of drones in multiple jihadist propaganda videos would seem to suggest that drones have taken on their own cultural meaning, both here [at home] and abroad, in the wars against terrorism, and that meaning is something that terrorists now intend to trade in too".<sup>8</sup>

This developing cultural meaning is the subject of this article. What is it, and why has it driven three disparate Islamist insurgent groups to unite in their joint presentation of drones? What are they trying to achieve with this work, when the current tactical effect is, in reality, extremely limited? And, crucially, what does this body of work tell us about the nature of these insurgencies, and for the ways we may challenge them in the future?

In truth, we can only uncover this cultural meaning by looking at the cultural representations that stem from it. The representational work around drones has been in development for at least a decade, predicated on the lengthy usage of drones by Islamist groups. There is already a body of text and images available to study in order to examine the cultural meaning of drones. In this sense, the Hamas statement quoted earlier on provides an essential insight. For Hamas, turning the weapon of the enemy demonstrates the strength of Hamas and, most importantly for the group, the people it purports to represent; within their propaganda, the manipulation of drone technology has been transformed into a pure distillation of the relationship between the group and the people. Other propaganda videos from Hizballah and ISIL follow similar lines. In highlighting the importance of this link, they highlight the importance of allegiance and legitimacy to these groups. In the Hamas video the subversion of drone technology provides legitimacy for the group, its cause, and strengthens its relationship with its people. Each aspect of this has deep ramifications for the way that we interact with, and tackle, insurgent groups.

To shed further light on these issues, this article will argue that Hamas, Hizballah and ISIL have been extremely innovative in the usage and presentation of drones in response to the core position of drones in Western operational doctrine. It will go on to cover the cultural meaning that is being developed around this work, and highlight that the narratives in development are fundamentally about securing allegiance through demonstrating credibility, particularly through innovation, and legitimacy. The last point is highly relevant to Islamist groups, as they rely on deeply embedded narratives within Islamism about the challenge the current ideology can pose to current Western technological and cultural supremacy. The article will draw conclusions from these findings, highlighting the importance of understanding the use of drones by these Islamist actors in being able to fully combat their tactical usage, their strategic presentation, and understanding the ramifications for the UK of the contest for legitimacy with which drones are linked.

### **Insurgents and innovation**

Once the purview of advanced states, drones are now increasingly used by less technical non-state actors. Globalisation has transformed the ability of a wide range of actors to obtain advanced technology, and has also transformed the process of technological innovation for these same actors.<sup>9</sup> Innovation, here understood as the adoption of a tactic or technology that the given organization has not used or considered in the past,<sup>10</sup> has, like the usage of drones, been little studied in insurgencies with the focus instead on the operational realities of insurgents. But as Ranstrop and Normark highlight, the idea that insurgents rely on bombs and bullets “masks increasing complexity and creativity and innovation within terrorist groups”.<sup>11</sup> Focussing on drones, rather than the bombs and bullets, enables us to see exactly how innovate insurgent groups are and, in line with the previous definition shows how the very use of drones – a new technology for insurgents – is innovate in and of itself.

Innovation is not a new phenomenon for Islamist insurgents. Instead it has been at the heart of their struggle to overcome technological deficits. The recent history of insurgencies in the Middle East shows a marked emphasis on innovation, from the Airline hijacks of the Palestinian groups of the 1970s, through Al-Qa'ida's attacks and propaganda usage in the early 1990s and its fateful climax in 9/11, to the continued IED innovations of AQ-I in the aftermath of the 2003 Iraq invasion. Today, Hizballah, Hamas and ISIL are the standard bearers of innovation, whether through innovative military tactics or innovative use of media and messaging. These three groups in particular reflect several of the central characteristics that Dolnik has argued influence an insurgency's ability to innovate: they share an ideology and tactical approach that stresses the desirability of inflicting mass casualties and the staging of spectacular events; they enjoy safe havens or some territorial security; and they have the support of state sponsors and the philanthropy of wealthy individuals (or social networks).<sup>12</sup> In addition, in what Creshaw terms the “dynamics of struggle”, they have a static, stable enemy in the states' they fight against, and the existence of these states' counter-measures provide strong incentives to innovate.<sup>13</sup>

## Incentives to innovate

The “dynamics of struggle” are, arguably, the most important factor in the adoption of drones by Islamist insurgents. Over the last decade, the rise of drones and their extensive use against insurgent non-state actors, means that all of Hamas, Hizballah and ISIL have suffered at the hands of drones, whether they be Israeli, American or British. This suffering has been instrumental in driving their recent adoption by insurgent groups. As with the usage of IEDs before them, the “well-documented operational procedures of Western military forces provides a clear picture for insurgents of the enemy they are facing”.<sup>14</sup> The continual threat posed to these insurgent groups by drones, whether US, Israeli or British, and the devastating effect such systems have had on insurgent operations has forced these groups to analyse and modify their techniques, tactics and procedures to both develop counter-measures (as illustrated by recent AQAP advice about how to avoid drones<sup>15</sup>), and to begin to think about how to use drones themselves. Familiarity has bred innovation.

In this sense, the insurgent actors have first acted from a well-developed understanding of the threat, and then followed a classical innovation cycle where innovators identify a need, come up with a new idea to meet it, develop this idea into a product, and introduce it into the field.<sup>16</sup> The operational advantage granted to Western forces by drones has seen these insurgents identify a need to contest them, think innovatively on how to do this, and then introduce drone programmes designed specifically to do so. Faced by the consistent barrage of drones, their adoption by Islamist insurgent actors “suggests something about the place of drone technology in the jihadist mindset and betrays a desire to claim for themselves a weapon of war that has stalked them for a decade”.<sup>17</sup> Profiling the way in which this claim is staked through their propaganda shows two emergent themes of innovation designed to confirm their place at the heart of Islamist insurgent operational doctrine; innovation in their tactical usage, and innovation in their strategic, symbolic presentation.

## Tactical Innovation

Islamist insurgent tactical innovation with drones is nascent but developing. Recent research has focussed on the innovative ways with which Islamist insurgents may overcome the gulf in technological sophistication confronting their drone programmes, and concludes that insurgent groups will seek to use what technology they have for spectacular and destabilising ends, as with suicide bombers and IEDs. Elements of this innovation have emerged since Hizballah first flew a drone in 2004, with a Hizballah official boasting in 2008 “you can load the Mirsad plane with a quantity of explosive ranging from 40 to 50 kilos and send it to its target, . . . do you want a power plant, water plant, military base? Anything!”.<sup>18</sup> This has the potential for disproportionate impact. The Oxford Research Group has asserted that “drones are a game changer in the wrong hands”.<sup>19</sup> Put simply, Miaskanov argues that armed groups could leverage drone technology to do far more damage, real and psychological, than they could ever do with a suicide attack or a car filled with explosives.

Islamist insurgents are clearly putting some thought into this. A US Army study from the Foreign Military Affairs department argued that Iran was developing “suicide, kamikaze drones” which they planned to share with Hizballah and Hamas, and that utilising these drones was “an asymmetric strategy which both allows Iran to compete on an uneven playing field and poses a risk by allowing operators to pick and choose targets of opportunity over a drone’s multi-hour flight duration”.<sup>20</sup> Moreover, the US military is already reviewing what future form of tactics they could face, including swarming attacks, reflecting the proliferation of cheap, easily acquired drone technology, probably enabled by such simple manufacturing techniques as 3-D printing. The earlier Oxford Research paper has picked this up, starting that drones can “be used as simple, affordable and effective airborne Improvised Explosive Devices”,<sup>21</sup> noting that ISIL are “reportedly obsessed with launching a synchronised multi-drone attack on large numbers of people”.<sup>22</sup>

### **Innovation in Media Presentation**

Concentration on the tactical issues alone misses the wider point of how the tactical is often subjugated to the strategic, and the symbolic, in insurgent warfare. In insurgencies and guerrilla warfare, “what matters most is the ability to shape the story, not the facts on the ground. This is how guerrillas are able to win wars even as they lose battles”.<sup>23</sup> Propaganda victory is almost more important to them than military victory.

Islamist insurgents lack numerical superiority and have had, to date, limited purely military success; they certainly do not have more, or better drones than their opponents. What they do clearly have is a media strategy that enables them to present drone usage in the way they choose, and a freedom and willingness to do so in order to build support for their cause and group. As Thomas Rid stated in the aftermath of a spate of media profiles on Hamas drones in 2014; “They want to appear to be a sophisticated player... the drone makes a difference psychologically but not tactically. Look at the operational context in which it was used. Israel has complete military superiority. It’s not a game changer.”<sup>24</sup>

This innovation is achieved not just through all the various social and official media channels the insurgent groups use, but also in the themes of their presentation they present to Arab and international audiences. On studying the strategic presentation of drones, two further key themes emerge, both of which with far deeper impact on the trajectory of these groups than mere tactical innovation; the establishment of insurgent technological credibility and the deliberate linking of this technological credibility to popular legitimacy.

### **Key Themes: Credibility and Legitimacy**

ISIL, Hamas and Hizballah all seek to portray themselves, first and foremost, as credible users of drone technology. Hizballah have the most developed body of propaganda on this theme, having used drones since early 2004.<sup>25</sup> The earliest statement from the group, in November 2004, signalled their early capabilities and intent, claiming after a UAV penetrated Israeli airspace that their drone “will fly in the airspace of occupied Palestine whenever the

Islamic resistance sees fit”.<sup>26</sup> Statements following this have continually echoed this scale of intent, reaffirming the capability of Hizballah drones to penetrate heavily militarised Israeli airspace.<sup>27</sup> Frequently Hizballah has “buzzed the drones near Israeli air defenses and then used the footage in propaganda videos or during speeches”.<sup>28</sup> These speeches are often from Hizballah Secretary General, Hasan Nasrallah, providing them with a huge level of exposure and investment in Hizballah’s propaganda machinery. In 2012, Nasrallah claimed after a Hizballah drone was shot down by the IDF in the Negev Desert that Hizballah could fly drones “whenever we want” inside occupied Palestine, and furthermore that “this mission was not the first one, and will not be the last one, God willing.”<sup>29</sup> After another drone was shot down near Dimona in 2013, Nasrallah stepped up his claims to credibility, highlighting that “Possession of such an aerial capacity is a first in the history of any resistance movement in Lebanon and the region”.<sup>30</sup> The arguable high point of Hizballah’s demonstration of capability, and credibility, was reached in 2014 when they released video clips of its drones conducting surveillance of, and striking, Al-Nusrah front troops.<sup>31</sup> Drone propaganda continues today, with Nasrallah intimately linking them to Hizballah’s military programme, following a precedent set in 2006 after a Hizballah drone struck an Israeli warship that if Israel “wanted an open war... we are ready for an open war”.<sup>32</sup>

Hamas has echoed these themes of credibility through military capability, even going so far as to describe the penetration of Israeli airspace by Hizballah drones as “a great strategic achievement”.<sup>33</sup> Since their first claimed flight in July 2014, Hamas has established an impressive body of propaganda in a short time. They have done so with little real capability, highlighting the disproportionate impact of propaganda. Since 2014, Drones have taken pride of place at Hamas rallies and, during their first statement after a flight in 2014, Hamas released images of its indigenous drone flights, claiming that engineers from its military wing, ‘Izz al-Din al-Qassim Brigade’ had built three different types of drone, each capable of carrying out “special operations” in Israel.<sup>34</sup> A core message of this propaganda has been that they can increase their own prestige by saying ‘the IDF has an air force, we have an air force, the IDF penetrates our airspace, we penetrate their airspace’.<sup>35</sup> Hamas’s *Al-Aqsa* TV has frequently boasted of this, and following an initial surge of propaganda in 2014, leaflets [dropped in Gaza] boasted of dozens of drones being built in the territory, some for spying, others for firing missiles or “suicide missions”,<sup>36</sup> shoring up home support. Like Hizballah, their propaganda and operational efforts continue, with several episodes on *Al-Aqsa* through 2015, one including the statement that Hamas “launched several unmanned aerial vehicles to perform special tasks deep within Israel” on a routine basis.<sup>37</sup> But like Hizballah, the high point of their credibility and capability came in the last year, with the recovery and renewing of the Israeli Skylark-1 UAV, and an Izz al-Din al-Qassam statement claiming that their “military wing... took control of the Zionist drone Skylark 1 and managed to make its services operational... this is a great achievement”.

ISIL drone propaganda is perhaps the least developed, but as Polnik shows, drones have long been a part of ISIL’s media operations, including aerial footage of the Syrian regime-held



Tabqa Airbase, being broadcast "from the drone of the Army of the Islamic State".<sup>38</sup> Their overt involvement in media ops quietly indicates a certain level of credibility. Further than that, their most recent video was at pains to show the way that ISIL have enmeshed drones in their operational doctrine, providing a military credibility like Hizballah before them. Recent footage of drones being used for spotting and surveillance during military ops, and video feeds back to an Ops room, sends a powerful message about ISIL credibility and capability, garnering international media attention.

Credibility fits in directly with key messages of the media strategy for these groups. For Hizballah, it links with a core propaganda theme which trumpets their "image of might and its "glorious successes" against Israel...which legitimises it's military infrastructure";<sup>39</sup> a similar theme emerges in Hamas propaganda which seeks to champion military capabilities and victories, highlighted by Cordesman as being specifically targeted against Israel;<sup>40</sup> while for ISIL this technological credibility interacts with one of their six core propaganda themes – War – designed to "routinely zoom in on the organisation's military successes...presenting supporters and sympathizers with a skewed understanding of its successes".<sup>41</sup>

But credibility is only half the equation. All propaganda, particularly Hizballah's, is about a battle for hearts and minds, achieved through repetition of key themes as highlighted above, but with a specific appeal to their target audiences; the linking of technological credibility to popular legitimacy. Hizballah and Hamas have paid particular attention to this work, consistently linking their drone programmes to a reassertion of the pride and glory of their people, and conflating their military programme with the resistance of the population of a whole against a more powerful enemy. From 2004 onwards, Nasrallah claimed that drones were "a form of legitimate confrontation to the Zionist violations of Lebanese sovereignty", and argued the technological advancements of Hizballah drones show the best of the Lebanese population, stating that their drones are "assembled by Hizballah teams. The Lebanese should be proud of that".<sup>42</sup> For Nasrallah, their drone flights into Israel from 2012 were a "very important operation in the history of the resistance in Lebanon and the region".<sup>43</sup> Hamas have been as vocal, with the 'Izz al-Din Al-Qassam claiming that their drone achievements "were dedicated to the Palestinian Youth", and that the turning of the Skylark-1 was a "gift to the Palestinian people.. and demonstrated the strength of our people and its resistance".<sup>44</sup>

## **Allegiance and Islamism**

This conception of credibility and legitimacy is particularly important within the context of the Islamist-alignment of all three insurgent groups. The idea of political Islam (Islamism) at the heart of Hamas, Hizballah and ISIL (though radically different in application across each group), stems from powerful, historical internal narratives to the Arab and Islamic world. Islamism was born from a questioning of Western cultural, military, economic and technological supremacy in the late 19th Century, spurred on by the collapse of the Ottoman Empire. Since its birth, it emerged as a reaction to "the comparative technological and military supremacy of the West, and the relative decline of the Muslim world".<sup>45</sup> Islamist doctrine has sought to disrupt

this supremacy and its “doctrine holds that it alone provides an antidote to such decline”.<sup>46</sup> Demonstrating technological credibility is an appeal based entirely on this notion of Islamism being this “antidote” to Western supremacy, and a way to arrest Islamic decline. Intertwining this credibility cleverly with appeals to the people they represent, through claims that it restores glory to their people is a specific, and fascinating, pitch for popular legitimacy. Continued innovation is an important element of this, providing new avenues from one simple theme to demonstrate credibility and claim legitimacy.

The quest for credibility and legitimacy partially explains why valuable propaganda time is spent on drones. Legitimacy is particularly key to insurgent groups. It is not simply a “moral or an ideological factor but has direct effect on the effectiveness of the force so used”.<sup>47</sup> It does so, because, alongside credibility, it links directly to determining the “allegiance of target audiences”, and thus the political support insurgent groups need to remain alive. Tugwell goes on to highlight that “allegiance is transferred from regime to revolutionaries by shifts in the popular conception of relative credibility and legitimacy. Credibility rests on demonstrated ability to control events by being in command, running a government or an alternative power structure, or perhaps by winning small battles, while legitimacy is the public’s conception of a right to rule based on whatever values the public may associate with that right... Consequently the fight for allegiance consists of myriad small battles over credibility and legitimacy, in which the two issues become inextricably mixed”.<sup>48</sup>

### **The Insurgent/Counter-Insurgent Battle for Legitimacy and Allegiance**

The battle for legitimacy and allegiance is not just one way. It is instead a contest between two active participants - the insurgent and counter-insurgent - and the comparative legitimacy, and associated allegiance, “largely influences the outcome of the struggle”<sup>49</sup> as both the insurgent and the counter-insurgent require legitimacy and popular support to carry out their operations. The narratives from ISIL, Hamas and particularly Hizballah, around their use of drones are intimately part of this battle. They are designed not just to strengthen their own legitimacy,<sup>50</sup> but also to undermine the technological and military supremacy of Western actors in the eyes of their target audiences and, if possible, to a wider international audience.

The Hamas video of the Skylark-1, along with a recent video released by ISIL of a downed US drone, are critical artefacts in this form of propaganda, for they show the key weapon of the enemy able to be both defeated and subverted by these groups. When Hamas states that its usage of a Skylark-1 “demonstrates the strength of our people and its resistance”, and that it will “lie in wait and surprise the enemy again”, or when Nasrallah talks openly about their technological advanced drones and the threat they pose to Israel, or ISIL talks about their technological acumen, these actors are making it clear that drones are no longer solely the preserve of the West, and that Islamist insurgent actors have technological sophistication. It is a form of discourse that seeks to undermine Western technological supremacy, as much as trumpet their own.

Once again, this move relies on embedded Islamist narratives. Even while attempting to disrupt Western hegemony, and seeing large parts of the West as antithetical to Islamic culture, Islamism has also been devoutly pragmatic. As Shavit highlights, even the students of the extremely influential Islamist theologian and noted luddite, Hasan al-Banna, never ignored the "need for Muslim societies to narrow that gap [between Western and Muslim societies]. . . nor the impossibility of doing so without Western knowhow".<sup>51</sup> In light of this, contemporary established guidelines for adoption of technology that suggested any Western innovation could be adopted that was technical or universal in nature, did not contradict Islamic faith and was beneficial to Muslim society.<sup>52</sup> Military technology, and specifically drone technology, fits squarely in this bracket, being portrayed through the contest for allegiance as beneficial to Muslim society, enabling their usage and contestation to have a sound theological footing, and one rooted in the battle for legitimacy and allegiance.

That this argument is being recycled across all three groups, in regular propaganda videos, indicates the cultural meaning with which drones have become imbued. They have become both the symbol of oppression and of technological emancipation. The presentation of drones in the fashion discussed, as both a symbol of Islamist technological mastery and a disruption of Western narratives of supremacy, appeals to very deeply embedded narratives at the heart of Islamism, enabling groups to present themselves as being the vanguard of resurgent, nascent Islam, disrupting the hegemony of Western technology and mastering it for themselves, and thus a threat to technological and political supremacy of the West itself. These narratives, like legitimacy, are powerful and vital; they are sustaining the battle for allegiance at the heart of propaganda for the groups who can utilise them.

They are also innately political. The groups featured in this article have subverted the presentation of drones to their ideological advancement, and are busy portraying drones as "weapons of change... a technological product of ingenuity developed by the people who are fighting for political change".<sup>53</sup> In insurgent hands, even at a much lower technological level than those of government forces, drones have become a military tool for political change. For the counter-insurgent they are a contested military tool, often cited as damaging the chances of political change. As Islamist groups spend valuable propaganda time on drones they are imbuing these machines with a complex cultural meaning of innovation, technological credibility, popular legitimacy and renaissance, reliant on deeply embedded narratives in Islamism that supports the insurgent battle for allegiance against their enemy and, ultimately, the course of their battle in general.

## **Future Ramifications**

This form of propaganda has ramifications that are only just starting to manifest themselves. Alongside claiming their own legitimacy, the goal of insurgent activity is always to "raise questions in the minds of the populace about the legitimacy of the state's actions".<sup>54</sup> For drones, this can be writ larger; through the presentation of their own drone usage, the three insurgent groups are just starting to strengthen the contestation of Western usage of

drones, certainly in the Middle East and potentially in the West itself, with consequences for our own operational legitimacy and effectiveness.

The argument for drones in the West lies in their efficacy, and their ability to lower the risk of warfare. The increasingly widespread, and innovative, presentation of the insurgents' ability to imitate, subvert and master drone technology disrupts narratives of legitimacy around drones that hinge on these tactical arguments, particularly their "cost effective combination of stand-off attack capability, real time target intelligence data, exceptional strike precision, and lethality" that makes them "ideal weapons in a conflict against an unconventional enemy".<sup>55</sup> This part of the comparative legitimacy dynamic is therefore more complex – the broad use and presentation of drones in this fashion does not just bolster these insurgent groups, but also allows them to pose a conscious question; can they be the ideal weapons for the West against unconventional enemies, if they are used unconventionally by the same enemies?

This is a particularly effective argument when played to an international audience to whom narratives of technological supremacy and risk-free warfare associated with drones are a fundamental part of their public and military legitimacy and the wider counter-insurgency campaigns. Hizballah in particular has a great deal of experience in deploying this argument. Their media wing is extensive and extremely well attuned to the presentation of military deeds to its global Shi'a audience. Hizballah continually subverts the tactical to the strategic, as is exemplified in its use of its sizeable Katyusha fleet. This rocket, capable of large scale destruction, has been used extremely sparingly against Israel, despite the calls of more extreme members and the existential nature of recent wars against Israel; when they have been used, they have always been used for propaganda victories.<sup>56</sup> Hizballah has already trodden this path well in relation to drones. With fairly regular flights into Israel, Hoenig highlights that each drone flight into Israel is potentially a significant propaganda victory for Hezbollah, quoting Matthew Levitt of the Washington Institute as noting that Hizballah "love being able to say, 'Israel is infiltrating our airspace, so we'll infiltrate theirs, drone for drone'". In this fashion, their use need only be sparing – the strategic and symbolic presentation will do the rest. When Hamas or Hizballah flies an Ababil-3 into Israeli airspace and causes the scramble of IDF jets, it has already won a propaganda victory, even as its drone is shot down; similarly, when ISIL flies a drone over Kobane and releases the video, it is sending a powerful message about its capabilities and intent, that resonates deeply with those it intends to appeal to.

Accordingly, this has the potential to damage the legitimacy of our reliance on drones, the arguments for which hinge on their efficacy and supremacy. They will continue to have success, but their supremacy will also continue to be contested by the three insurgent actors; particularly ISIL. This issue of legitimacy touches on particular issues with technologically-driven warfare that are starting to emerge, in particular that advanced militaries engaged in counter-insurgency are increasingly "unable to control the battlefield through overwhelming violence or technological advances".<sup>57</sup> Despite the utility of drones, and western air power

in general, in both kinetic and non-kinetic roles across the Middle East, they are increasingly being seen as failing to make the correct dent in the growth of ISIL or other insurgent actors. As with other technologies, drones could become part of "the migration of military-technical initiative to insurgents and terrorists, the only actors readily able to use weapons to advance political goals and transform political expectations".<sup>58</sup> In fact, this article would argue that this situation is already occurring. As an example, the Israeli Defence Forces were not able to convincingly counter a Hamas media campaign in July 2014 that three of their drones had penetrated Israeli airspace, with two returning to Gaza. Despite IDF protestations that only one Hamas drone carried out any sort of flights, the Hamas media campaign over Twitter and Facebook was convincing and generated much media coverage, internationally and domestically.

## **Conclusions**

*"When you're fighting a political or psychological war, you don't have to defeat the enemy in military terms."*

Drones are clearly part of the answer to insurgencies, but we should also be aware that they are becoming part of the problem, particularly due to the central role of legitimacy and allegiance in an insurgency. As insurgents use drones more, they enhance their own credibility and legitimacy with their target populations in a powerful internal fashion by portraying themselves as technologically capable and innovative. In enhancing their popular support and, in effect, taking the allegiance of their target audiences away from the states they are based in, or Western efforts to build support for counter-insurgent/terrorist operations, they make themselves a much more embedded, operationally effective and tougher counter-insurgency target. Hamas, Hizballah and ISIL are all already using drones to enhance their own technological credibility and popular legitimacy in the battle for allegiance. They are a political tool of great effect in insurgent hands; as Poplin states "It seems clear that militant groups are eager to celebrate their technological prowess both as a weapon of actual war and as a way to establish legitimacy in a propaganda war that has taken on increased importance".

But more than this, the three insurgent groups in this article are beginning to deliberately portray their technological advances as undermining Western drone usage, whether through Hizballah's presentation of its drones outwitting Israeli air defences, or ISIL revealing it has a downed Western drone. It is a deliberate attempt to damage our own legitimacy and battle for allegiance that may, in time, begin to have an increased effect on the ability to use drones operationally without seriously enhancing the legitimacy of insurgent actors and increasing popular contestation of our drone programmes in both the MENA region and the West.

Insurgent actors will likely never have a competitive advantage in drones, but they will never come to rely on them as we have and because of that, they will only ever generate legitimacy and support for them at each of the levels at which they wage insurgency. Ultimately, each of these developments challenges the supremacy and legitimacy of our own use of drones,

demonstrating we are increasingly moving towards a scenario where “high tech strategic superiority provides only an illusion of strategic superiority”.<sup>59</sup> And so, we can see the beginning of Western drone usage, now being actively subverted in innovative fashions by those who have traditionally been their targets. In being presented by these insurgent actors as being a subversion and contestation of Western military hegemony, they both become political tools that enhance insurgent legitimacy, and undermine those of the counter-insurgent further.

Losses will not dissuade the groups in this article from continuing to use drones. If we, as the West and counter-insurgent actors, concentrate only on the aerial power drones provide, we will miss the challenges to this power from Islamist groups. In the future, we may see the actions of these groups elide with the burgeoning moral and ethical concerns in western societies around drone use to substantially undermine the legitimacy of drone usage by advanced militaries. Thus reliance on drones by the governments of advanced nations may well become a strategic weakness that will be easily exploitable by insurgents to bolster their own legitimacy. They are clearly a part of beating terrorists, but must be seen for what they are; machines with the potential to serve whichever narrative is most powerful in justifying and exploiting their usage. It is a battle that we cannot afford to let Hizballah, Hamas and ISIL win.

## Notes

<sup>1</sup> <https://www.youtube.com/watch?v=mo9yIxiWDnA> last accessed 16 Mar 16.

<sup>2</sup> Caleb Weiss, “Islamic State uses drones to co-ordinate fighting in Baiji” *Threat Matrix* (Blog). <http://www.longwarjournal.org/archives/2015/04/islamic-state-uses-drones-to-coordinate-fighting-in-baiji.php>

<sup>3</sup> <https://www.youtube.com/watch?v=awF95IPUfbo> last accessed 16 Mar 16.

<sup>4</sup> Jonathan Beck, “Drone intercepted by Hamas is Elbit Skylark1” in *The Times of Israel*, 12 Aug 15, <http://www.timesofisrael.com/august-12-2015-liveblog/> last accessed 16 Mar 16.

<sup>5</sup> “Hamas announces capturing of Hamas Drone” Press TV, 12 Aug 15, <http://217.218.67.231/Detail/2015/08/12/424473/Hamas-Gaza-Israeli-drone--> last accessed 16 Mar 16.

<sup>6</sup> Chris Abbott, Matthew Clarke, Steve Hathorn and Scott Hickie, “*Hostile Drones: The Hostile Use of Drones by Non-State Actors Against British Targets*” Remote Control Project hosted by the Oxford Research Group (2016). Available at [http://www.oxfordresearchgroup.org.uk/sites/default/files/Hostile use of drones report\\_open briefing\\_16.pdf](http://www.oxfordresearchgroup.org.uk/sites/default/files/Hostile%20use%20of%20drones%20report_open%20briefing_16.pdf) last accessed 16 Mar 16.

<sup>7</sup> Milton Hoenig, “Hezbollah and the Use of Drones as a Weapon of Terrorism” in *Public Interest Report Vol 67 No 2, Spring 2014*.

<sup>8</sup> Poplin, Cody (2014), “Look Who Else Has Drones: ISIS and Al-Nusra” at <https://www.lawfareblog.com/look-who-else-has-drones-isis-and-al-nusra> last accessed 16 Mar 16.

<sup>9</sup> US Department of Defence (2010), *Quadrennial Defence Review 2010*, p.5. Available at [www.defense.gov](http://www.defense.gov)

<sup>10</sup> Adam Dolnik, “*Understanding Terrorist Innovation: Technology, Tactics and Global Trends*”, (Routledge:New York, 2007) p.1.

<sup>11</sup> Marcus Ranstrop and Magnus Normark "Introduction", in Ranstrop and Normark , *Understanding terrorism innovation and learning – Al-Qaeda and Beyond* (Routledge: New York, 2014) p.7.

<sup>12</sup> Ibid, p.3.

<sup>13</sup> Martha Crenshaw, "Innovation: Decision Points in the trajectory of terrorism," (a paper presented at a conference on Trajectories of Terrorist Violence in Europe held at the Center for European Studies, Harvard University, 9-11 Mar 2011.

<sup>14</sup> Christopher Harmon. *Illustrations of 'Learning' in Counterinsurgency*, ( Routledge:New York, 2007),p.29.

<sup>15</sup> American Enterprise Institute (2014), "Gulf of Aden Security Review, August 12, 2014" <http://www.criticalthreats.org/gulf-aden-security-review/gulf-aden-security-review-august-12-2014> last accessed 16 Apr 16.

<sup>16</sup> Rosabeth Moss Kanter "Innovation: the Classic Traps" in *Harvard Business Review*, Nov 2006, via <https://hbr.org/2006/11/innovation-the-classic-traps> last accessed 16 Apr 16.

<sup>17</sup> Poplin, Cody (2014), "Look Who Else Has Drones: ISIS and Al-Nusra", accessed online at <https://www.lawfareblog.com/look-who-else-has-drones-isis-and-al-nusra> last accessed 16 Mar 16.

<sup>18</sup> Col Shannon Caudill and Maj Ben Jacobsen, "Nowhere to Hide: the Growing Threat to Air Bases" in *Air and Space Power Journal* May-June 2013. (Air University Press: Montgomery, AL, 2013).

<sup>19</sup> Oxford Research Group, "*Hostile Drones: the hostile use of drones by non-state actors against British targets*" p.1.

<sup>20</sup> Reported widely, see for instance: <http://www.jpost.com/Middle-East/Iran-helping-Hamas-Hezbollah-build-fleet-of-suicide-drones-396673> last accessed 16 Mar 16.

<sup>21</sup> Oxford Research Group, "*Hostile Drones: the hostile use of drones by non-state actors against British targets*", p.2.

<sup>22</sup> Ibid, p.12

<sup>23</sup> Seth Jones, and Patrick Johnston, "The Future of Insurgency" in *Studies in Conflict and Terrorism* 2012, 36(1), p.2.

<sup>24</sup> Caroline Alexander and Gwen Ackerman, " Hamas Bragging Rights Grow with Drones Against Israel" in *Bloomberg Business*, 16 Jul 14. Via <http://www.bloomberg.com/news/articles/2014-07-16/hamas-bragging-rights-grow-with-drones-use-against-israel> last accessed 16 Mar 16.

<sup>25</sup> Dan Gettinger and Arthur Holland Michel, *A Brief History of Hamas and Hezbollah's Drones*, Center for the Study of the Drone at Bard College, 14 Jul 14. Via <http://dronecenter.bard.edu/hezbollah-hamas-drones/> last accessed 16 Mar 16.

<sup>26</sup> "Hezbollah flies unmanned planes" *CNN*, 7 Nov 2004, accessed online at <http://edition.cnn.com/2004/WORLD/meast/11/07/hezbollah/> last accessed 16 Mar 16.

<sup>27</sup> Dan Gettinger and Arthur Holland Michel, *A Brief History of Hamas and Hezbollah's Drones*, Center for the Study of the Drone at Bard College, 14 Jul 14. Via <http://dronecenter.bard.edu/hezbollah-hamas-drones/> last accessed 16 Mar 16.

<sup>28</sup> Adam Rawnsley "New Airstrip could be home to Hezbollah's Drones" *Medium*, 13 Jul 15,

accessed online at <https://medium.com/war-is-boring/this-new-airstrip-could-be-home-to-hezbollah-s-drones-bdec97ff36a8#.obtna7f4d> last accessed 16 Mar 16.

<sup>29</sup> Ashley Fantz, "Hezbollah claims it sent drone over Israel, but expert calls it 'rinky-dink'", *CNN*, 12 Oct 12, accessed online at <http://edition.cnn.com/2012/10/11/world/meast/israel-hezbollah-drone/index.html?iref=allsearch> last accessed 16 Mar 16.

<sup>30</sup> "Hezbollah claims Iranian-made drone over Israel" *DW* 11 Oct 12 accessed online at <http://www.dw.com/en/hezbollah-claims-iranian-made-drone-over-israel/a-16300827> last accessed 16 Mar 16.

<sup>31</sup> Dave Bender "Hezbollah claims first ever Drone strike on Islamic State target in Syria" *The Algemeiner*, 21 Sep 14, accessed online at <http://www.algemeiner.com/2014/09/21/hezbollah-claims-first-ever-drone-strike-on-islamic-state-target-in-syria-video/> last accessed 16 Mar 16.

<sup>32</sup> Hamza Hendawi "Israel: Hezbollah Drone attacks Warship", *Washington Post*, 14 Jul 06 accessed online at <http://www.washingtonpost.com/wp-dyn/content/article/2006/07/14/AR2006071401786.html> last accessed 16 Mar 16.

<sup>33</sup> " Hamas Describes Hizbullah Drone as a "Historic Achievement", *Nahamet*, 13 Oct 12, accessed online at <http://www.naharnet.com/stories/en/57014-hamas-describes-hizbullah-drone-as-historical-achievement> last accessed 16 Mar 16.

<sup>34</sup> " Hamas announces "manufacture of three aerial Drones", *Daily Sabah*, 14 Jul 14, accessed online at <http://www.dailysabah.com/mideast/2014/07/14/hamas-announces-manufacture-of-three-aerial-drones>; "Al-Qassim brigades announces manufacture of "Drones" for military targets (trans)", *Al-Quds*, 14 Jul 14, accessed online at <http://www.alquds.co.uk/?p=192772> last accessed 16 Mar 16.

<sup>35</sup> "Are the Hamas Drones real" *Mashable*, 14 Jul 14, accessed online at <http://mashable.com/2014/07/14/hamas-drones-real/#SAoJnzJdQsqV> last accessed 16 Mar 16.

<sup>36</sup> Caroline Alexander and Gwen Ackerman, " Hamas Bragging Rights Grow with Drones Against Israel" in *Bloomberg Business*, 16 Jul 14. Via <http://www.bloomberg.com/news/articles/2014-07-16/hamas-bragging-rights-grow-with-drones-use-against-israel> last accessed 16 Mar 16.

<sup>37</sup> " Hamas says it steered Gaza drone that crashed in Israel", *i24news* Published: 26 Jun 15 - 12:45am at <http://www.i24news.tv/en/news/israel/diplomacy-defense/76141-150625-gaza-drone-crashes-inside-israel> last accessed 16 Mar 16.

<sup>38</sup> Peter Bergen and Emily Schneider, "Now ISIS has drones" on *CNN* website 25 Aug 14. Via <http://edition.cnn.com/2014/08/24/opinion/bergen-schneider-drones-isis/> last accessed 16 Mar 16.

<sup>39</sup> Erlich Reuven and Kahati Yoram, *Hezbollah as a case study for the battle of hearts and minds*, Intelligence and Terrorism Information Center at the Israeli Intelligence Heritage and Commemoration Center, Jun 2007, p.4. Available at [http://www.terrorism-info.org.il/data/pdf/PDF\\_07\\_030\\_2.pdf](http://www.terrorism-info.org.il/data/pdf/PDF_07_030_2.pdf) last accessed 16 Mar 16.

<sup>40</sup> Anthony Cordesman, "The Gaza War: A Strategic Analysis", Center for Strategic and International Studies, 2 Feb 09.

<sup>41</sup> Charlie Winter, "The Virtual "Caliphate": Understanding Islamic State's Propaganda Strategy",



Quilliam Foundation, Jul 15, p.26.

<sup>42</sup> Ashley Fantz, "Hezbollah claims it sent drone over Israel, but expert calls it 'rinky-dink'", *CNN* 12 Oct 12. Via <http://edition.cnn.com/2012/10/11/world/meast/israel-hezbollah-drone/index.html?iref=allsearch> last accessed, 16 Mar 16.

<sup>43</sup> Marc Daou, "Iran designed drone sent into Israeli airspace, Hezbollah says", *France 24*, 14 Oct 12. Via <http://www.france24.com/en/20121014-hezbollah-nasrallah-acknowledges-iran-input-israel-drone-incident-lebanon-sunni-shiite-syria> last accessed 16 Mar 16.

<sup>44</sup> Yasser Okbi and Maariv Hashavua, " Hamas Claims to have Israeli Drone Under Control" in *Jerusalem Post*, dated 12 Aug 15. Via <http://www.jpost.com/Arab-Israeli-Conflict/Report-Hamas-claims-to-have-Israeli-drone-under-their-control-411935> last accessed 16 Mar 16.

<sup>45</sup> Sheikh Muhammad Hishami Kabbani, *Islamic Extremism: A Viable Threat to US National Security*. Lecture at the U.S. Department of State, Washington, D.C., Jan 7, 1999.

<sup>46</sup> Ibid.

<sup>47</sup> Col. Anil Athale "Factor of legitimacy in use of force in countering insurgency", *Indian Defence Review*, 2015.

<sup>48</sup> Maurice Tugwell, "Terrorism and Propaganda: Problem and Response" in *Conflict Quarterly*, Spring 1986.

<sup>49</sup> Col. Anil Athale, "Factor of legitimacy in use of force in countering insurgency".

<sup>50</sup> Jeff Burdette, (2014), "Analysis of a Winning Insurgency: Learning from Hizballah's victory over Israel in the South Lebanon conflict, 1982-2000" *Georgetown Security Studies Review*, 10 Jun 14, accessed online at <http://georgetownsecuritystudiesreview.org/2014/06/10/anatomy-of-a-winning-insurgency-learning-from-hizballahs-victory-over-israel-in-the-1982-2000-south-lebanon-conflict> last accessed 16 Mar 16.

<sup>51</sup> Uri Shavit, *Islamism and the West: From "Cultural Attack" to "Missionary Migrant"*, (Routledge: New York, 2014), p.89.

<sup>52</sup> Ibid, p.79.

<sup>53</sup> New America (2014), "What Trumps Tech in War?" accessed online at <https://www.newamerica.org/new-america/what-trumps-tech-in-war/> last accessed 16 Mar 16.

<sup>54</sup> Andersen, Edward and Black, Laura, "Accumulations of Legitimacy: Exploring Insurgency and Counter-Insurgency Dynamics" accessed online at <http://www.systemdynamics.org/conferences/2007/proceed/papers/ANDER548.pdf> last accessed 16 Mar 16.

<sup>55</sup> Geoffrey Corn, "Drone Warfare; How "Precision Engagement" enhances the Legal Dialogue", *Georgetown Journal of International Affairs*, 14 Apr14. Available at <http://journal.georgetown.edu/drone-warfare-how-precision-engagement-enhances-the-legal-dialogue/> last accessed 16 Mar 16.

<sup>56</sup> Andrew Exum (2006) "Hizballah at War: A Military Assessment" in *Policy Focus* 63(2), p.18, The Washington Institute for Near East Policy; Burdette, Jeff (2014), "Anatomy of a Winning Insurgency: Learning From Hizballah's Victory Over Israel in the 1982-2000 South Lebanon Conflict" in *Georgetown Security Studies Review* (2014).

<sup>57</sup> Karp, Aaron (2013), "The Changing Ownership of War: States, Insurgencies and Technology", p.181 in Krause, Keith (ed), *Armed Groups and Contemporary Conflicts*, (Routledge: New York, 2013).

<sup>58</sup> Ibid, p.182.

<sup>59</sup> New America (2014), "What Trumps Tech in War?"



# Cyberspace Conflict: A New Phenomenon or an Extension of the Enduring Role of Information Warfare?

By Squadron Leader Paul Withers

---

**Biography:** Squadron Leader Paul Withers is an Engineer Officer, currently commanding Support Squadron on the Tactical Imagery-Intelligence Wing (TIW) at RAF Marham. He has professional experience and expertise in the Cyber world including a tour at the Joint Cyber Unit (Cheltenham) and was embedded with US Cyber Command in Afghanistan. A CAS' Fellow, Paul is currently undertaking an MSc in Cyberspace Operations.

---

**Abstract:** This article sets out a brief history of cyberspace conflict, citing examples that are significant in its evolution. It charts the enduring importance of information as a constituent part of warfare, through the development of the science of cybernetics, and the symbiotic relationship between the development of military systems and advances in computer technology. It examines the advent of Information Warfare and the 'information-age paradox' of opportunities afforded by technology, bringing with them a range of new threats. The article examines the rise of cyberspace as an operating environment, gives examples of operational cyber integration and discusses the development of the United Kingdom's strategic approach. In doing so it attempts to highlight the need for detailed study of cyberspace history to inform strategy, concepts and doctrine.

---

**Disclaimer:** The views expressed are those of the authors concerned, not necessarily the MOD. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form without prior permission in writing from the Editor.

---

## Introduction<sup>1</sup>

*'Cyber conflict is new, but not so new that it has failed to accumulate its own history'*<sup>2</sup>

Military history, when appropriately studied and applied, can give great insight to the military profession, by drawing upon the lessons of the past. When a new concept or technology is applied to warfare, the importance of its history may not be immediately apparent, but the need to capture facts and first hand accounts as they occur, for later analysis, should be obvious. Accounts, analyses and theories of war stretch back to Thucydides, Sun Tzu, through the works of Clausewitz, Jomini and Mahan, to the emergence of War Studies as a formal academic discipline. A century ago, the significance of air power started to emerge; it was only a few years after the end of the Great War that the first interpretations of air power history were authored. In 1922, Sir Walter Raleigh published the start of his analysis of the records collected by the Air Ministry's Historical Section with the first volume of *The War in the Air; Being the Story of the Part Played in the Great War by the Royal Air Force*.<sup>3</sup> H.A. Jones continued Raleigh's work after his death, and *The War in the Air* eventually ran to six volumes. Raleigh and Jones' work was on the leading edge of an enormous breadth and depth of study of air power over the past one hundred years. At the start of the 21st Century, cyberspace has emerged as an operating environment, and it too must begin to have its history laid down. Much of what has been written about cyberspace is speculative and alarmist, but there is a growing body of empirical study that can aid the broader understanding of conflict in cyberspace.

This article can only give a brief overview of that history. It does not purport to be a history of computer science or information technology in the round, but instead focuses on the history of cyberspace as an operating environment, or in US doctrinal terms, a Domain of War.<sup>4</sup> Determining an appropriate start point for a history of cyberspace is problematic. It could be argued that the start point was the first documented examples of espionage through cyberspace, the invention of the microprocessor, or even back to the emergence of the programmable computer. This paper will argue that cyberspace, though related to 'the interdependent networks of information technology infrastructures... and the data therein,' has a lineage that stretches back before the 'Information Age'.<sup>5</sup> The concept of cyberspace as a war-fighting environment has its antecedence in the historical use of information in war and in the use of communications technology, particularly for Command and Control. It reflects a conceptual debate, which has largely been led by the United States (US) military, but is echoed more broadly around the world. In this paper, the history of the cyberspace environment will be analysed from the historical use of information, through the emergence of communications technology, up to the cyberspace era. The US only formally declared cyberspace as a 'Domain' as late as 2006. However, the declaration of this new domain was not a sudden epiphany of a military role for cyberspace; rather it reflected an age-old reliance on information, coupled with more recent advances in technology.

The article will be presented in six steps. First, it will examine the Early History of cyberspace, giving examples of the use of information from its ancient origins up to the 20th Century and its significance up to and including the Second World War. Second, it will discuss its development during the Cold War, the point at which 'cybernetics', the science of control systems, became embedded in western military concepts and capabilities. Third, the impact of the so-called 'Revolution in Military Affairs' will be considered. The 1991 Persian Gulf War heralded the importance of information and networks in warfare, but it also demonstrated the dangers of technological dependence. Fourth, it will look more broadly at a history of cyber 'conflict' tracking the realisation of the threat, the development of responses and the eventual militarisation of cyberspace as a war-fighting environment. Consideration will then be given to specific historical examples where operations in cyberspace have been integrated with broader military operations. Sixth, the development of the UK's strategic approach to cyberspace will be examined. Finally, the paper will conclude with an overall assessment of the history of conflict in cyberspace. It will argue that, like the other operating environments, we must capture, synthesise and analyse the empirical record in order to develop the history of cyberspace. In advocating the historical study of Air Power, Peter Gray argues for a 'notion of history as an interpretation of the past in which a serious attempt is made to filter out myth and legend'.<sup>6</sup> This applies as much to the study of the history of cyberspace as it does to that of air power. The cyber debate is replete with hyperbole and myth and examples are often used to extrapolate the likely future, without a robust analysis of past events.

## Early History

The use of information in support of operations on land has been an enduring theme of warfare and military strategy, with information-based deception and Command and Control (C2) dating back to ancient times. The means of establishing and maintaining C2 across vast distances had been employed by the 13th and 14th Century Mongol Empire through the use of a network of 'Arrow Riders', who ensured that information could be passed in hours or at worst a few days across the breadth of the Empire.<sup>7</sup> The Mongols exploited the technology of bow and arrow to relay messages across the 'network' at a speed far in excess of that achievable by men on horseback alone. This communications network allowed much greater control of the Mongol forces, enabling them to 'first disrupt an enemy's communications, then to strike at his heart'.<sup>8</sup>

The industrial age produced a technological emulation of the Arrow Riders through the military adoption of the telegraph. During the American Civil War, effective C2 was enabled by the use of telegraph communications.<sup>9</sup> However, the reliance on the telegraph led to a new vulnerability, a 'foreshadowing of the information-age paradox that technological advances can simultaneously empower and imperil'.<sup>10</sup> The importance of the telegraph in achieving effective C2 meant that forces had to be diverted to protect the telegraph network. The Union Army used the vulnerability of the telegraph to their advantage by capturing Confederate telegraph stations and using them for deception operations.<sup>11</sup> Earlier innovations of the industrial revolution, such as Joseph-Marie Jacquard's automatic weaving loom and Charles

Babbage's designs for the 'Analytical Engine' are arguably also precursors of the computer technology that led to what we now know as cyberspace.<sup>12</sup> Babbage collaborated with Ada Lovelace, who developed his ideas and is credited with anticipating, in the 19th Century, some of the underpinning concepts of computer software that could not be realised practically until the second half of the 20th Century.<sup>13</sup>

At the turn of the 20th Century, the power of the Royal Navy, with its famous 'Dreadnought' Fleet, was transformed on the initiative of Admiral 'Jacky' Fisher. This transformation included the creation of an Empire-wide intelligence and communications network. Enabled through the use of emerging radio technology, the aim of this network was to track the position of vessels across the vast reaches of the British Empire, and led to Fisher's bold assertion that 'not a dog will wag its tail without being reported'.<sup>14</sup> However, the emergence of wireless telegraphy as a means of communicating over great distances gave rise to what later became known as Signals Intelligence (SIGINT). Another example of foretelling the 'information-age paradox,' wireless telegraphy was extremely vulnerable to eavesdropping and in order to protect the confidentiality of the information, codes and cyphers were developed. The great powers invested significant effort into breaking each other's cyphers to gain 'information advantage' through SIGINT. A notable First World War example was when the British decrypted the 'Zimmerman Telegram,' which in many analyses was 'central in bringing the United States into the First World War on the side of Britain and France'.<sup>15</sup> The German Foreign Minister, Arthur Zimmerman, had suggested an alliance with Mexico against the United States. In return, Zimmerman offered the return of lost Mexican 'territories in Texas, New Mexico and Arizona'.<sup>16</sup>

During the Second World War, the crucial role of information in ensuring effective C2 was very much in evidence during the Battle of Britain. The Commander-in-Chief of RAF Fighter Command, Sir High Dowding, 'had created the world's first fully integrated air defence system'.<sup>17</sup> The ability to quickly collect, filter and disseminate information up and down the chain of command enabled the RAF to concentrate its fighter aircraft against incoming bombing raids and therefore overcome the numerical advantage of the German Luftwaffe. Whilst history rightly credits the bravery of the aircrew and the importance of emerging radar technology, the air defence system as a whole allowed aircraft to be concentrated in time and space. Arguably the Dowding System, in enabling the rapid flow of information from the various sensors to the decision makers, gave battle winning advantage. It ensured that Fighter Command aircraft could be efficiently and effectively directed to engage the Luftwaffe.

Perhaps the most important Second World War example of 'information warfare' was the advantage given to the UK and US through 'Ultra' intelligence. The ability to decrypt the various German and Japanese cyphers was so significant that Winston Churchill claimed that 'Ultra had effectively won the war'.<sup>18</sup> Given the numerous other factors that contributed to victory, Churchill might be accused of hyperbole but, although Britain's military forces were inferior in many ways, 'Bletchley Park was the one place where [they] enjoyed a crucial

world lead.’<sup>19</sup> Another crucial legacy of Bletchley Park for the future of cyberspace was the development of the Colossus machine, ‘perhaps the first device that might be described as a “computer”’.<sup>20</sup>

Norbert Wiener’s work on *cybernetics* during the Second World War was instrumental in the development of cyberspace. Wiener’s work was centred on solving a military problem, controlling anti-aircraft artillery, but had much broader application in the science of control systems.<sup>21</sup> Wiener coined the term cybernetics from the Greek word for ‘steersman’.<sup>22</sup> He aimed to solve ‘the problem of hitting fast manoeuvrable [sic] bombers with ground-based artillery, [bringing] to bear his own established interest in feedback mechanisms, communication technology, and non-linear processes.’<sup>23</sup> Wiener’s development of cybernetics set the scientific, engineering and philosophical basis for information-centric systems that underpinned later developments of cyberspace. Throughout the last century, developments in technology, most notably electrical and electronic engineering (latterly microelectronics) have had a symbiotic relationship with the development of military systems.

## The Cold War

The post-Second World War era saw the start of an arms race between the Soviet Union and the West, ostensibly related to achieving nuclear weapons dominance, but underpinned by a scientific, technological, and deep-seated ideological battle that was a dominant force in the history of cyberspace.<sup>24</sup> From the late 1940s, Soviet science journals started to publish information on the early developments of Western computing technology, including a translation of the computer science pioneer Vannevar Bush’s paper on the ‘Differential Analyzer’, an early analogue computer.<sup>25</sup> By 1949 the Soviet intent to bridge the gap with the West in digital computing was clear, and an open-source derived description of an American Stored Program Control digital computer was published.<sup>26</sup> As the Soviets developed their own computing power, it was largely devoted to military applications, with ‘the nuclear weapons researchers... and the designers of ballistic missiles and spacecraft... [using] up almost all the resources of the first Soviet digital computer.’<sup>27</sup>

As the Cold War developed, the US scientific and engineering community attempted ‘to shape military affairs into a perfectly modelled and controlled closed world.’<sup>28</sup> This was based upon Norbert Wiener’s study of cybernetics and control systems, and was enabled by the computerisation of the US military.<sup>29</sup> This approach garnered support from senior military officers, including General William Westmorland who, in 1969, made a prescient speech regarding the integration of cybernetic systems into warfare:

‘On the battlefield of the future, enemy forces will be located, tracked, and targeted almost instantaneously through the use of data links, computer assisted intelligence evaluation, and automated fire control... In summary, I see an Army built into and around an integrated area control system that exploits the advanced technology of communications, sensors, fire direction, and the required automatic data processing.’<sup>30</sup>



The technological developments of Cold War aircraft meant that decision-making in Air Defence systems became increasingly complex and required decision support calculations that stretched the capacity of human operators. In the late 1950s, the US announced the creation of the Semi Automated Ground Environment (SAGE), 'the first computer-based command, control and communications system for the purpose of constituting a centralized air defence network.'<sup>31</sup> The descendants of the Second World War Dowding System had started to become so complex that a cybernetic solution was required. Arquilla and Ronfeldt point out that 'new technology tends to produce a deluge of information that must be taken in, filtered, and integrated in real time. Informational overload and bottlenecking has long been a vulnerability of centralized, hierarchical structures for command and control.'<sup>32</sup> During the Cold War, and the US conflict in Vietnam, the reliance on computerised control systems did not necessarily lead to an advantage, a reminder that warfare is ultimately still a human endeavour.

Perhaps most notably for the history of cyberspace, during the 1960s, the US government-sponsored research carried out by the Advanced Research Projects Agency (ARPA) and the RAND Corporation led to the development of a distributed network with significant redundancy, able to survive a nuclear attack. In a potential nuclear conflict, the ability to direct and, perhaps more importantly, prevent a launch highlighted both the importance and vulnerability of information in warfare.<sup>33</sup> This gave birth to the packet-switched networks that were the forebears of the Internet.<sup>34</sup> The ARPA Network (ARPANet) had originally started as a government funded science and technology research project. A small number of other academic networks were developed in parallel to ARPANet and in the early 1970s, Vint Cerf and Bob Kahn, members of the ARPA team, proposed interconnecting the various academic networks.<sup>35</sup> The problem Cerf and Kahn faced was that the networks were dissimilar in design. To overcome the differences, they proposed the use of a "gateway," a routing computer standing between each of these various networks to hand off messages from one system to the other.<sup>36</sup> Through building gateways based on 'open' i.e. non-proprietary networking standards, interconnection of dissimilar networks could be achieved, leading to what eventually became the public Internet.

Rapid improvements in microprocessor technology and the benefits of networked computing led to an increasing reliance upon information technology and an emergence of attempts to attack through the technology. Healey argues that conflict in cyberspace 'started in earnest' in 1986 when 'German hackers searched through thousands of US computer files and sold their stolen materials to the KGB.'<sup>37</sup> The lengthy investigation into this attack came from an unusual source, Clifford Stoll, an astronomer working in the Lawrence Berkeley Laboratory, who initially detected a 75-cent discrepancy in billing for computer time.<sup>38</sup> In identifying what he suspected was a software glitch, he actually revealed an ongoing sophisticated hacking campaign that was stealing documents from numerous military and academic networks. His subsequent investigation, lasting nearly two years, tracked down the German hackers who were responsible. Rather than simply preventing the hacker accessing his own network, Stoll traced the hacker's complex path around the US and Germany, until his location could be

identified. Stoll's account of the story, *The Cuckoo's Egg*, offers important lessons on human online behaviour, and on national and international cooperation in cyberspace, that are as valid today as they were in the 1980s.<sup>39</sup>

### **Underpinning A Revolution?**

The 1991 Persian Gulf War was celebrated as a 'Revolution in Military Affairs', which Lawrence Freedman argues was the 'strategic consequences of the marriage of systems that collect, process and communicate information with those that apply military force'.<sup>40</sup> It is arguable whether this really marked revolutionary change or whether it was simply part of on-going evolutionary development, but crucially it did place information at the centre of the US way of warfare. The post 1991 debate heralded Operation DESERT STORM as the 'technological paradigm for future warfare', establishing the criticality of information technology and 'electronic fire strikes'.<sup>41</sup> The post-Persian Gulf War period saw intense debate on the role of information in warfare, elevating it from a supporting activity secondary to "real" weapons' to a central and crucial role.<sup>42</sup> In the US, the increased use of computers and networks highlighted a number of key vulnerabilities. These included the use of commercial lines for military communications and the sourcing of microchips for military systems from foreign commercial vendors.<sup>43</sup> Whilst celebrating the stunning military success in 1991, it started to become apparent that Information Warfare might present the Achilles Heel for the US military.

In a 1997 paper titled *Cornerstones of Information Warfare*, the US Air Force acknowledged the importance of the Information Age making the distinction between the general effects of the Information Age on aspects of warfare versus the specific concept of 'Information Warfare', which 'views information itself as a separate realm, potent weapon, and lucrative target'.<sup>44</sup> The paper reflects the post-1991 Gulf War optimism in the US military regarding its technological advantage, highlighting the potential for information becoming 'the counter to the fog of war'.<sup>45</sup> Despite the drive to militarize the Information Age, some observers remained sceptical of the potential of Information Warfare. John Rothrock called for 'constructive skepticism [*sic*]' towards the US Government's early approach to Information Warfare.<sup>46</sup> He argued that they were racing towards 'specific "means" issues... with relatively little attention paid to the more general concerns associated with objectives'.<sup>47</sup>

### **'Realization', 'Takeoff' and 'Militarization'**

The US formal adoption of cyberspace as the 'Fifth Domain' of warfare can be traced back to the US National Military Strategy of 2004, which identified a need for the US Armed Forces to 'operate across the air, land, sea, space and cyberspace domains of the battlespace'.<sup>48</sup> More detail regarding the cyberspace domain was added by the 2006 US *National Military Strategy for Cyberspace Operations* (NMS-CO).<sup>49</sup> This strategy aimed to define the *ends, ways and means* for US cyber operations, but in doing so highlighted an evolution of US doctrinal discourse. NMS-CO noted that previous US Joint Doctrine had classified the 'operational environment as consisting of the air, land, maritime, and space domains and the information

environment'.<sup>50</sup> However, it argued that 'treating cyberspace as a domain establishes a foundation to understand and define its place in military operations'.<sup>51</sup>

Jason Healey divides the history of cyberspace up into three distinct phases, which he labels 'realization', 'takeoff' and 'militarization'.<sup>52</sup> Many would argue that attacks in cyberspace are a fairly recent phenomenon and perhaps ignore the relevance of earlier examples. Healey, argues that there is a 'rich cyber history' that is 'not a collection of empty facts, nor trivia for cyber operators to recall for amusement on a long night shift. It yields rich lessons'.<sup>53</sup> He charts this history through a series of 'wake-up calls' for the US Government. In the early 'realization' phase he cites the 1988 Morris Worm as being the first significant attack, both for its impact on the Internet and for the implications of the response for the US Government.

Computer viruses are malicious software, or '*malware*' that can copy themselves to another program and can be passed on through emails or removable media, such as disks.<sup>54</sup> A worm is a particular type of malware that can self-replicate through a network, without the need for a 'host' programme.<sup>55</sup> The Morris Worm was named after its creator, Robert Morris, then a graduate student; the worm spread rapidly across the ARPANet and exploited a number of software flaws that allow a hacker to gain root or Administrator level privileges on a computer system and effectively 'froze' two thousand computers.<sup>56</sup> In an ironic twist to the Morris Worm story, Robert Morris was the son of Bob Morris, who was the director of the US National Security Agency's National Secure Computing Centre, who had collaborated with Cliff Stoll on tracking the Cuckoo's Egg hacker.<sup>57</sup> The Morris Worm led to the establishment of the first Computer Emergency Response Team (CERT), funded by the US Department of Defense (DoD).<sup>58</sup> The ability to monitor networks, share information and coordinate a response to incidents in cyberspace remains a crucial part of cyber defence. CERTs have now been established in most countries and regions and they reflect the collaboration between governments and the IT security industry.

Healey's 'take-off' phase was signalled by President Clinton's 1998 directive on 'Critical Infrastructure Protection, PDP-63'.<sup>59</sup> PDP-63 directed specific responsibilities for the defence of US Critical National Infrastructure (CNI), which underpinned its economic and military power. Although it delegated specific responsibilities to the DoD for defending military systems, it also detailed cross-government responsibilities for the protection of CNI. Despite more recent concerns regarding attempts to militarize cyberspace, PDP-63 placed responsibility broadly across Federal Government departments and the private sector.<sup>60</sup> It was however the policy, coupled with some specific cyber-incidents, which led to the establishment of military units for Computer Network Attack (CNA) and Computer Network Defence (CND); these units eventually transformed into US Cyber Command.<sup>61</sup> Of the incidents that occurred during this time, the most important for the US government became known as SOLAR SUNRISE, which compromised the US DoD Unclassified network in 1998. The attackers exploited a vulnerability that existed in Sun Microsystems' 'Solaris' version of the UNIX operating system, that was widely used across the US DoD.<sup>62</sup> It was a known vulnerability, that could have been mitigated by the

application of software patches and the exploit required only a moderate skill by the hackers.<sup>63</sup> It transpired that the attack was the work of 'two teenagers in California and an Israeli hacker.'<sup>64</sup> However, at the time, in the midst of the geopolitical crisis over Iraq, with attacks seemingly originating from overseas, US officials suspected that another nation state was responsible.<sup>65</sup>

The first decade of the 21st Century led to an increased militarization of cyberspace within the US, and more broadly across the world. Healey cites a 'tremendous string of separate wake-up calls [one] after the other: Chinese espionage, BUCKSHOT YANKEE, Estonia, and Georgia, in addition to Conficker', that led to a response in the US DoD that saw increasing growth and centralisation of cyber forces.<sup>66</sup> BUCKSHOT YANKEE was the name given to the US response to an infection by the 'Agent.btz' malware.<sup>67</sup> The malware was introduced onto the US classified network via an infected USB stick on a base in the Middle East and the subsequent response 'marked a turning point in U.S. cyber defense strategy.'<sup>68</sup> The motivation behind the BUCKSHOT YANKEE intrusion was likely to have been espionage. Although the malware could have allowed attackers to damage or destroy files on the US DoD network, it is most likely that the intent was the exfiltration of information.<sup>69</sup> Similar militarization occurred in other nations, including the UK, albeit on a different scale and under a different framework of authorities. Like the US, the UK military had its share of cyberspace 'wake-up calls', including the costly recovery from the Conficker virus.<sup>70</sup> Conficker is another example of a self-replicating worm, which had the effect of creating an enormous world-wide 'botnet'.<sup>71</sup> A *botnet* is a network of robot programs (abbreviated to *bot*) that 'enslave' affected computers under the control of a 'bot-herder'. By using remote command and control, the *bot-herder* can direct the botnet to attack and overwhelm a particular service, such as a web server, with thousands of simultaneous requests, causing it to be unable to respond and therefore effectively taking it offline. This type of attack is known as Distributed Denial of Service (DDoS).<sup>72</sup> Whilst Conficker highlighted a hitherto complacent attitude to cyber defence and information risk management, and required an expensive recovery operation, its actual effects on military operations and mission critical systems were minimal.<sup>73</sup>

## Operational Integration

Arguably one of the most relevant examples of cyberspace operations thus far, was the use of DDoS attacks during the Russian conflict with Georgia over South Ossetia in 2008. These attacks included 'large-scale botnet DDoS attacks, targeting the government, news media, and other sites, along with intrusions and defacements'.<sup>74</sup> The use of a DDoS attack is in itself not remarkable; such attacks are routinely used as instruments of criminal activity. However, in this case, Healey argues that 'Russia was not just ignoring or encouraging its patriotic hackers... but were actively coordinating or directing their actions'.<sup>75</sup> These attacks are not significant for their destructive power or their complexity, they are nonetheless important as an example of a state coordinating a military operation on land and in the air with attacks in cyberspace. The extent to which attacks on the ground were really coordinated with cyber-attacks is debatable. The fact that kinetic attacks on communications infrastructure did not occur suggests that there was some degree of coordination.<sup>76</sup> Moreover, the 'cyber

forces' in this case were allegedly not uniformed combatants, but 'Russian organized criminals, who made no effort to conceal their involvement.'<sup>77</sup> Jeffrey Carr argues that this was not the first coordinated use of cyber operations by the Russian military, citing earlier examples in Chechnya; however Georgia, unlike Chechnya, included close synchronisation.<sup>78</sup> Whilst the DDoS attacks were coincident with military action, they had also been part of the escalating diplomatic crisis prior to the ground and air campaign. The level of coordination allegedly included 'vetted target lists of Georgian government websites', thought to be provided by Russian intelligence'.<sup>79</sup>

Operation ORCHARD, the 2007 Israeli attack on a suspected nuclear weapons processing plant at Dayr az-Zawr in Syria is another important example of the integration of cyberspace operations with conventional military operations. The Israeli Air Force destroyed the reactor site with a conventional air attack, but it is claimed that, prior to the air attack, they defeated the Syrian air defence system with a combination of electronic attack and cyber attack. Fulgham argues that the intelligence gathered about the attack provides 'evidence that a sophisticated network attack and electronic hacking capability is an operational part of the Israeli Defense Forces' arsenal of digital weapons.'<sup>80</sup> This type of attack marks an important historical development for cyberspace conflict. Unlike the often speculative arguments regarding the *potential* for cyber attacks, Geers argues that the 'event demonstrates the clear power of cyber attacks to inflict damage on critical infrastructure.'<sup>81</sup>

In the history of cyberspace, the cyber-attack that has perhaps resulted in the most speculation and hype was 'Stuxnet'. Stuxnet was the name given to an attack on a Siemens Supervisory Control and Data Acquisition (SCADA) system managing the centrifuges at the Iranian nuclear enrichment facility at Natanz. SCADA or Industrial Control Systems (ICS), are software processes that control physical 'real world' devices through sensors and electro-mechanical device controllers. This attack, later attributed to the US and Israeli governments, was not executed as part of a broader military operation, rather it was used to complement diplomatic and economic levers against Iran to deter and prevent a nuclear weapons programme.<sup>82</sup> Healey contends that 'not only was Stuxnet "capable of infecting a fully-patched Windows 7 system"; it was also the first malware to target industrial control systems, in this case, those manufactured by Siemens.'<sup>83</sup> Stuxnet serves as an example of the non-trivial nature and complexity of 'high-end' cyberspace effects. Despite being a relatively small focussed and highly targeted, tactical level attack, Stuxnet earns its place in cyberspace history due to its strategic consequences. Stuxnet is credited as 'the most sophisticated malicious software ever found' and its level of complexity led to the accusations that it must have originated from a nation state actor.<sup>84</sup> It has highlighted the risk that malicious software has the potential to have 'real-world' effects through the disruption of control systems.

## **A Strategy for the United Kingdom**

The majority of the history of cyberspace cited above reflects the strategic approach in the US. This has been mirrored in the UK, with the 2010 National Security Strategy highlighting 'hostile

attacks upon UK cyber space by other states and large scale cyber crime' as one of the 'Tier One' risks to National Security.<sup>85</sup> This was a significant assessment, placing cyberspace alongside international terrorism, a major accident or natural hazard, or an international military crisis.<sup>86</sup> Raising the level of importance of this risk has resulted in substantial investment and a need for a pan-government response.

However, the threats from cyberspace were acknowledged in strategy much earlier. The 1998 Strategic Defence Review (SDR) identified the risk from 'novel forms of attack... [including] the use of information warfare against increasingly vital computer systems.'<sup>87</sup> After the 11 September 2001 attacks in the US, the strategic landscape changed immensely, leading to a review of the 1998 SDR, presented to the UK Parliament in 2003 as 'A New Chapter to the Strategic Defence Review'.<sup>88</sup> The 'New Chapter' highlighted an increasing reliance on computer networks, the concepts of Network Centric Warfare and the increased threat of Computer Network Attack.<sup>89</sup>

In 2009 the Cabinet Office issued the 'Cyber Security Strategy of the United Kingdom'.<sup>90</sup> This strategy acknowledged Britain's reliance on cyberspace and set out the Government intent to tackle the risks related to cyberspace, including the establishment of 'an Office of Cyber Security (OCS) to provide strategic leadership for and coherence across Government... [and the creation of] a Cyber Security Operations Centre (CSOC)'.<sup>91</sup> This strategy was reviewed in light of the 2010 Strategic Defence and Security Review (SDSR) and a new strategy was issued in 2011.<sup>92</sup> Written in the context of the recovery from a global economic crisis, the 2011 strategy placed significant focus on the UK's economic dependence on cyberspace, arguing 'the scale of our dependence means that our prosperity, our key infrastructure, our places of work and our homes can all be affected'.<sup>93</sup> Citing the cost of cybercrime to the UK economy at £27 Billion per year, it concentrated on the threat of cybercrime. However, it also detailed the threats from states (via espionage and 'patriotic hackers'), terrorists and hacktivists.<sup>94</sup> The response to these threats was the Cabinet Office-led National Cyber Security Programme (NCSP).<sup>95</sup>

The NCSP was a significant step in the history of the UK military development of cyberspace because it aligned a pan-government response, and the national-level programme also set aside £90 million through the Defence Cyber Security Programme (DCSP).<sup>96</sup> The DCSP established two Joint Cyber Units, one focussing on Cyber Defence and the other, 'hosted by GCHQ at Cheltenham whose role [was] to develop new tactics, techniques and plans to deliver military effects'.<sup>97</sup>

The historic evolution of the UK's strategic approach to cyberspace conflict has perhaps lagged behind that of the US and is understandably at a considerably smaller scale. However, cyberspace has now been accepted in UK concepts and doctrine as an operating environment and that has been reflected in the establishment of cyber forces and associated capabilities.<sup>98</sup> Perhaps as a result of the UK's strategic development of cyber security, coupled

with the lessons of operational integration, such as the Israeli attack on the Syrian Integrated Air Defence System, UK Air Power Doctrine, issued in 2013, acknowledged for the first time the concept of Air-Cyber integration.<sup>99</sup> However, the effective ongoing development of doctrine, tactics and techniques to integrate air power with cyberspace needs to be based on the study and interpretation of the empirical evidence. Peter Gray suggests that the 'distillation of 'what has worked best' is the seed corn of tactical level doctrine';<sup>100</sup> perhaps over time, 'what has worked best' in cyberspace will inform the development of cyberspace doctrine and normalise its relationship with the other environments.

The recently published *National Security Strategy and Strategic Defence and Security Review 2015* has reaffirmed and further developed the UK strategy for cyberspace.<sup>101</sup> In the five years since the previous SDSR established Cyber as a 'Tier One' risk, UK cyber dependence has continued to grow commensurate with ongoing scale and sophistication of the threat, so unsurprisingly, Cyber has retained its 'Tier One' status in the 2015 strategy.<sup>102</sup> The national security context within the strategy acknowledges cyberspace in its own right but also demonstrates how it is interwoven with wider technological developments and energy security.<sup>103</sup>

Perhaps more importantly, the strategy has signalled clear intent to act in cyberspace. It states that 'we will use the full spectrum of our capabilities – armed force including, ultimately, our nuclear deterrent, diplomacy, law enforcement, economic policy, offensive cyber, and covert means – to deter adversaries and to deny them opportunities to attack us.'<sup>104</sup> This explicit avowing of an offensive cyber capability is an important political statement, particularly the establishment of a clear role for the Armed Forces, in the Government's commitment to '... provide the Armed Forces with advanced offensive cyber capabilities.'<sup>105</sup> The commitment is also reflected in a £1.9 billion programme over 5 years, a step-change in investment from the NCSP allotment in the 2010 strategy.<sup>106</sup>

## **Conclusion**

This paper has traced the lineage of cyberspace from the historical importance of information, through the technological developments of the 20th Century to the 'Information Age' of the 21st Century. This short history merely offers a few headlines in what has been a complex and rich history. The development of cyberspace through the Cold War highlights the synergistic relationship between the development of cyber technology and that of weapons systems, underpinned by a battle of ideologies. The post DESERT STORM era highlighted a realisation of the threats and opportunities of cyberspace for military operations. Repeatedly the 'information age paradox' has been apparent. Whenever mastery of information seems to offer an advantage in war, the risk of over-dependence becomes apparent. The more recent history of cyberspace has been underpinned by a series of 'wake up calls' that have led to the US and others developing strategies for cyberspace and developing military cyber capabilities. Perhaps some of the most important lessons may be drawn from the few examples of where cyberspace has been integrated with broader military operations. These cases are arguably the

best examples of cyber conflict or Information Warfare, rather than those that demonstrate the importance of *information in war* or espionage through cyberspace.

The United Kingdom has seen an evolution in cyberspace strategy, reflecting national and global economic and social dependence. The strategic *Ends* set out in the UK Cyber Security Strategy have been matched by a programme of *Ways and Means*, through the establishment of National and Defence Cyber Security Programmes. The 2015 SDSR has extended the contribution of cyberspace to National Security and has led to a programme grow capacity both nationally and within the Armed Forces.

If cyberspace is to be truly integrated into military operations, there is a need to expand its study. This is not merely a study of computer science, although like all aspects of warfare, technology is important and requires expertise. The study of cyberspace history needs to include work that, like the Land, Maritime and Air environments, is multidisciplinary and robust. Further historical study from the perspectives of social science, law, international relations and technology will build a body of knowledge that will eliminate the myth and hyperbole that exists surrounding cyber conflict. This will enable a path towards normalisation of operations within cyberspace that will become as routine as those in the other environments.

## Notes

<sup>1</sup> This article has been developed from a previously unpublished chapter of a dissertation submitted to the Department of War Studies, King's College London, as partial fulfillment of the requirements for the MA degree Airpower in the Modern World in March 2014.

<sup>2</sup> Healey, Jason (Ed) (2013), *A Fierce Domain: Conflict in Cyberspace, 1986 to 2012*, (Vienna, VA: Cyber Conflict Studies Association), p.10.

<sup>3</sup> Raleigh, Walter (1922), *The War in the Air; Being the Story of the Part Played in the great War by the Royal Air Force*, (Oxford: The Clarendon Press).

<sup>4</sup> UK doctrinal taxonomy classifies Land, Sea, Air, Space and Cyberspace as 'environments' rather than 'domains' – see Development, Concepts and Doctrine Centre (2014), *Joint Concept Note 1/14: Defence Joint Operating Concept*, (Shrivenham: DCDC), Afterward p.4.

<sup>5</sup> Development, Concepts and Doctrine Centre (2010), *Joint Doctrine Note 3/13: Cyber Operations: The Defence Contribution*, (Shrivenham: DCDC), p.1-1.

<sup>6</sup> Gray, Peter (2001), 'Why Study Air Power History?' *RAF Air Power Review*, Vol 4., No. 3, p.10

<sup>7</sup> Arquilla, John and Douglas A. Borer (2007), *Information Strategy and Warfare*, (New York, NY: Routledge), pp.3-4.

<sup>8</sup> Arquilla, John and David Ronfeldt, eds. (1997) *In Athena's Camp: Preparing for Conflict in the Information Age*, (Santa Monica, CA: RAND), p.36.

<sup>9</sup> Arquilla and Borer (2007), p.5.

<sup>10</sup> Ibid.

<sup>11</sup> Healey (2013), p.27.

<sup>12</sup> Essinger, James (2004), *Jacquard's Web: How a Hand Loom Led to the Birth of the Information*



Age, (Oxford: Oxford University Press), p5 and Naughton, John (1999), *A Brief History of the Future: The Origins of the Internet*, (London: Weidenfeld & Nicolson), p.51.

<sup>13</sup> Essinger (2004), p.122.

<sup>14</sup> Lambert, Nicholas (2004), 'Transformation and Technology in the Fisher Era: the Impact of the Communications Revolution', *Journal of Strategic Studies*, Vol. 27, No.2, p.283.

<sup>15</sup> Aldrich, Richard J. (2010), *GCHQ*, Kindle Edition (London: Harper Collins), p.15.

<sup>16</sup> Ibid.

<sup>17</sup> Holland, James (2010), 'The Battle of Britain', *The RUSI Journal*, Vol. 155, No. 4, p.72.

<sup>18</sup> Aldrich (2010), p.58.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid., p.28.

<sup>21</sup> Naughton (1999), pp.61-62.

<sup>22</sup> Galison, Peter (1994), 'The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision', *Critical Enquiry*, Vol. 21, No. 1 p.232.

<sup>23</sup> Ibid.

<sup>24</sup> Slava Gerovitch, "'Mathematical Machines' of the Cold War: Soviet Computing, American Cybernetics and Ideological Disputes in the Early 1950s", *Social Studies of Science*, Vol. 31, No. 2, 2001, <http://blogs.bu.edu/guidedhistory/files/2013/02/MathematicalMachinesoftheColdWar.pdf>, p.253.

<sup>25</sup> Ibid., p.262.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid., p.269.

<sup>28</sup> Bousquet, Antoine (2008), 'Cyberneticizing the American War Machine: Science and Computers in the Cold War', *Cold War History*, Vol. 8, No.1, p.83.

<sup>29</sup> Ibid., p.78.

<sup>30</sup> Ibid., p.84.

<sup>31</sup> Ibid., pp. 85-86.

<sup>32</sup> Arquilla, John & David Ronfeldt (1993), 'Cyberwar is coming!', *Comparative Strategy*, Vol. 12, No. 2, p.156.

<sup>33</sup> Hafner, Katie and Matthew Lyon (1996), *Where Wizards Stay Up Late: The Origins of Internet*, (New York, NY: Touchstone), pp. 54-55.

<sup>34</sup> Naughton (1999), p.97.

<sup>35</sup> Ibid. p.222.

<sup>36</sup> Ibid., p.223.

<sup>37</sup> Healey (2013), p.10.

<sup>38</sup> Stoll, Clifford (1990), *The Cuckoo's Egg: Tracking a Spy through the Maze of Computer Espionage*, (New York, NY: Pocket Books), p.3.

<sup>39</sup> Ibid., pp.397-398.

<sup>40</sup> Freedman, Lawrence (1997), 'War Designed for One', *The World Today*, Vol. 53, No. 8/9, p.217.

<sup>41</sup> Blank, Stephen J. (1997), 'Preparing for the Next War: Reflections on the Revolution in Military Affairs', in John Arquilla and David Ronfeldt, eds., *In Athena's Camp: Preparing for Conflict in the Information Age*, (Santa Monica, CA: RAND), p.62.

<sup>42</sup> Berkowitz, Bruce D. (1997), 'Warfare in the Information Age', in John Arquilla and David Ronfeldt, eds., *In Athena's Camp: Preparing for Conflict in the Information Age*, (Santa Monica, CA: RAND), p.177.

<sup>43</sup> Ibid., p.178.

<sup>44</sup> US Air Force (1997), *Cornerstones of Information Warfare*, <http://handle.dtic.mil/100.2/ADA323807>, accessed 5 September 2015, p.2.

<sup>45</sup> Ibid.

<sup>46</sup> Rothrock, John (1997), 'Information Warfare: Time for Some Constructive Skepticism', in John Arquilla and David Ronfeldt, eds., *In Athena's Camp: Preparing for Conflict in the Information Age*, (Santa Monica, CA: RAND), pp. 217-229.

<sup>47</sup> Ibid., pp.219-220.

<sup>48</sup> US Department of Defense (2004), *The National Military Strategy of the United States 2004*, (Washington DC: Department of Defense), <http://history.defense.gov/Portals/70/Documents/nms/nms2004.pdf>, accessed 29 September 2015, p.18.

<sup>49</sup> US Department of Defense (2006), *National Military Strategy for Cyberspace Operations (NMS-CO)*, (Washington, DC: Department of Defense), <http://nsarchive.gwu.edu/NSAEBB/NSAEBB424/docs/Cyber-023.pdf>, accessed 29 September 2015, p.ix.

<sup>50</sup> Ibid., p.3.

<sup>51</sup> Ibid.

<sup>52</sup> Healey (2013), p.17.

<sup>53</sup> Ibid., p.15.

<sup>54</sup> Hey, Tony and Gyuri Pápay (2015), *The Computing Universe: A Journey Through a Revolution*, (New York, NY: Cambridge University Press), pp.246-247.

<sup>55</sup> Ibid., p.248.

<sup>56</sup> Ibid. pp.248-249.

<sup>57</sup> Stoll (1990) pp.385-392.

<sup>58</sup> Ibid., p.32.

<sup>59</sup> US Government (1998), Presidential Decision Directive/ NSC-63, <http://www.fas.org/irp/offdocs/pdd/pdd-63.htm>, accessed 5 September 2015

<sup>60</sup> Ibid.

<sup>61</sup> Healey (2013) p.42.

<sup>62</sup> Ibid., p.125.

<sup>63</sup> Ibid.

<sup>64</sup> Ibid., p.122.

<sup>65</sup> Ibid., p.127.

<sup>66</sup> Ibid., p.73.

<sup>67</sup> Ibid., p.205.

<sup>68</sup> Lynn, William (2010), 'Defending a New Domain', *Foreign Affairs*, Vol. 89 Issue 5, pp.97-108.

<sup>69</sup> Healey (2013) p.207.

<sup>70</sup> Harvey, Shaun (2013) 'Unglamorous Awakenings: How the UK Developed Its Approach to Cyber', in Healey, Jason, ed, *A Fierce Domain: Conflict in Cyberspace, 1986 to 2012*, (Vienna, VA: Cyber Conflict Studies Association), p.260.

- <sup>71</sup> Singer, P.W. & Allan Friedman (2014), *Cyber Security and Cyberwar*, Kindle Edition (New York, NY: Oxford University Press), p.72.
- <sup>72</sup> Hey and Pápay (2015), p.250.
- <sup>73</sup> Harvey, Shaun (2013), p.260.
- <sup>74</sup> Healey (2013), p.71.
- <sup>75</sup> Ibid., p.72.
- <sup>76</sup> Shakarian, Paul, Jana Shakarian and Andrew Ruef (2013), *Introduction to Cyber-Warfare: A Multidisciplinary Approach*, (Watham, MA: Syngress), p.27.
- <sup>77</sup> Healey (2013), p.72.
- <sup>78</sup> Carr, Jeffrey (2010), *Inside Cyber Warfare: Mapping the Cyber Underworld*, (Sebastopol, CA: O'Reilly Media), p.3
- <sup>79</sup> Singer & Friedman (2014), p.111.
- <sup>80</sup> Fulghum, David A., Wall, Robert, Butler, Amy (2007) 'Cyber-Combat's First Shot', *Aviation Week & Space Technology*, Vol. 167, Issue 21, pp.28-31.
- <sup>81</sup> Geers, Kenneth (2009) 'The Cyber Threat to National Critical Infrastructures: Beyond Theory,' *Information Security Journal: A Global Perspective* 18, No. 1, pp.1–7.
- <sup>82</sup> Rid, Thomas (2013), *Cyber War Will Not Take Place*, (London: Hurst), pp.44-46.
- <sup>83</sup> Healey (2013), p.75.
- <sup>84</sup> Morton, Chris (2013), 'Stuxnet, Flame and Duqu – the OLYMPIC GAMES', in Healey, Jason, ed, *A Fierce Domain: Conflict in Cyberspace, 1986 to 2012*, (Vienna, VA: Cyber Conflict Studies Association), pp.212-222.
- <sup>85</sup> UK Government (2010), *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, p.27.
- <sup>86</sup> Ibid.
- <sup>87</sup> House of Commons (1998), *Research Paper 98/91: The Strategic Defence Review White Paper*, p.16.
- <sup>88</sup> UK Government (2003), *A New Chapter to the Strategic Defence Review*.
- <sup>89</sup> Ibid., pp.32-36.
- <sup>90</sup> Cabinet Office (2009), *Cyber Security Strategy of the United Kingdom: safety, security and resilience in cyber space*
- <sup>91</sup> Ibid., p.21.
- <sup>92</sup> Cabinet Office (2011), *The UK Cyber Security Strategy: Protecting and promoting the UK in a digital world*.
- <sup>93</sup> Ibid., p.15.
- <sup>94</sup> Ibid., pp.15-16.
- <sup>95</sup> Ibid., p.21.
- <sup>96</sup> 'Defence Select Committee: Written evidence from the Ministry of Defence', <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmdfence/writev/1881/dcs01.htm> , accessed 29 September 2015.
- <sup>97</sup> Ibid.
- <sup>98</sup> Development, Concepts and Doctrine Centre (2014), *Joint Concept Note 1/14 (JCN 1/14): Defence Joint Operating Concept*, (Shrivenham: DCDC), p.1-6.
- <sup>99</sup> Development, Concepts and Doctrine Centre (2013), *Joint Doctrine Publication 0-30 (JDP*

0-30): UK Air and Space Doctrine, (Shrivenham: DCDC), p.4-10.

<sup>100</sup> Gray, Peter (2001), 'Why Study Air Power History?' RAF Air Power Review, Vol 4., No. 3, p.2.

<sup>101</sup> UK Government (2015), *National Security Strategy and Strategic Defence and Security Review 2015*.

<sup>102</sup> Ibid., p.85.

<sup>103</sup> Ibid., pp.19-21.

<sup>104</sup> Ibid., p.24.

<sup>105</sup> Ibid., p.41.

<sup>106</sup> Ibid., p.40.



# A 'Miserable Damn Performance'? The Effectiveness of American Air Power Against Insurgency in Vietnam<sup>1</sup>

By Squadron Leader Dan Shaw

---

**Biography:** Dan Shaw is a Tornado GR4 pilot and Qualified Weapons Instructor (QWI) who has completed operational tours of Ops TELIC and HERRICK with 13 Squadron. Following further time in Afghanistan in an Air Effects and Deployed Air Integration role, he completed an F-18 Instructor Pilot exchange with the US Marine Corps, an HQ role with the Tornado Force and will shortly resume flying with the Typhoon Force this year.

---

**Abstract:** The Vietnam War saw the USA, at the pinnacle of its power, defeated by technologically overmatched opponents, using political violence coherent with a sophisticated information warfare campaign. This article seeks to elucidate lessons from Vietnam in the integration of kinetic and non-kinetic effects, from an air perspective. The importance of these lessons for the defeat of Daesh is manifest.

---

**Disclaimer:** The views expressed are those of the authors concerned, not necessarily the MOD. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form without prior permission in writing from the Editor.

---

## Introduction

Suggesting that one is evaluating the effectiveness of air power in support of the counterinsurgency (COIN) campaign in Vietnam implies that there was, in some meaningful sense, a COIN campaign being fought. Though figures such as John Paul Vann saw the conflict for what it was and urged that it be fought as such, there is scant evidence that the upper reaches of the US political and military leadership grasped Clausewitz's dictum:

The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish . . . the kind of war on which they are embarking, neither mistaking it for, nor turning it into, something that is alien to its nature.<sup>2</sup>

In the absence of this understanding, the United States and its armed services, especially the United States Air Force (USAF), fought the war for which they were postured, trained and equipped, and failed to heed Clausewitz's warning. General Lew Walt's thoughts after leading 1st Marine Division ashore at Da Nang in 1965 hinted that some senior officers realised that there was a problem:

Soon after I arrived in Vietnam it became obvious to me that I had neither a real understanding of the nature of the war nor any clear idea how to win it.<sup>3</sup>

Unfortunately for the Americans, it appears that translating this realization into corrective action was not undertaken until much too late. Maurice, Comte de Saxe observed: 'In default of knowing how to do what they ought, [people] are very naturally led to do what they know,' and it is the contention of this article that this was exactly what happened to the US, with deleterious effects upon its use of air power.<sup>4</sup> Consequently, assessing the effectiveness of air power in the COIN campaign misses the larger issue and risks making the same mistake of "goal displacement"<sup>5</sup> the US military committed, where metrics became the end in itself.

To provide a lens through which to view this conflict and elucidate the limitations on effectiveness, imposed by the intellectual framework within which US air power operated, this essay will utilize the ideas of Antonia Giustozzi and further elucidated by Emile Simpson. That war is more than 'the extension of policy by other means' but rather a medium of political discourse: armed politics.<sup>6</sup> Within this paradigm every military act, however effective militarily, must be judged as forming part of the dialogue of armed politics. Whilst the National Liberation Front (NLF), more often known as the 'Viet Cong' (VC), was conducting an insurgency, US air power was used to deliver approximately 373,000 tons of napalm.<sup>7</sup> However militarily effective it was as a method of killing insurgents, it was speaking in a different language. Seeing that war does not exist in a hermetically sealed domain, isolated from the political aspects of each action taken, allows a more subtle answer to the question of air power effectiveness posed. At a military level, air power was highly effective in Vietnam but ineffective, to the point of being counterproductive, against an opponent with

an 'asymmetric strategic narrative': an insurgency.<sup>8</sup> Tellingly, when the NLF and Democratic Republic of Vietnam (DRV) chose to fight conventionally war (elements of the Tet Offensive in 1968, and then the Easter Offensive of 1972) air power was devastatingly effective once both sides shared a 'symmetrical strategic narrative' - that is they were speaking the same language.<sup>9</sup>

This asymmetry of language severely limited the political effectiveness of US air power regardless of its military effectiveness. The US never devised a coherent politico-military strategy to reach President Johnson's end-state of an 'independent, stable, non-communist South Vietnam.'<sup>10</sup> A lack of a strategic narrative deprived all audiences to the conflict, most critically the American and South Vietnamese publics, with an interpretive framework with which to understand events. Trapped within the paradigm of conventional war in a discreet military space, air strikes that killed Vietnamese civilians, whatever their allegiance, supported the Communist narrative. This characterized the Americans as aggressors and the NLF as the liberators of South Vietnam. The NLF leadership in the Central Office for South Viet Nam (COSVN) articulated their struggle in terms of *Dau Tranh*, an operational construct that recognized no boundary between political and military acts. This interpretive framework enabled them to portray all their actions in a coherent way. This legitimized brutal acts such as political assassinations, including the killing of 3000-5000 Government of Vietnam (GVN) officials and supporters after capturing Hue during the Tet Offensive. It also justified the 851,000 combat deaths sustained during the conflict by Communist forces.<sup>11</sup> There was recognition in Military Assistance Command, Vietnam (MACV) and Washington that indiscriminate attacks were counterproductive; rules of engagement were constrained and all air attacks in South Vietnam had to be controlled by a Forward Air Controller (FAC) to mitigate against collateral damage. In purely military terms, close control of attacks by FACs was likely to lead to more accurate strikes; as laser-guided weapons became available, this likelihood increased further. Unfortunately for the Americans, without an understanding of the political implications, from the immediate vicinity to global level, and an interpretive framework for the action, air power's efficacy as a tool of COIN was, at best, limited. With the Communists fighting *Dau Tranh* the US could have persisted with conventional warfare by forcing symmetry and their interpretive framework with overwhelming military force. In reality, it is questionable if this was feasible. Given that the DRV and NLF manpower pool of fighting-aged males was approximately 2.3 million, even at Tet casualty rates it would have taken 13 years to exhaust.<sup>12</sup> Less than 1% of 'Search and Destroy' missions ever made contact with the enemy and when they did, having found and fixed, they let artillery and air power finish.<sup>13</sup> This lack of pursuit meant Communist forces were never indisputably beaten; and this ambiguity of outcome allowed interpretation and presentation to differ between the US/GVN and the Communists. Lacking a strategic narrative beyond conventional warfighting and unable to impose interpretive symmetry on the conflict by overwhelming victory, US air power dropped 4 million tons of bombs on the insurgency and could never be said to have been effective beyond the immediate, tactical level.<sup>14</sup>



The effectiveness of US air power in COIN was further constrained by the force structure and equipment it had throughout the Vietnam conflict. This drove how air power was employed and provided a structural bias in the American attempt to deal with the insurgency. An example may be found in the 1st Cavalry Division (Airmobile), which had its genesis independent of and just prior to the massive escalation by the US in 1965. The division was conceived for conventional warfighting, but the mobility conferred by the entire unit being lifted by helicopter appeared perfect for Vietnam. With sponsorship from Secretary of Defense McNamara down, the unit deployed in 1965 and met with initial, though hard-fought, military success in the Ia Drang valley.<sup>15</sup> This was proof of the validity of air cavalry as the way to fight in Vietnam and led to the deployment of over 12,000 helicopters.<sup>16</sup> Whilst air power was intrinsic to this approach, it conferred one of the inherent characteristics of air power - impermanence - upon the infantry and precluded them from providing the basic security for the population vital to counterinsurgency.<sup>17</sup> As Sir Robert Thompson later observed:

The helicopter is one of the greatest modern assets to a government faced with insurgency ... Its use should not, however, be overrated to such an extent that operations are considered impossible without it. It is not a substitute for feet on the ground.<sup>18</sup>

In this way, air power's very effectiveness helped to undermine the COIN campaign. In counterpoint, the Marine Combined Action Platoons (CAP) in I Corps area were arguably the most effective COIN tool employed by the US.<sup>19</sup> Consisting of an Army of the Republic of Vietnam (ARVN) platoon and embedded Marine rifle squad, they lived with the peasants in their villages for months at a time, providing security, earning trust and deterring the NLF. This highly effective COIN tool was made possible by the reconnaissance and supply provided by Marine air power.<sup>20</sup> The effective integration of air power into a wider, COIN focused plan, with good command and control made air power a key enabler, rather than the superficially effective tool it appeared to be in supporting search and destroy missions.

At a macro level, command and control added further difficulties for American air power. The organizational structures limited air power's effectiveness as they ensured that coherence of approach was never achieved. The 7th Air Force and 7th Fleet, providing almost all the strike assets between them, were organizationally independent throughout the war, necessitating the Route Package system to deconflict attacks. Both organizations fell under C-in-C Pacific in Honolulu and were independent of MACV, resulting in all strikes outside South Vietnam being commanded and controlled from elsewhere. This was hardly conducive to a coherent overall campaign. Even within South Vietnam, the Marine Aircraft Wing in I Corps remained independent of 7th AF until after Tet and even then continued to operate in its unique USMC fashion.<sup>21</sup> From 1961 the 'Farm Gate' missions of the 4400th Combat Crew Training Squadron (CCTS) Detachment 2A at Bien Hoa were an uncoordinated part of the COIN campaign. Indeed, the 4400th CCTS demonstrates another facet of this structural problem, metaphorically that, provided with only a hammer, all problems begin to look like nails. The explicit and intended training mission of Det 2A was authorized by President John F Kennedy on 11

October 1961, equipped with strike and airlift aircraft. This led to US advisors and Special Forces trying to exploit the latent capability, consequently Farm Gate was further authorized to conduct strike missions by McNamara on 16 December 1961.<sup>22</sup> A training unit rapidly morphed into a Special Ops support unit. Tellingly, Farm Gate began the pattern of civilian casualties from airstrikes, notably at Da Ket on 26 June 1962, within months of Farm Gate commencing strike operations. Da Ket saw a number of civilian casualties leading to General Emmett O'Donnell, the commander of Pacific Air Forces, to express concern that 'excessive reaction to collateral damage would limit the usefulness of air power in South Vietnam.'<sup>23</sup> Growing unease at the level of innocent casualties led James Cross to observe as early as 1963 that:

In a form of warfare in which political considerations regularly outweigh the military, air attacks against "suspected enemy groups" are all too likely to be self-defeating. The loss of support brought on by each innocent man or woman killed is likely to far outweigh the possible gain of hard-core rebels eliminated.<sup>24</sup>

Whilst it is questionable whether the US ever fought a COIN campaign in any meaningful sense, the structural limitations of US air power imposed by its organization and equipment limited its effectiveness. This constrained it to conventionally effective ways of fighting an unconventional COIN.

The structural impediments to the effectiveness of US air power were underpinned by both inter-service rivalry and their organizational "essence", especially in the case of the USAF.<sup>25</sup> Fiercely guarding its independence, the USAF placed emphasis on independent air action, especially strategic bombing. Similarly, the USN wanted to demonstrate the value of its independent air power. This drove both separate command chains and competition over sortie counts and targets destroyed.<sup>26</sup> Internecine strife undermined promising COIN experiments beyond the Marine/ARVN CAPs. The 4400th CCTS partly had its genesis in response to the Joint Chiefs of Staff (JCS) establishing the Combat Development and Test Centre upon direction from McNamara in September 1961.<sup>27</sup> This was in accordance with National Security Action Memorandum 2 directing the US forces to develop a COIN capability.<sup>28</sup> USAF Chief of Staff Curtis LeMay saw a US Army bid to be the lead service in COIN and acted to ensure the USAF was the dominant force, though no changes to doctrine or force structure resulted. Further tit-for-tat ensued when the USAF established its own COIN test centre in Vietnam in 1963 in response to the US Army unit established in 1962.<sup>29</sup> These in-theatre units devoted their energy to proving the effectiveness of their own service, devising corresponding metrics and contributing to "goal displacement": the focus of operations became the metric vice COIN effectiveness. The numbers of sorties launched, bombs dropped and targets claimed destroyed became the key, disguising the effect that air power had (or had not) achieved. The obsession with metrics and their obvious divergence from reality was perhaps most clearly exemplified when junior officers sarcastically invented the 'Great Laotian Truck Eater', a monster which devoured the hulks of trucks which had been claimed as positively destroyed

by gunship crews, the monster's preferred diet leading to a notable discrepancy between the number of trucks claimed and the wreckage which could be found by reconnaissance aircraft the following morning.<sup>30</sup>

The gunship began as an air power COIN innovation but demonstrates the stifling effect of the USAF's organizational essence. The idea was first mooted in 1961 but took four and a half years to be fielded due to reluctance towards the concept within the USAF. Once employed, it proved a highly successful, discriminate weapons system in support of ground troops, famously at Con Thien and Khe Sanh. Despite the evidence of its effectiveness in the close support role, the USAF drove its employment as an interdiction platform, mainly on the Ho Chi Minh Trail.<sup>31</sup> This was not a unitary trail but a network of over 6000 miles of tracks, paths, rivers and streams; interdicting the 100 tons of supplies a day required by the NLF was highly unlikely to ever be achievable.<sup>32</sup> The replacement of the AC-47 gunship with the AC-130 was immensely controversial within the USAF as its slow speed and armament was felt to support the Army's case for helicopter gunships as sole fire support, threatening a USAF role.<sup>33</sup> Perhaps the most bizarre example of organizational essence driving the debate, were the arguments made by members of the 1st Cavalry that it should be independent of both the Army and the USAF.<sup>34</sup> Inter-service rivalry, driven by each service's organizational essence, stymied adaptation to the war and willingness to fight it on its own terms. This severely hampered the effectiveness of US air power in the COIN campaign.

Doctrine further limited effectiveness by conceptually constraining US air power. Hidebound by doctrine the USAF, USN, US Army and to a lesser extent the USMC applied their air power how they wanted to fight the war instead of engaging with it in its own terms, accepting the syncretism COIN demands. Consequently Ranch Hand, the aerial defoliation campaign, can be seen as the ultimate rejection of Vietnam on its own terms. The initial Ranch Hand plan was to eradicate 31,250 square miles of jungle. This would have fundamentally altered the geography of half of South Vietnam: air power and chemistry harnessed to produce the battlefield the US wanted.<sup>35</sup> The USAF employed air power within an intellectual construct that was Douhet and Mitchell writ large, a "SACerized"<sup>36</sup> USAF locked into a rationalist conception of war stretching back through Schelling and Brodie to Jomini to Vegetius. War-by-numbers produced OPLAN37-64, which promised victory in 28 days by striking 94 targets, very much in the "scientific" reductionist tradition. Such intellectual antecedents led to the Vice Chief of Staff of the USAF making statements such as 'nuclear weapons are as useful in counterinsurgency as in major war';<sup>37</sup> and serious limitation in conceptual thought at the top of the USAF in Vietnam; General Harry Anderholt observed of the commander of 2nd Air Division 'Anthis doesn't know shit from shinola about [counterinsurgency] warfare.'<sup>38</sup> USAF doctrine did develop, to an extent. March 1967 saw Air Force Manual 2-5 *Tactical Air Operations, Special Air Warfare* published. So did force structure, with a peak of 19 Special Air Warfare squadrons fielding 550 aircraft. This was, however, seen as a deviation; AFM2-5 was defunct and the Special Air Warfare fleet reduced to less than 40 aircraft by 1974.<sup>39</sup> The USAF concept fitted into a broader American way of war:

On the battlefields of Europe the US Army developed a mode of operations so effective that it has influenced American and western military operations on land to the present day...Whenever possible, money in the form of firepower, was expended instead of blood.<sup>40</sup>

This reliance on firepower, with air power contributing 56% of Communist casualties, meant air power was highly effective in self-referencing, rationalist terms.<sup>41</sup> The epistemological problem is a mechanistic, war-by-numbers-approach neglects the human element fundamental to COIN.

Where US air power was most effective in the Vietnam War was in support of the NLF *Dich Van* campaign. These were the psychological operations (psyops) conducted by the COSVN to portray the Communist side positively and highlight every flaw within the US and GVN. US air power provided much grist to their mill, which proved highly effective. Mark Woodruff has observed that the communist psyops campaign created 'myths [which] still remain the dominant discourses of the Vietnam war.'<sup>42</sup> The Communists clearly understood they were engaging in armed politics. They generated a coherent vision and accompanying strategic narrative providing the target audiences in the South, especially the peasantry, an interpretive framework to understand Communist and US actions. John Paul Vann understood the implications observing shortly before his death in combat in 1972:

The destruction of a hamlet by friendly firepower is an event that will always be remembered and practically never forgiven by those people who lost their homes.<sup>43</sup>

It can be reasonably assumed that a similar lack of forgiveness would be shown by those who had lost members of their families in the same manner. US air power contributed to displacing one fifth of the South Vietnamese population, creating a constituency for the NLF. It probably also forced them into a dependency upon the NLF, in a process analogous to what happened to German civilians in the wake of Allied bombing, where only the Nazi regime could provide the food and shelter fundamental to their basic survival.<sup>44</sup> Air power was credited with stabilizing a tottering regime in 1965, Assistant Secretary of State William Bundy stating that the Rolling Thunder bombing was 'The only way you could keep any heart at all in the South Vietnamese in Saigon.'<sup>45</sup> This massive US intervention had the perverse outcome of removing any need for the urban, francophone, Catholic elite to engage with their Buddhist, rural peasantry, or to reform their political structures. The failure to address corruption and basic issues such as land reform left the political domain effectively uncontested. The *Dich Van* narrative was the sole interpretive structure for the consequences of US air power. Only belatedly, when the Thieu regime understood the US was leaving, were reforms undertaken but the Easter Offensive undid what progress had been made.

The Americans did make efforts to win hearts and minds, notably the Civil Operations and Revolutionary Development programme, which sought to pacify South Vietnam, turning the

population away from the insurgents. This was a major change from search and destroy, but air power was never fully coordinated with the programme.

Major Donald Pearce, the US military advisor in Cu Chi district, noted that during the Tet Offensive:

We were trying to win hearts and minds after we had, during the course of battle, destroyed their entire village....I have seen hamlets destroyed by helicopters after taking small arms fire...They [airstrikes] could counteract what I could do in a month in 3 or 4 minutes.<sup>46</sup>

Pearce, it should be noted, was not only critical of air action; in a memo in July 1968, he complained bitterly that the response to a few rounds of small arms fire had often come from the main armament of tanks accompanying the troops, while two months later, Major General Ellis Williamson issued a robust critique of the approach of the men he commanded in 25th Division, deprecating the over-use of firepower and the deaths of civilians and the cattle upon which they relied for their livelihoods as a result.<sup>47</sup>

Nevertheless, the use of air power in this way was so counterproductive that the NLF could not quite comprehend it, as the almost puzzled tone of one captured COSVN report made clear:

The enemy tactics consisted of using armoured vehicles, helicopter gunships and war planes to destroy the battle area, even in strategic hamlets.<sup>48</sup>

Decoupling of the military and political aspects of COIN led to US air power being most effective in supporting the Communist *Dich Van* campaign.

T E Lawrence famously observed 'to make war upon rebellion is messy and slow, like eating soup with a knife.'<sup>49</sup> It is fair to say that this was exactly the experience of the United States in Vietnam. COIN was fundamentally not the campaign the US wanted to fight, as General Robert Williams remarked:

You have to fight it down in the muck and the mud at night and on a day-to-day basis. That's not the American way and you're not going to get the American soldier to fight that way.<sup>50</sup>

Instead the US military fought the war it was structured, equipped and crucially, intellectually prepared to fight: US air power was at the heart of this construct.<sup>51</sup> This was a war trapped within the Clausewitzian paradigm of conventional warfare in which a distinct military domain delivers an end state to politicians. Whilst constitutionally it is important to make this distinction to preserve civilian control of the military, a shibboleth of Western political theory,

it is inappropriate when embarking upon armed politics, for that is what COIN entails. The NLF and their DRV backers clearly understood this: 'the leadership was always in agreement on one point: political struggle and military struggle must be linked continuously.'<sup>52</sup> The asymmetry of *Dau Tranh* existed not only in terms of military tactics but political vision and strategic narrative, lending military action an interpretive framework. When conducting COIN one is conducting armed politics and the campaign needs all the accoutrements of a political campaign targeted at key constituencies: this the US lacked but the Communists emphatically possessed. What US air power did, in its military effectiveness, is feed this asymmetry. The physical and human damage wrought by airstrikes fed the *Dich Van* narrative; the lift afforded US forces impermanence; and reconnaissance efforts focused on assessing self-referencing metrics. This asymmetry in interpretive framework led to the famous exchange between Colonel Harry Summers and his NVA colleague in Hanoi, April 1975:

Summers: You know you never defeated us on the battlefield.

NVA: That may be so but it is also irrelevant.<sup>53</sup>

Arguments that the war could have been won with more or better-targeted bombing are trapped within the Douhetian paradigm. Counter-arguments bemoaning political constraints spectacularly miss the point that in a COIN all acts are intrinsically political. In the context of COIN, substituting air power for permanent presence on the ground, firepower for blood, will always offer a seductive choice for politicians. It will not offer an effective one. Only a legitimate strategic vision and narrative correctly attuned to target audiences, delivered by coherent political and military actions, of which air power is part, will deliver an effective COIN campaign. Politicians may wish to consider this before attempting to eat soup with a knife.

## Notes

<sup>1</sup> The quote is from John Paul Vann, describing the battle of Ap Bac. See Neil Sheehan, *A Bright Shining Lie: John Paul Vann and America in Vietnam* (New York: Random House, 1988), p.277.

<sup>2</sup> Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1989), p.88. For a full account of Vann, see Sheehan, *Bright Shining Lie*.

<sup>3</sup> Eric Bregud, *The Dynamics of Defeat: The Vietnam War in Hau Nghia Province* (Boulder, CO: Westview Press 1991), 90.

<sup>4</sup> Maurice Comte de Saxe, *Mes Reveries; or Memoirs Upon the Art of War* (Westport, CT: Greenwood Press 1971 (Original 1757)), 77.

<sup>5</sup> Robert Merton, *Social Theory and Social Structure* (Glencoe, IL: Free Press, 1957).

<sup>6</sup> Antonio Giustozzi, 'Armed Politics and Political Competition in Afghanistan', in Mats Berdal, and Astri Suhrke (eds.) *The Peace in Between: Post-War Violence and Peacebuilding* (Abingdon: Routledge, 2011), pp.153-172; Emile Simpson, *War from the Ground Up: Twenty-First-Century Combat as Politics* (London: Hurst and Company, 2012), p.102.

<sup>7</sup> Naplam dropped 1963-1971. Sven Lindquist, *A History of Bombing* (London: Granta

2001), section 344.

<sup>8</sup> Simpson, *War from the Ground Up*, 38-39.

<sup>9</sup> Ibid.

<sup>10</sup> Mark Clodfelter, "Air Power Versus Asymmetric Enemies: A Framework for Evaluating Effectiveness," in *Asymmetric Warfare*, ed. John Andreas Olsen (n.p.: Royal Norwegian Air Force Academy 2010), 34.

<sup>11</sup> Stephen Hosmer, *Psychological Effects of US Air Power in Four Wars 1941-1991* (Santa Monica, CA: RAND 1996), 129.

<sup>12</sup> Lawrence Grinter, "Vietnam: The Cost of Ignoring the Political Requirements," in *The American War in Vietnam: Lessons, Legacies and Implications for Future Conflicts*, eds. Lawrence Grinter and Peter Dunn (Westport, CT: Greenwood Press 1987), 37.

<sup>13</sup> Clodfelter in *Asymmetric Warfare*, ed. Olsen, 37; Hosmer, *Psychological Effects*, 136.

<sup>14</sup> Clodfelter in *Asymmetric Warfare*, ed. Olsen, 40.

<sup>15</sup> See, for instance, Harold G Moore and Joseph L Galloway, *We Were Soldiers Once ... and Young - la Drang: the battle that changed the war in Vietnam* (New York: Harper Perennial, 1992).

<sup>16</sup> Martin van Creveld, *The Age of Air power* (New York: Public Affairs 2011), 387.

<sup>17</sup> David Jordan, 'Countering Insurgency from the Air: The Postwar Lessons', *Contemporary Security Policy*, 28:1 (2007), 101.

<sup>18</sup> Sir Robert Thompson, *Defeating Communist Insurgency – Experiences from Malaya and Vietnam* (London: Chatto & Windus, 1972), pp.106–7, cited in Jordan, *op cit*.

<sup>19</sup> Clodfelter in *Asymmetric Warfare*, ed. Olsen, 40.

<sup>20</sup> Ibid.

<sup>21</sup> For discussion of the bitter debate over the command and control of USMC air assets, see Jack Shulimson et al, *US Marine in Vietnam: The Defining Year – 1968* (Washington: History and Museums Division, United States Marine Corps, 1997), 487-515.

<sup>22</sup> Earl H Tilford, *The USAF Search and Rescue in Southeast Asia* (Washington, D.C.: Office of Air Force History 1980), 36.

<sup>23</sup> James S Corum and Wray R Johnson, *Air Power in Small Wars: Fighting Insurgents and Terrorists* (Lawrence, KS: University press of Kansas 2003), 257.

<sup>24</sup> James Eliot Cross, *Conflict in the Shadows: The Nature and Politics of Guerrilla Warfare* (New York: Doubleday 1963), 77.

<sup>25</sup> "The notion held by members of an organization as to what the main capabilities and primary mission of the organization should be." Morton Halperin and Arnold Kanter eds., *Readings in American Foreign Policy: The Bureaucratic Perspective* (Boston, MA: Little, Brown 1973).

<sup>26</sup> Clodfelter in *Asymmetric Warfare*, ed. Olsen, 38.

<sup>27</sup> Corum and Johnson, *Air Power in Small Wars*, 244.

<sup>28</sup> Ibid., 237.

<sup>29</sup> Ibid, 244.

<sup>30</sup> James Gibson, *The Perfect War: Technowar in Vietnam* (New York: The Atlantic Monthly Press 1986), 398.

<sup>31</sup> See Jack S Ballard, *Development and employment of fixed-wing gunships 1962-1972* (Washington: Office of Air Force History, 1982) for a full account of the concepts behind and

the development of gunships.

<sup>32</sup> Earl Tilford "Air Power in Vietnam: The Hubris of Power" in *The American War in Vietnam*, eds. Grinter and Dunn, 78.

<sup>33</sup> Donald Mrozek, *Air Power and the Ground War in Vietnam* (McLean, VA: Pergammon-Brassey's 1989), 127-128.

<sup>34</sup> Ibid., 76.

<sup>35</sup> Ibid., 132-134.

<sup>36</sup> Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: The Free Press 1989), 32.

<sup>37</sup> General Frederick Smith in Corum and Johnson, *Air Power in Small Wars*, 227.

<sup>38</sup> General Harry Anderholt describing Brig Gen Rollen Anthis Commander Second Air Division, precursor to 7th AF. Ibid., 247.

<sup>39</sup> Ibid., 273.

<sup>40</sup> Beregud, *The Dynamics of Defeat*, 85-86.

<sup>41</sup> Defence Intelligence Agency analysis. Corum and Johnson, *Air Power in Small Wars*, 259.

<sup>42</sup> Mark W Woodruff, *Unheralded Victory: Who Won the Vietnam War* (London: Harper Collins 1999), 200.

<sup>43</sup> Grinter in *The American War in Vietnam*, eds. Grinter and Dunn, 37.

<sup>44</sup> Richard Overy, *The Bombing War: Europe 1939-1945* (London: Allen Lane 2013), 479.

<sup>45</sup> Hosmer, *Psychological Effects of US Air*, 27.

<sup>46</sup> Beregud, *The Dynamics of Defeat*, 212-214.

<sup>47</sup> Nick Turse, *Kill Anything That Moves: The Real American War in Vietnam* (New York: Metropolitan Books, 2012), 125.

<sup>48</sup> Ibid., 218. Strategic hamlet was defunct Diem regime terminology misapplied by the NLF to the CORDS programme.

<sup>49</sup> T E Lawrence, *Seven Pillars of Wisdom* (London: Guild 1989).

<sup>50</sup> Mrozek, *Air Power and the Ground War*, 91.

<sup>51</sup> The author has sympathy, having fought in two unsuccessful COIN campaigns flying a nuclear bomber.

<sup>52</sup> Beregud, *The Dynamics of Defeat*, 56.

<sup>53</sup> Grinter in *The American War in Vietnam*, eds. Grinter and Dunn, 37.





# How Important were Personality, Ego and Personal Relationships to British Air-Land Integration in the Western Desert and Normandy?

By Wing Commander Paul Rait

---

**Biography:** Wing Commander Paul Rait joined the RAF in 1997. He is currently the lead international desk officer for the RAF responsible for relations with Africa, the Middle East and South Asia. In 2015, he was awarded the inaugural Chief of the Air Staff prize for the best Advance Command and Staff Course air power-related Defence Research Paper which is adapted for this publication.

---

**Abstract:** Air-Land Integration (ALI) in the Second World War was forged in the Western Desert by the Army and RAF where it was instrumental to victory there and success in Normandy. The three men that made it work, Tedder, Coningham and Montgomery, did so through their initially close personal relationships. However, these personal relationships started to fall apart soon after success at El-Alamein and were calamitous by D-Day. This paper examines how important ego, personality and personal relationships were in making ALI so successful. It concludes that while key for the successful introduction of ALI in the Western Desert, they were less important in Normandy. This was because the three men had been promoted to such high rank that their dislike for each other would have far wider impact than on just ALI.

---

**Disclaimer:** The views expressed are those of the authors concerned, not necessarily the MOD. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form without prior permission in writing from the Editor.

---

*'We've been taken for suckers by Montgomery!'*<sup>1</sup> Air Chief Marshal Tedder, July 1944.

*'It's always "Montgomery's Army", "Montgomery's Victory", "Montgomery strikes again". You never say "Coningham's air force".'*<sup>2</sup> Air Marshal Coningham to journalists, 1944.

*'I readily admit that the decision to become the focus of their attention was personally enjoyable to me.'*<sup>3</sup> General Montgomery, 1942.

## Introduction

**A**rguably, the ability of the British to effectively integrate their Army and Air Force to make them mutually supporting was the turning point in the war for them. The co-ordination of the two Services was borne out of bitter experience in the Western Desert and dependent on the personal relationships of the Army and Air Force commanders. It was three men, Air Chief Marshal Tedder; Field Marshal Montgomery and Air Marshal Coningham, their egos, personalities and personal relationships that really ensured that ALI became the highly effective weapon it did but also ensured that it never achieved its full potential. This close co-ordination brought Britain its first significant land victory of the war at El-Alamein, but by the time of the capture of Caen this relationship soured to outright hostility.

The first part of this paper will outline the British ALI model developed in the Western Desert. It will then look at the importance of personal relationships, personality and ego in forging ALI in the Western Desert. It will examine the role that external factors, such as professionalism, experience, the media, honours and awards as well as political manipulation played in shaping these relationships. Part one will conclude that ego, personality and the personal relationships between the three men were crucial to the success of ALI in the Western Desert. The second part will look at the personal relationships between the three commanders in Normandy. It will build upon part one's findings to demonstrate that whilst relationships between the three commanders were poor and steadily deteriorating, this did not affect the practical delivery of ALI in Normandy.

## ALI in the Western Desert

The British Western Desert model of ALI was borne from much bitter experience and prone to the influence of personalities. Whilst the Army and RAF were sufficiently co-ordinated for success against the Italians, the arrival of Rommel in 1941 brought a different experience. This period was marred by bitter recriminations between the Army and RAF commanders over the use of air power. A vocal cadre in the Army wanted an Army Air Force at the call of the Divisional or Corps commander, as had been employed against them in the Battle of France. The RAF thought that impractical due to the numbers of aircraft required and was doctrinally opposed to using air power as flying artillery, focussing on interdicting the logistics chain rather than destroying tanks. This helps explain why the British arrived at their system of close air support.<sup>4</sup>

The victories and defeats of 1941 revealed an RAF unprepared for mobile operations<sup>5</sup> and an Army incapable of providing the RAF with up-to-date locations, hampering assistance by the inability to distinguish friend from foe on the ground. Some of these issues were rectified by equipment, others would take time and experience. In response to Army criticisms, Tedder insisted that all planning for air operations for Operation Battleaxe should be done in complete agreement with the Army's wishes. Even then, defeat still brought accusations from the Army of failure by the RAF despite little evidence of them calling on RAF support.<sup>6</sup> Tedder's view was that 'all three Services should make their big efforts in concert and not separately' and that 'there was no real co-operation between the Services and still less any concept of combined operations and yet the entire campaign "calls for staffs manned by officers with real knowledge and mutual understanding of the powers and limitations of the three Services"'.<sup>7</sup> Tedder's solution was to re-organise the RAF into the Desert Air Force (DAF)<sup>8</sup> under the command of Coningham who had arrived that July at Tedder's request. One of Tedder's first directions to Coningham was for him to get together with his Army counterpart and create a joint HQ.

Tedder also proposed a review of air support by an inter-Service committee. The committee's findings and Coningham's trials resulted in the policy of Direct Air Support. The Army still wanted point protection against German dive-bombers and the situation reached an impasse. Churchill resolved the issue by directing in September 1941 that 'ground forces must not expect 'as a matter of course' to be protected against aerial attack. Whenever a battle was in progress, the Army Commander must inform the Air Commander what he wants to happen and it was the responsibility of the Air Commander to decide how best to achieve this.'<sup>9</sup> The RAF in the Middle East was now organised to support the Army and Navy whilst also completing its own missions. The process for requesting and allocating aircraft was streamlined and virtually established with the arrival of the UK-trained No 2 Army Air Support Control unit, reducing the time from request to arrival of air support to approximately 30 minutes.<sup>10</sup>

Operation Crusader, in November 1941 to relieve Tobruk, was the first test of the new system; it was also the first time that the Army and Air HQs were co-located. Whilst initially successful, Rommel's dynamic counter-attack was only checked by British armour supported by air power. Auchinleck wrote after the battle that a 'marked feature of operations to date has been our complete air supremacy and excellent co-operation between ground and air'.<sup>11</sup>

Rommel's next offensive on 26 May so comprehensively shattered the Eighth Army that the air support organisation ceased to function and the DAF was forced to act on its own initiative to prevent defeat.<sup>12</sup> Following this near disaster, Churchill and Brooke visited the Middle East to see for themselves what was wrong. Churchill sought Tedder's views, who was clear, 'I told him frankly what my views were. .... the last failure in particular had shaken the faith of the troops in their leadership.' Tedder told Field Marshal Smuts a few

days later that, 'Selection, promotion and removal of staffs and commanders must be based entirely on results, not on seniority, personal friendships, old school ties etc. Failures must be analysed and exposed, not, as invariably in the past, buried under many coats of whitewash.'<sup>13</sup> Alexander replaced Auchinleck, whilst General Brookes' favourite, Montgomery – a man, with a genius for self-promotion,<sup>14</sup> took command of the Eighth Army.

Montgomery brought with him an immediate and infectious attitude towards winning the war, instilling a sense of purpose and direction in the Army,<sup>15</sup> impressing Tedder and Coningham. Montgomery endorsed the airmen's theory of close land and air co-operation at all stages of the planning and execution of a campaign, successfully putting it into practice at the battle of Alam Halfa in September 1942. At the third battle of El-Alamein, army-air co-operation 'greatly exceeded that of all previous air-land operations.'<sup>16</sup>

### **The Importance of Personal Relationships**

How much of the British success in the Western Desert was due to the personal relationships between the senior commanders? Up to 1942 Tedder and Coningham had cordial relationships with the various Army commanders and solid progress was being made on ALL. Despite this, Army officers still wanted their own air force, did not like having their assumed leading role in the battle challenged and resented having to share operational authority with an airman.<sup>17</sup> Bucking this attitude was Montgomery who was quick to embrace the concepts espoused by Tedder and Coningham, particularly the co-location of Army and RAF HQs, something Tedder had told Coningham to do almost a year earlier.

Montgomery had abundant energy, self-assurance, skill and a reputation as a fine trainer of troops. Coningham's first impressions seemed promising, 'we now have a man, a great soldier if I am any judge, and we will go all the way with him.'<sup>18</sup> Montgomery appeared to meet Tedder's requirements for the next Army Commander as being 'alive and young, someone with fire.'<sup>19</sup> In September 1942, Tedder wrote to Smuts saying that Montgomery 'has brought the whole Eighth Army to life again. The effect has been electric, far more rapid than I had thought possible.'<sup>20</sup>

Montgomery endorsed the role of air power in the land battle, telling his subordinates that before a commander goes into the 'real battle he must "blitz" the enemy in the air and have his own air so far forward that good support and good cover will be given to the land operations. A vital essence is suitable airfields for the RAF...'<sup>21</sup> After Alam Halfa, Montgomery wrote to Coningham; 'It is clear to me that such magnificent co-operation can produce only one result – a victorious end to the campaign in Africa. Let our motto be: United we stand, divided we fall, and let nothing divide us.' Coningham congratulated him on winning the battle 'in such a flawless manner.'<sup>22</sup> But, by the time the Allies reached Tunis in 1943, relations between Montgomery and the airmen had soured perceptibly.

Arguably, the root causes lay in the personalities of the three men and the influence of external factors.

## Personalities

Montgomery was a determined and aggressive individual. Described as having few real friends in the Army he became even more of a loner following his wife's early death. Basil Liddell-Hart in late 1941 wrote in his notes on Army Command appointments that Montgomery 'is certainly one of our most vigorous and "toughest" generals, if he has some of the defects of his qualities.'<sup>23</sup>

He was widely regarded as 'vain, egocentric, self-righteous and boastful'<sup>24</sup> and viewed as naturally arrogant. War Office officials described him as having a very shallow mind, using simple repetition to get his message across.<sup>25</sup> In August 1942, Tedder received a letter from Air Marshal Freeman, warning him not to trust Montgomery, saying he was 'a good tactical schoolmaster' but 'small-minded – and nearly had a mutiny in his regiment when he commanded it. He might do well, for he has energy – but he talks balls – is conceited, a hard worker and a cad.'<sup>26</sup>

Montgomery regarded himself as a military genius but he had more resources than any previous commander and never acted quickly. His desire to be seen as the perfect commander meant that he was unable to admit mistakes and fame made this worse. Hastings acknowledges that Montgomery had a certain 'lack of concern for the truth in his make-up' and D'Este agrees that 'the past existed only to serve the convenience of the present.'<sup>27</sup> Montgomery was relentlessly self-aggrandising and obnoxiously insistent on his own infallibility.<sup>28</sup> Montgomery's battle at El-Alamein did not go according to plan, but by insisting that it did he gained a reputation for infallibility, whilst his peers did not give him credit for his skill in reshaping his forces to meet the changes. Liddell-Hart observed that Montgomery had a tendency to rubbish all those who went before him in order to highlight the great changes that he made.<sup>29</sup> He did this with Auchinleck and Dorman-Smith, re-writing the state of the 8th Army when he took over to make his achievements look better.<sup>30</sup> In his diary he wrote about Army-RAF co-operation,

I gather that there had been very close touch in the past. But the arrival of Auchinleck and Dorman-Smith at Army HQ seems to have altered that; the RAF had no use for either of these two, and Army HQ and Air HQ and the two staffs seem gradually to have drifted apart. I decided to remedy this at once and moved Army HQ back to Air HQ and brought the AOC and his senior staff officers into my Mess. This was a good move, and from then on we never looked back.

Montgomery sacked those original Eighth Army officers that had not been part of the 2nd Corps team in France to make space for his men, causing great resentment, with General Lumsden, former Commanding Officer of X Corps, telling people back at the Cavalry Club

what a shit Montgomery was.<sup>31</sup> Montgomery publically dismissed the efforts of the old Auchinleck team claiming that their plan would not have worked when this was clearly not the case. 'I changed the plan completely and Rommel was seen off. I did not know him; he must have been a fine fighting General.'<sup>32</sup> Liddell-Hart, writing to the journalist and author RW Thompson on 20 Jan 1965, agreed that Montgomery was 'not a great General' and failed to make the most of the remarkable opportunities that came his way.<sup>33</sup>

It also seems that he was unable to take advice. In a letter to Brigadier FEW Simpson dated 19 November 1942 he states that he has been given much advice from 'lunatics who sit in war rooms completely out of touch with realities, and who try and plan what I ought to do. A good many of these are of the RAF.'<sup>34</sup> Montgomery 'was intolerant of opinion which opposed his own.'<sup>35</sup> Brooke was forced to give his protégé advice to ensure that he did not say or do things that would upset others, describing him as 'a difficult mixture to handle, brilliant commander in action and trainer of men, but liable to commit untold errors, due to lack of tact, lack of appreciation of other people's outlooks.'<sup>36</sup> Montgomery thought he was a plain speaking man, to everyone else he was arrogant, but often there was more than a grain of truth to what he said.

Tedder's tutor at Cambridge described him as 'a thoroughly nice fellow in all ways: modest, pleasant, sensible. He seems to me to be much more thoughtful than many men of his age, anxious to form a real opinion of his own and to do it by carefully weighing the pros and cons.'<sup>37</sup> Churchill's doctor, Sir Charles Wilson, thought Tedder was quite unlike any other officer he had met, with 'a quick mind and a sharp tongue.'<sup>38</sup>

Churchill came to admire Tedder's qualities, even if he never liked him. Tedder's standing amongst his peers was immense. Following several defeats in the desert, Churchill found Tedder's calm practical signals deflating and in October 1941 decided to sack him. Portal, Freeman, Auchinleck and even Archibald Sinclair, Secretary of State for Air, said they would resign if this happened; with Auchinleck saying 'for the good of the Army' he hoped that Churchill would not insist.<sup>39</sup> Harold Macmillan who was a political advisor in Eisenhower's HQ in January 1943 wrote that Tedder was,

a most interesting man. He has the rare qualities of greatness (which you can't define but can sense). It consists partly of humour, immense common sense, and a power to concentrate on one or two simple points. But there is something more than any separate quality – you just feel it about some people the moment they come into a room. And Tedder is one of those people about whom you felt it.<sup>40</sup>

Sir Robert Bruce-Lockhart, Director-General of the Political Warfare Executive thought Tedder was 'the most naturally and mentally best equipped commander I have ever met.'<sup>41</sup> General Omar Bradley described Tedder as 'one of the United Kingdom's most outstanding men'. Tedder was an anomaly among RAF senior leaders in that he was

‘consistently willing to take a joint Service perspective rather than follow the narrow prejudices of his own Service.’<sup>42</sup>

Not everyone viewed Tedder this way. Brigadier Richardson, Montgomery’s LO to Air HQ described Tedder as a brittle intellectual, and found him ‘misguided, academic, vain and conceited – therefore, he was upset by Montgomery’s personality.’<sup>43</sup> Whilst Hastings asserts that Tedder’s arrogant self-assurance was matched only by Montgomery’s.<sup>44</sup>

Tedder could be ruthlessly professional when required, as his advice to Churchill in June 1942 about Auchinleck shows. Equally, on 12 February 1942, following a series of newspaper articles by retired Generals blaming the Army’s failures on the RAF and advocating an Army Air Force, he wrote to Sinclair saying, ‘You should know that the RAF in the Desert realise that they have saved the Army, both in the recent advance and the withdrawal, and naturally resent any suggestion that the Army should control them.’ The spirit of the RAF personnel was ‘give us some tanks and we will stop this retreating if the Army does not wish to fight.’<sup>45</sup> Tedder was particularly harsh with Coningham following an outburst that appeared to criticise, in public, the performance of American troops in Tunisia. He was slow to forgive Coningham for this, which could have had serious repercussions for the Anglo-American war effort in Europe.

Coningham was described by Liddell-Hart as the real hero of the Desert War; he was everything that Tedder wasn’t: decorated, stylish, had presence and wide experience.<sup>46</sup> He possessed ‘immense energy and rare powers of leadership,’ was one of the chief architects of army-air cooperation, and one of the outstanding air commanders of the war.<sup>47</sup> He had a talent for organisation, turning Tedder’s ideas into practical reality as in the Western Desert. Eisenhower regarded him as ‘impulsive, quick, earnest and sincere. He knows his job and under the British system of cooperation, performs it well.’<sup>48</sup>

Behind Coningham’s soft-spoken and intensely charming manner, he was ambitious and ruthless, rarely bothering to conceal his contempt for other commanders. He enjoyed fame and attention as well as the finer aspects of life. Coningham’s behaviour was often boorish, expecting his ideas to influence the actions of others. Coningham’s ego and forceful and impatient nature could get the better of him and lead him to rash decisions and words. General Sir Charles Richardson, a staff officer in Montgomery’s HQ described Coningham as having to be ‘handled with kid gloves’ and that he was ‘very bloody minded under the old (Auchinleck) regime but was encouraged to play. But we all knew – I knew because I was in the middle of this - we had to be frightfully careful not to have one of these outbursts of frightful Prima-Donna-ish behaviour.’<sup>49</sup> Even Tedder commented that Coningham was ‘at times rather a Prima Donna.’<sup>50</sup> Coningham felt that Montgomery had stolen laurels away from himself and his air force after El-Alamein. When Montgomery became a household name, things went wrong, as the ambitious Coningham felt slighted. From that point relations deteriorated to such an extent that Montgomery would try and by-pass Coningham causing further frustration and leading to an even greater decline in their relationship.<sup>51</sup>



## Breakdown in Relationships

The cause of the breakdown in the relationship between the airmen and Montgomery appears to be rooted in Montgomery's boastfulness after El-Alamein. Montgomery's inability to exploit his success on the battlefield appears to have been the source of Tedder's loss of faith whilst Coningham's, sharing Tedder's views, appeared more to do with being denied the recognition that he felt he and his air force deserved. Equally, there is the view expressed by Major General Dorman-Smith that the breakdown was inevitable due to Service differences. In a letter to Corelli Barnett he stated that the Army was not trained to think, it was a fault of the peacetime system and that 'anyone who bothered about "Generalship" (as I did for a hobby rather than for use) was wasting his time in a vacuum.' He goes on to claim that the Army was more interested in social status and connections, the commanders were 'all gallant men, but terribly stupid and slow to react intelligently,' finishing with, 'it might be said of the British Army that it fears nothing except its brains.' In his opinion, RAF officers were more intellectually prepared for the war.<sup>52</sup>

Montgomery's ego was certainly starting to grow due to his success, but also due to the disproportionate praise heaped upon him. In his diary, he claimed that 'Alexander took no part whatever in the planning and conduct of operations...' further stating 'and especially did I learn how to combine the power of the Army on the ground with the power of the RAF in the sky, and to so knit the two together as to constitute one fighting machine...'<sup>53</sup> Even Admiral Cunningham, CinC Mediterranean Fleet commented to Admiral Ramsay 'I am afraid that Montgomery is a bit of a nuisance; he seems to think that all he has to do is say what is to be done and everyone will dance to the tune of his piping.'<sup>54</sup>

The decline in relationships seems to stem from the frustration that Tedder and Coningham felt when Montgomery did not follow up the Alam Haifa victory quickly, thereby missing an opportunity to defeat the Axis.<sup>55</sup> The airmen knew that the Germans only needed to get one or two re-supply convoys through the British Mediterranean blockade to give Rommel the fuel that he desperately needed for a counter-attack. On 4 November 1942, Tedder visited Montgomery, emphasising the need for haste as the RAF or Navy might not sink every Axis supply ship. Montgomery insisted that there was no chance of any movement for at least 10 days. Half an hour later he came back and stated that he had new information about the enemy's dispositions that would allow him to resume the advance immediately. Tedder wrote:

Advice he will not take, even that from Coningham, who knows the desert better than any of them, but fortunately he will quite often use that advice. That the great ideas should come from the great man himself matters little, provided they are acted on.<sup>56</sup>

Montgomery's view was: 'On arrival in Egypt I had been told that Tedder was always trying to tell the Army how it should fight its battles, but I personally found no sign until we captured

the Marturba airfields for the DAF. It was certainly a curious message to send a land army that had just won the greatest victory a British Army had yet won in the war!’<sup>57</sup> Liddell-Hart made the point about Montgomery that ‘until Alamein he was quite capable of accepting ideas from outside, and quite frequently acknowledged the source.’<sup>58</sup>

Tedder’s frustrations and proposed operational moves were echoed by Rommel:

The British Commander risked nothing in any way doubtful, and bold solutions were completely foreign to him....I was quite satisfied that Montgomery would never take the risk of following up boldly and over-running us as he could have done without any danger to himself. Indeed, such a course would have cost him far fewer losses in the long run...<sup>59</sup>

This failure to pursue Rommel vigorously after Alamein meant that Rommel was able to reconstitute his army, as the brains and nervous system were left intact, leading to a lengthening of the entire campaign.<sup>60</sup>

Montgomery’s timidity in pursuing Rommel is understandable. He had never commanded in the desert before or any force of that size, but he did understand that Churchill and the British public needed victory after so many defeats. Nigel Hamilton, Montgomery’s official biographer, argues that the RAF was afraid of the Luftwaffe and its refusal to bomb further west than El-Alamein prevented any follow up on the retreating Axis forces, hiding, instead, behind requests from the Army for fighter cover.<sup>61</sup> This is rebutted by Coningham’s actions on 13 November 1942 when he sent his squadrons to advanced landing strips some miles behind the retreating enemy, in order to attack them more effectively. Liddell-Hart observed that ‘Montgomery was receiving a lot of criticism at home from his fellow officers for unconformity as to how an officer should behave. Therefore, he is being over cautious for if he makes a bad slip they will drop him like the proverbial “ton of bricks”. Whereas, if he merely misses opportunities, by conforming to the tactical system they uphold, they will have no such excuse.’<sup>62</sup> Dorman-Smith wrote to Barnett stating, ‘He (Montgomery) ran true to form from my staff college days, a sledgehammer to crack a nut was his forte. Also, rightly too, he had one eye cocked on Churchill. He had bamboozled him in August (more booze than bam perhaps) and it was necessary for him to succeed spectacularly at Alamein.’<sup>63</sup> The real reason why there was no pursuit was because the Army’s armoured formations were unable to match their German foes.<sup>64</sup> Montgomery did not have confidence in his Army’s ability to engage Rommel’s in open country, ‘the standard of training for Eighth Army formations was such that I was not prepared to lose them headlong into the enemy;...’<sup>65</sup> He did not know the capabilities of his commanders and how his supply system would work.<sup>66</sup>

### **The Making of a National Hero**

After Operation Crusader, the media goaded the Army for its poor performance in the war writing that the Army High Command was staffed by ‘blimps and boneheads, barren of

strategical conceptions, thinking in terms of the last war, devoid of powers of leadership and incidentally of guts.<sup>67</sup> Whilst unjust, the Army had spent the last three and a half years blaming everyone else for its failures. The Evening Standard's military correspondent, Frank Owen, claimed that the British Army did not know how to fight and win modern battles stating that success in battle depended on inter-Service co-operation, not with them acting as ancillaries to one another, a conclusion that he had reached after reading a captured German tactics manual,<sup>68</sup> a point Tedder had made a year earlier.

Opinions undoubtedly shaped egos and influenced personal relationships. Prior to Montgomery's arrival, there had been many articles about RAF successes in the Desert, and about Tedder's and Coningham's leadership. The RAF had done a great deal to raise the morale of the average soldier and this was well known.<sup>69</sup> Montgomery was very astute at courting the press and seems to have been quite happy to have walked away with all the glory. Shortly after his arrival in North Africa, previously excluded journalists were actively encouraged. The army public relations staff excelled themselves arranging the first of three years of 'random' encounters. All this would have been profoundly distasteful, even if it had been necessary, to any man not abnormally vain. As he said himself, "I readily admit that the decision to become the focus of their attention was personally enjoyable to me."<sup>70</sup> Montgomery, like Coningham, craved publicity and recognition and deliberately developed a distinctive image.<sup>71</sup> When the British entered Tripoli on 23 January, Admiral Power noted in his diary, 'BBC shouted all day about Montgomery and Tripoli, but of course the RAF did it all'. The German commander, Kesselring, thought that the British should have been there a month earlier given their numerical superiority in men and equipment. Montgomery made sure that Coningham was nowhere to be seen when he accepted the formal surrender of Tripoli and conducted a victory tour in front of the press.<sup>72</sup> This angered Coningham whose enjoyment of such occasions was apparent when Alexander invited him to accompany him in his white Rolls Royce for the victory tour of Tunis.<sup>73</sup>

The Montgomery brand was carefully cultivated. On a trip to England, ostensibly for rest, he took his personal photographer and press agent, briefed the Canadians on Operation Husky, took tea at Buckingham Palace and was mobbed when he went to the theatre.<sup>74</sup> Montgomery employed a personal press agent, Captain Keating, whose job was to control the media and was the brains behind the hugely popular propaganda film 'Desert Victory'. Eisenhower's diary keeper, Commander Butcher, claimed Keating had said to him 'England had no hero so he set out to make one and Montgomery was now "it"'.<sup>75</sup> Victory at El-Alamein had saved two reputations, the British Army's and Churchill's and made two, the Eighth Army's and Montgomery's.<sup>76</sup> As Montgomery's Chief of Staff, Freddie De Guingand commented:

It was extremely interesting to meet my chief again after his visit to London. I noticed a subtle change. He had left for Egypt as a General comparatively unknown to the British public, and had found on return to Britain that he had virtually overnight become a national hero. He received a tremendous ovation wherever he went; in the theatre,

stepping in or out of the War Office crowds would shout "Good old Montgomery!" "God bless you, Montgomery!" Walking across the Horseguards parade to his Club he would be followed by hundreds of his fellow countrymen, all pressing forward to shake his hand or at least get a glimpse of him. What all this must have meant to a somewhat lonely man is easy to understand. Not to have enjoyed it would not have been human. He did, and sometimes asked for more. It was a good thing for the Army, which had sunk so low in the public's esteem. It needed this favourable reaction – and it needed a successful General. The main changes which I noticed were: firstly, Montgomery had, perhaps lost a little of his simplicity, and, secondly, he now realised that he was a real power in the land and that there were few who would not heed his advice. In fact, he realised that in most cases he could afford to be really tough to get his own way!<sup>77</sup>

Montgomery understood the importance of publicity to communicate to his troops and raise their morale. After El-Alamein he told his Army that, 'this achievement is probably without parallel in history.'<sup>78</sup> At home it was treated as the greatest victory since Waterloo allowing Britain to retain self-respect in the eyes of the US.<sup>79</sup> The Eighth Army began to view itself as an elite force. At the Tunis victory parade, Churchill told the Eighth Army that they were now world famous and that their victories 'would gleam and glow and will be a source of song and story long after we who are gathered here have passed away.'<sup>80</sup> Montgomery was 'a gifted commander who understood the limitations of his troops and generally refused to take risks that would expose their weaknesses.'<sup>81</sup> He ensured that the Eighth Army never lost a battle, maintaining their morale as well as his reputation.<sup>82</sup> The Eighth Army believed in itself again, which was exactly what was required.<sup>83</sup>

Even on the medals there was elitism. Those who had served in the Eighth Army after 23 October 1942, when Montgomery assumed command, received a bar to their Africa Star. This caused much bitterness and resentment that rumbled on well into the 1960s. Montgomery was regarded by most of the old desert hands as an intolerable little man.<sup>84</sup> There was concern at the Allies' Algiers Headquarters that Montgomery was hogging the media limelight to the irritation of others. Eisenhower's press aide, described Montgomery as a 'glory grabbing General' who was '... riding a wave of popular acclaim and seems to think he can't do wrong.' This perception of Montgomery meant that any obstinacy on his part, based on sound military grounds, appeared as vanity rather than logic or experience.

Whilst Montgomery was being actively courted by the Prime Minister, the British Media and others, Tedder appeared on the front cover of the US Time magazine in November 1942. Under the heading 'Tedder of North Africa,' he quickly became one of the few British officers known by face and name to the American public. The article was full of praise and made Montgomery appear a supporting act to the airman.<sup>85</sup> Tedder also appeared in Life magazine before Montgomery did, a photo of his head and shoulders taking up the entire front cover, inside was a fulsome article with five photographs.<sup>86</sup>

Churchill's careful manipulation of the victory at El-Alamein also needs to be seen in context. He desperately needed success to keep him in office but also to demonstrate to the USA and the Empire that the British Army was not beaten.<sup>87</sup> Even complimenting Rommel as a formidable opponent was designed to draw some of the sting from the recent defeats experienced by the British Army at his hands, as Egypt was considered second only to the UK in terms of defence; 'lose Egypt and we lose the war.'<sup>88</sup> The RAF and Royal Navy had all had spectacular successes, only the Army was a failure, which helps to understand why Churchill singled out Alexander and Montgomery.

Even his famous quote about the battle actually starts **"It might almost be said:** Before Alamein we never had a victory, after Alamein we never had a defeat.' These opening words were generally omitted and Churchill had an interest in continuing this mis-quote as he had gone to Egypt and sorted out the command problems.<sup>89</sup> There are alternative views on why Churchill was keen to promote Montgomery's success. In a letter to Liddell-Hart dated 17 May 1965, Thompson enclosed an extract of a letter from Sir Desmond Morton, Churchill's personal assistant, to Thompson dated 15 May 1965. In it Moreton states,

'Montgomery got the Overlord job for several reasons. Largely because he had worked up the press over his 21st Army Group job.' The Americans madly wanted Alexander in the job as the African supremo, who had devised the tactics, 'for which Montgomery took, and the press gave him, the credit.' 'Then again (hush hush) Winston recognised early in Montgomery a man who could be made to think like he did, and yet who was biddable enough to do what Winston wanted. Winston saw sufficient of himself in Montgomery, but a lesser man. If I say that Winston was terrified of Alex, it is but a word of slight exaggeration.....Montgomery could be handled.'<sup>90</sup>

Following victory at El-Alamein, significant honours were awarded to Montgomery and Alexander, but initially nothing for Tedder or Coningham. Sinclair eventually wrung out of Churchill a GCB for Tedder not for El-Alamein but for his service in North Africa. Tedder had already done rather well from his time in North Africa, being promoted as well as receiving other honours. For him, real recognition was to come from other quarters such as Lord Trenchard who told Tedder, 'You were the power behind the whole operation.'<sup>91</sup> On hearing about the proposal to post Tedder back to the UK, Churchill said, 'It seems quite impossible to move Tedder from the Middle East until the great operations in Tunisia and Tripolitania are completed. No-one has his knowledge, connections or influence.'<sup>92</sup> Many newspapers printed articles on the importance of air power at the battle of El-Alamein. In Coningham's camp, the atmosphere was bitter. Air Commodore Tommy Elmhurst, Coningham's Chief of Staff wrote in his diary on 12 November, 'Montgomery got his "K" (Knighthood) yesterday and a step up in rank. We in the Air Force are depressed that Mary did not get something for the 16 months he has fought here so brilliantly.'<sup>93</sup> On 23 November, Coningham was informed that he had got his knighthood. Exactly what Coningham thought about the issue of Honours and Awards post Alamein is not clear. What is known is that he was very clear in his direction to

his subordinates about ensuring that honours were used to recognise the efforts of others. Thus it is not unreasonable to make the assumption that he held such awards in high esteem and that he craved them.

### **The Impact on ALI in the Western Desert**

The decline in relations between the Airmen and Montgomery seems to have had little real impact on the delivery of ALI. Montgomery was not at his worst by this stage of the war and there were no other major battles in the pursuit to Tunis. The Airmen seem to have felt that whilst annoying, he was bearable and neither was so unprofessional to allow Montgomery's ego and personality to interfere with the prosecution of the war. Once Tunis had fallen, the DAF combined with the Allied Air Forces used in Operation TORCH to form the North African Tactical Air Force (NATAF) and here the importance of personality, ego and personal relationships really showed. During this final phase of the war in North Africa, Montgomery was served by Broadhurst who was very similar to Coningham in style, 'bold, original, creative and totally unawed by Service orthodoxy'.<sup>94</sup> His application of air power, at a crucial time when Montgomery's attack on the Mareth Line in Tunisia had faltered, allowed Montgomery to adjust his attack and retain his unbeaten record, from then on Broadhurst was Montgomery's favourite airman.<sup>95</sup>

Tedder's and Coningham's action in gripping the Allies' Air Forces in North Africa is a good example of the importance of personal relationships affecting operational outcomes. Soon after taking command of all the Air Forces in the Mediterranean, Tedder discovered that the situation between the Allies in North Africa was similar to the British in the Western Desert in 1941. Unlike his British Army counterparts, Tedder had excellent working relationships with the Americans, both Army and Air Force, quickly grasping the fact that Britain was a vital, but junior, partner of a coalition in which he was a key commander.<sup>96</sup> From his first encounter with them he stressed that if he was to command them then they would be one team - us. Coningham was promoted to Air Marshal and given command of the new British/American tactical Air Forces, immediately establishing a joint headquarters with Alexander who was now General Eisenhower's deputy. This change in command style, relationships and force of personality revolutionised air support to the Allies bringing it up to the standard of the DAF. Arguably, the greatest testament to the importance of personal relationships in delivering ALI came from Montgomery, who wrote to Brooke on 28 February, inviting him to send senior officers out to North Africa for instruction on how to co-ordinate the actions of an Army and an Air Force to 'see teamwork at a HQ' as 'they will never learn these things in England; they would like to, but they cannot as it is all theory; here it is all practical'.<sup>97</sup>

### **Normandy**

Upon returning from the Mediterranean to conduct the planning for the invasion of Europe, Montgomery foresaw friction between the RAF and Army, realising that there was a clear division between the Army and Air Force officers who would plan and lead the invasion. He stressed the importance of acting as one entity as the only way to ensure success.<sup>98</sup> Integral to success was air support. The system in Normandy was ostensibly the same as

that used in North Africa and had proven sufficiently adaptable to different circumstances. The weak link was the overly complex air chain of command the Allies created that only increased the frictions between Montgomery and the Airmen. The bad feeling that had developed in the Western Desert would come to a head in Normandy where relationships between the commanders would be critical to overall success.

Sinclair and Portal championed ACM Sir Trafford Leigh-Mallory as the commander of the Allied Expeditionary Air Forces (AEAF) for the invasion. Coningham, as Commander of the British Tactical Air Force and along with his American counterpart, General Brereton, would be placed under the command of Leigh-Mallory. Heavy bombers would be required to support the invasion but both the head of RAF Bomber Command, ACM Sir Arthur Harris, and his USAAF counterpart, General Carl Spaatz, refused to work, even temporarily, under Leigh-Mallory for the invasion, but both agreed to work under Tedder, who was now Eisenhower's deputy. Churchill's opinion was that all invasion-related air power should be placed under the command of Tedder, describing him as the 'aviation lobe' of Eisenhower's brain, who 'must be allowed to use all Air Forces permanently or temporarily assigned to Overlord' as he thinks best.<sup>99</sup> Portal accepted this proposal, leaving Leigh-Mallory as the emasculated head of the AEAF and Coningham as commander of the Tactical Air Force. It was agreed that Coningham was the man with whom Montgomery should plan air matters. Montgomery would exploit the confused air command chain to his advantage over the coming months by dealing with Leigh-Mallory for bomber support and Coningham's subordinate, Broadhurst, for tactical air matters, thus avoiding having to deal with Coningham.

### **Personal Relationships**

The confused Allied air command and control arrangement would heighten tensions amongst the senior British Commanders. Leigh-Mallory was an awkward character whose aloofness and distance from others was often mistaken for arrogance or, in the case of the OVERLORD team, ineffectiveness. He had 'no sand in his boots'<sup>100</sup>, he was not part of the old North Africa team. Tedder had a low opinion of Leigh-Mallory, 'I told Leigh-Mallory that he was in danger of leading the Army up the garden path with his sweeping assurances of help... I felt that the limitations of air support on the battlefield were not sufficiently understood; neither was the full scope of the role of air outside the battle area sufficiently appreciated by the Army, or by Leigh-Mallory.'<sup>101</sup> Coningham's seems to have been formed possibly as a result of Leigh-Mallory's scheming against Air Marshal Sir Keith Park, a fellow New Zealander, during the Battle of Britain. Montgomery initially viewed him as a 'gutless bugger' but this changed after Leigh-Mallory attempted to secure the bomber support that Montgomery wanted to break the deadlock around Caen: 'When planning in England, we did not think very highly of Leigh-Mallory, but we all agree now that he is the only 'Air-Lord' who will do anything to help the army win the war; and he is completely genuine and sincere.'<sup>102</sup>

Whilst conventional thinking is that Montgomery was at fault in the dissention with the Airmen, D'Este asserts that nothing could be further from the truth. Whilst there was clear

animosity between all three, Montgomery realised fully the vital requirement for maximum co-operation between air and ground forces. He wrote to his three Army commanders before the invasion stressing to them the importance of co-ordinating their activity with their Air Forces. Indeed, Montgomery's direction to General Sir Miles Dempsey in 1944 was that the 'Army HQ must never plan a move of HQ without first consulting Air HQ. The deciding factor in the location of the Main Army will be whether it will suit Air HQ,'<sup>103</sup> but Montgomery was hardly ever at Main, preferring instead the solitude of his Tactical HQ. Wing Commander Scarman (later Lord Scarman), Tedder's senior staff officer, wrote on 22 June 1944 'the principal which worked in the Mediterranean – of the Army and Air commanders living together had been allowed to lapse.'<sup>104</sup> This was due partly to poor communications at Montgomery's HQ but also because there were few Allied airfields in Normandy at this stage. Despite his protestations to the contrary, Montgomery seems to have done little on a personal level to remedy these poor personal relationships.

Tedder and Montgomery worked together on the planning for D-Day in the spirit of co-operation and relative harmony, but after the invasion, relations fell apart again and Tedder became Montgomery's most vocal critic at SHAEF.<sup>105</sup> Remarks about Montgomery revealed the bad feeling in the British command network. Tedder said to one US General 'It is bad form for officers to criticise each other, so I shall!' He added, 'He is a little fellow of average ability who has had such a build-up that he thinks of himself as Napoleon. He is not.'<sup>106</sup> Tedder may not have liked Montgomery, but he was too wise and good to deliberately misrepresent him and in so doing endanger the lives of thousands of men and 'put in jeopardy the whole war'<sup>107</sup> – he was far above such personal vanity.<sup>108</sup>

Tedder brought Coningham into the Normandy team partly due to his experience but also because he knew how to ensure that Montgomery made best use of the Air Forces.<sup>109</sup> Coningham knew how to influence Montgomery and get him to change his mind, having viewed first hand his reluctance to take advice from others; it needed to be his idea. This rapidly became increasingly difficult, as relations between the two men deteriorated. Forrest C Pogue, the American historian, interviewed Coningham after the war and found him the 'bitterest critic of Montgomery I have heard speak.'<sup>110</sup> Hastings argues that Coningham's refusal to work with Montgomery and the Army was astonishing and it is remarkable that he was not sacked.<sup>111</sup> Coningham's reputation with Montgomery's staff was equally not good. Officers at Montgomery's Tactical Headquarters such as Major Johnny Henderson regarded Coningham as a 'snake in the grass and plays dirty games behind the Army's back. He will not co-operate. This is not helped by the fact that Coningham and Leigh-Mallory do not get on.'<sup>112</sup> Brigadier Charles Richardson, Montgomery's Liaison Officer at Stanmore, thought Coningham 'was a bad man, a Prima Donna....frightfully affected, hot on choosing his next Chateau! We distrusted him completely and I was with him with the Air Barons at Stanmore, I recognised him as a bastard...'<sup>113</sup>. Montgomery described Coningham as 'a very jealous person and I am beginning to feel he is anti-Army....not a loyal member of the team... untrustworthy, no-one likes him. I thought Tedder was alright, but from what the CIGS said



I have now certain doubts.’<sup>114</sup> Montgomery’s supporters warned him about the Airmen but also stoked the situation; James Grigg, Secretary of State for War, was one of them, he wrote, ‘those bastard Yanks are beginning to crab Montgomery. It is an absolute outrage because I know for a fact that the plan is working out as he designed it from the beginning. But our own journalists fell into the (SHAEF) trap and I am afraid that some of our own jealous airmen help too.’ A few days later he wrote to Montgomery ‘I am convinced that Coningham is continuing to bad name you and the Army and that what he says in this kind is easily circulated at SHAEF via Tedder...’ ‘You will have no comfort until you have demanded and obtained the removal of Coningham from any connection with OVERLORD whatever. He is a bad and treacherous man and will never be other than a plague to you.’<sup>115</sup>

Amongst this acrimonious backdrop, the key appointment of Commanding Officer 83 Expeditionary Air Group, that provided 21st Army Group with tactical air support, was Broadhurst. Unwanted by Coningham, who was powerless to prevent his appointment,<sup>116</sup> Broadhurst had established an unusually happy rapport with Montgomery in the Desert. In contrast to Coningham, Broadhurst set up his Headquarters in Normandy soon after the invasion being an almost daily and popular visitor to Tactical Headquarters. Yet, even to him ‘Montgomery became more and more isolated.’<sup>117</sup> Broadhurst considered the poor relationship between Coningham and Montgomery as counterproductive and tried to lessen the impact wherever possible. Whilst his good relationship with Montgomery was hugely beneficial to the campaign, it did bring him into conflict with his own Service,<sup>118</sup> being greeted on one occasion by Tedder with the comment, ‘How’s your bloody Army friend today?’ His reply was, ‘Well, what do you expect him to be, my enemy? It’s difficult enough when he’s supposed to be friendly.’<sup>119</sup>

In Normandy, Coningham never grasped that he was no longer Montgomery’s equal as had been the case in the desert; therefore, it is hardly surprising that Montgomery turned to Broadhurst whom he could control. Interestingly, in the post-Normandy honours list there was not a single RAF one star from AEAf, whilst there were many Army officers. This caused considerable resentment. Montgomery pushed for a knighthood for Broadhurst, but Tedder and the Air Ministry resisted this preferring instead to keep the nomination for a later award.<sup>120</sup>

## **Deepening Cracks**

Within the first few weeks after the invasion new cracks in relations had appeared. The ability to capture or construct airfields in Normandy had been a deciding factor in selecting it as the invasion point. These airfields were considered vital as the relatively short range of the RAF’s fighter-bombers meant that best use was not being made of them whilst they operated from England.<sup>121</sup> Tedder wanted the aircraft operating from Normandy as soon as possible and to get Coningham in there to control them for obvious reasons. But, according to Lieutenant-Colonel Christopher Dawney, Montgomery’s Military Assistant, Montgomery deliberately gave the RAF ‘a totally false impression...as to when he was going to get those airfields, south of Caen’. Once in Normandy, Montgomery ‘didn’t give a damn about those

airfields.<sup>122</sup> Lamb asserts that there was even the use of a second 'unrealistic' phase map to assuage the concerns of the RAF. When the campaign faltered around Caen, Montgomery's critics used his promise of airfields and the map as ammunition to go after him.<sup>123</sup> After the war, Tedder confirmed to Liddell-Hart that the understanding at SHAEF was for Montgomery to push right through which, '...would at long last have begun to give us the airfield country south of Caen, which had been one of the original objectives.'<sup>124</sup>

Tedder, Coningham and Leigh-Mallory were increasingly frustrated and apprehensive with Montgomery's slow progress around Caen, but so too was Eisenhower and the press. Coningham's hostility was becoming an obsession and was increasingly unhelpful at this crucial time.<sup>125</sup> Leigh-Mallory had turned down Montgomery's plan to use the British 1st Airborne Division to break the deadlock around Caen and there was strong criticism from Coningham who 'asked for a greater sense of urgency from the Army and a frank admission that their operations were not running according to plan.'<sup>126</sup> Tedder has been accused of a vendetta against Montgomery following his failure to capture airfields. Whilst this is doubtful, it is certainly true that he felt that Montgomery was not aggressive enough and should either change his tactics or be replaced by someone more determined. When Operation Goodwood failed to break the deadlock around Caen, even after the use of heavy bombers in support of the Army, Tedder felt he finally had what he needed to get Montgomery sacked and he urged Eisenhower to replace him.<sup>127</sup> Tedder clearly overstepped the mark when he told Eisenhower that the British Chiefs of Staff would not object to Montgomery's removal. Butcher, Eisenhower's diary keeper, thought that the British media had made 'Big Chief Wind' fireproof, even in the face of a disaster.<sup>128</sup> Towards the end of June 1944, Montgomery was up to his old trick of blaming others for his failures. He sent CIGS a telegram outlining his concerns with the Air Barons 'jealousies' and that due to them, he might not get full value from the air power available to him. 'Mary Coningham spends all his time trying to get Leigh-Mallory to trip up and putting spokes in his wheels; he would prefer to do this rather than winning the war quickly; he does know his stuff, but he is a most dangerous chap.'<sup>129</sup>

Once again external factors played their role in widening the rift at the top. The British press understandably continued to play up Montgomery's role in Normandy, as the country had its pride at stake. What seems to have annoyed Tedder most was that the need for a hero was getting in the way of the truth and more importantly winning the war as quickly as possible. When Bradley finally broke out of Normandy, Montgomery took more than his fair share of the glory and was encouraged to do so by Brooke, the BBC and the British press. This boasting was 'laying the seeds of a grave split between us and the Americans,' wrote Tedder to Trenchard on 5 September 1944. 'At the moment they are being extraordinarily reticent and generous (due in no small measure to Eisenhower's very fine attitude over the whole business) but sooner or later they will come into the open and if the British public believe all that they are being told now, they will not like being told a very different story by the Americans. It is a dangerous situation and may become a tragic one.'<sup>130</sup> Fervent reporting in the British media had led to a wide-held belief that Eisenhower was the political head of a Montgomery-led

invasion. Eisenhower had long tired of this, having written in his diary on 7 February 1944 that 'the bold British Commanders of the Mediterranean were Sir Andrew Cunningham and Tedder.'<sup>131</sup> Once again, Montgomery was unable to admit that events since D-Day had not gone according to plan as Brigadier Ford, Chief J2 at SHAEF noted in a conversation with Chester Willmott.<sup>132</sup> With the criticism in the press mounting against Montgomery and for the sake of Allied unity, Eisenhower inadvertently assisted with the Montgomery legend by holding a press conference in London to take the pressure off Montgomery. With Tedder next to him, he described Montgomery as 'one of the great soldiers of the war.' Churchill subsequently declared, 'Nothing could have been more straightforward, courteous and fair to us.' The next day, the press had their news story, Churchill had made Montgomery a Field Marshal<sup>133</sup> in a rather forlorn attempt to retain control of all the invasion Land forces, something that would not happen and ultimately became a dent to British prestige.

### **So What for ALI?**

Throughout the remainder of the campaign the increasingly cool personal relationships between Montgomery and the Airmen had a strong impact on its overall conduct.<sup>134</sup> Despite this, relations at the operational level between the two Services were good and worked well to the extent that the soldier on the ground did not notice anything was wrong. An Army report in late 1944 stated: 'the difficulties are usually greatest at the higher levels and decrease at the lower end of the scale. At the first point where practical executive action has to be taken, the difficulties begin to disappear, and from there downwards, in nine cases out of ten, there is no problem.'<sup>135</sup> The Army still had several grievances about the RAF's commitment to and involvement in air support. The main one was that the aircraft that had been developed for use in 1943 – 45 were fighter-bombers, not dedicated ground attack, which meant that they lacked the necessary range. This could have been resolved if the Army had captured the airfield country in Normandy, something that the RAF was only too aware of and angry that the Army had failed to do. Equally, the RAF felt that the Army still wanted the air force to do its job for it. This frustration came to the fore during the rapid breakout and advance from Normandy. Tedder told Eisenhower that the air force would do all it could to support the Army, but he insisted that 'Air could not, and must not, be turned on thus glibly and vaguely in support of the Army, which would never move unless prepared to fight its way with its own weapons.'<sup>136</sup>

It soon became apparent that without the air force, Montgomery's armies would not break out of Normandy.<sup>137</sup> The key to making air power work in support of the Army was Broadhurst. Broadhurst felt that Coningham's anti-Montgomery vehemence adversely affected air operations and that too much emphasis was placed on the capture of ground for airfields, regarding it as nice to have, but that 'I never felt myself short of any airplanes; we could call on enormous reinforcements if we wanted them.'<sup>138</sup> In Normandy, co-ordination between Broadhurst and Dempsey was extremely effective and remained that way for the rest of the campaign.<sup>139</sup> The Germans viewed Allied tactical air power as particularly effective, instilling terror in them. Despite this, Brigadier Richardson, noted that the lack of Mediterranean

experienced staff officers along with the 'unhelpful influence' of Coningham meant that Tactical Air Support 'co-operation was ineffective.'<sup>140</sup>

## Conclusion

There is no question that there was indeed a breakdown in relations between Montgomery on one side and Tedder and Coningham on the other. Montgomery seems to have had poor relations with every other senior Allied Commander in the war, but it was his split with the Airmen that was arguably the most infamous. This split was undoubtedly shaped and influenced by their personalities and egos. Montgomery and Coningham had similar egos but different personalities; both craved fame, public recognition and adoration and when denied this sulked. Coningham's flamboyant personality and Montgomery's puritanical nature meant that no matter how much recognition they received, it was highly likely that a split was always going to happen. The split between Tedder and Montgomery is more surprising and less to do with ego and personality and more with professional ability. Tedder did not think that Montgomery was up to the job of being an aggressive attacking commander who could beat the Germans. He was bored with the Army moaning about air support, when they were clearly incapable of performing their own role. However, Tedder could be accused of losing sight of the national perspective and failed to see the consequences of sacking Montgomery in Normandy. The context of the time is also important to understanding the deteriorating personal relationships. The British Army had a terrible war until victory at El-Alamein, whilst the other two Services had all had great successes; therefore, the opportunity to celebrate the Army's success was never going to be missed by Churchill or the British press. This was necessary for several reasons, the British had to demonstrate that the Army could beat the Germans; Churchill wanted to remain in power and the Army needed to have its morale raised, something that Tedder had identified in July 1942. The uncontrolled nature of this recognition had ramifications for the rest of the war and beyond. The Establishment was at fault for singling Montgomery out for gratuitous attention, and failing to control the monster they had created.

So, what impact did ego, poor relationships and personality actually have on the delivery of ALI in the Western Desert and Normandy? In the Western Desert it is obvious that personal relationships were vital for the effective delivery of ALI. This is because of the level that the three men were at and the autonomy they had to prosecute the war in the Western Desert in the way they thought best. These personal relationships were heavily influenced by each individual's ego and personality. Fortunately, after El-Alamein there was never another major battle where just these three came together to plan and execute it, so the full impact of their deteriorating personal relationships on the delivery of ALI was never exposed. The scale of subsequent operations helped to cushion the impact of the poor personal relationships between the three men.

Once in Europe, the impact of the egos, personalities and poor personal relationships between the three men on ALI was lessened. Whilst their personal relationships grew steadily worse,

there were sufficient men below them who were the practical applicators of ALI who had good personal relationships to make it work, although their roles were made more difficult by the animosity between their superiors. The scale of the invasion, the levels of command that the three men were now working at, combined with the fact that there were Commanders above them meant that the impact of their poor personal relationships would be felt at the Strategic level with the potential to have more far reaching consequences than just on ALI. Montgomery's ability to annoy the Americans certainly acted against the image of the British Army post Second World War.<sup>141</sup>

## Notes

<sup>1</sup> W. Breuer, *Feuding Allies: The Private Wars of the High Command* (New York: J Wiley & Sons, 1995), 199.

<sup>2</sup> A. Stewart, *Six of Montgomery's Men* (Barnsley: Pen & Sword, 2011), 170.

<sup>3</sup> C. Barnett, *The Desert Generals* (London: Kimber, 1960), 251.

<sup>4</sup> I. Gooderson, *Air Power at the Battlefront: Allied Close Air Support 1943-45* (London: Frank Cass, 1998), 35.

<sup>5</sup> Hall, *Strategy for Victory*, 79.

<sup>6</sup> Royal Air Force, *AP3235 Air Support*, (London: Air Ministry, 1955), 52.

<sup>7</sup> V. Orange, *Tedder: Quietly in Command*, (London: Frank Cass, 2004), 133.

<sup>8</sup> Gooderson, *Air Power*, 25.

<sup>9</sup> V. Orange, *Churchill and His Airmen* (London: Grub Street, 2013), 176.

<sup>10</sup> Gooderson, *Air Power*, 26.

<sup>11</sup> Hall, *Strategy for Victory*, 112.

<sup>12</sup> *Ibid.*, 136.

<sup>13</sup> Orange, *Churchill and His Airmen*, 183.

<sup>14</sup> M. Kitchen, *Rommel's Desert War*, (Cambridge: Cambridge University Press, 2009), 287.

<sup>15</sup> Hall, *Strategy for Victory*, 137.

<sup>16</sup> Hall, *Strategy for Victory*, 140.

<sup>17</sup> Hall, *Strategy for Victory*, 132.

<sup>18</sup> Orange, *Churchill and His Airmen*, 186.

<sup>19</sup> Orange, *Tedder*, 181.

<sup>20</sup> *Ibid.*, 185.

<sup>21</sup> S. Brooks, *Montgomery and the Eighth Army* (London: The Bodley Head, 1991), 144.

<sup>22</sup> Orange, *Cunningham*, 108.

<sup>23</sup> *Ibid.*, 20 November 1941 – notes on Command appointments.

<sup>24</sup> S. Bungay, *Alamein* (London: Aurum Press, 2002), 218-9.

<sup>25</sup> D. Irving, *War Amongst The Generals* (London: Allen Lane, 1981), 42

<sup>26</sup> Orange, *Tedder*, 184.

<sup>27</sup> Orange, *Churchill and His Airmen*, 244.

<sup>28</sup> J Fennell, *Combat and Morale in the North Africa Campaign*, (Cambridge: Cambridge University Press, 2011), 5.

<sup>29</sup> LHA, LH 687, comments on RW Thompson's manuscript for his book *A study of Field-Marshal*

*The Viscount Montgomery of El Alamein*, 73.

<sup>30</sup> Kitchen, *Rommel's*, 287.

<sup>31</sup> Bungay, *Alamein*, 219.

<sup>32</sup> Brooks, *Montgomery and the Eighth Army*, 23-4.

<sup>33</sup> LHA, LH 687, BLH writing to RW Thompson on 20 Jan 1965 in response to Thompson's letter of 18 Jan 1965.

<sup>34</sup> Brooks, *Montgomery and the Eighth Army*, 88.

<sup>35</sup> Zuckerman, *Warlords to Apes 1904-46* (London: Hamish Hamilton, 1978), 285.

<sup>36</sup> Hamilton, *Monty: 1942-44*, (London: Hamish Hamilton, 1983), 278.

<sup>37</sup> Orange, *Tedder*, 9.

<sup>38</sup> Orange, *Churchill and His Airmen*, 176.

<sup>39</sup> *Ibid.*, 180.

<sup>40</sup> Orange, *Tedder*, 205.

<sup>41</sup> Orange, *Churchill and His Airmen*, 238.

<sup>42</sup> Murray, W. & A. Millett *A War to be Won: Fighting the Second World War* (Cambridge, MA: Harvard University Press, 2000), 326.

<sup>43</sup> A. Horne, *The Lonely Leader: Monty 1944-1945*. London: Pan, 1995, 191.

<sup>44</sup> M. Hastings, *Overlord: D-Day and the Battle for Normandy 1944* (London: Pam Books, 1999), 268.

<sup>45</sup> A. Tedder, *With Prejudice: The War Memoirs of Marshal of The Royal Air Force Lord Tedder*, GCB (London: Cassell, 1966), 243.

<sup>46</sup> Orange, *Churchill and His Airmen*, 175.

<sup>47</sup> J. Terraine, *The Right of the Line: The Role of the RAF in World War Two* (Barnsley: Pen & Sword, 2010), 356.

<sup>48</sup> Orange, *Coningham*, 161.

<sup>49</sup> Hamilton, *Monty: 1942-44*, 200.

<sup>50</sup> Tedder, *With Prejudice*, 417.

<sup>51</sup> C. D'Este, *Decision in Normandy* (New York: Konecky & Konecky, 1994), 218.

<sup>52</sup> CCA, BRNT 3/184 dated 12 March 1952.

<sup>53</sup> Brooks, *Montgomery and the Eighth Army*, 265.

<sup>54</sup> *Ibid.*, 252.

<sup>55</sup> Kitchen, *Rommel's*, 305.

<sup>56</sup> *Ibid.*, 119.

<sup>57</sup> CCA, GLWY 1/6, Montgomery's review of 'With Prejudice' Sunday Times 9 October 66.

<sup>58</sup> LHA, LH 687 comments to RW Thompson in the manuscript for his book *Churchill's Generals*, 80.

<sup>59</sup> A. Graeme-Evans, "Field Marshall Bernard Montgomery: A Critical Assessment," *The Australian Defence Force Journal*, May-June 1978, 53-54.

<sup>60</sup> C. McFetridge, "In Pursuit: Montgomery After Alamein," *The Australian Defence Force Journal*, March-April 1993, 29.

<sup>61</sup> Hamilton, *Monty: 1942-44*, 24-5.

<sup>62</sup> LHA; LHII/1943 - 59 dated 29/9/43.

- <sup>63</sup> CCA. BRNT 3/184 dated 13 Jan 1959.
- <sup>64</sup> Hamilton, *Monty: 1942-44*, 27.
- <sup>65</sup> Bungay, *Alamein*, 144.
- <sup>66</sup> M. Howard, "The Battle of El-Alamein," in *Al-Alamein Revisited: The Battle of Al-Alamein and its Historical Implications*, ed. J. Edwards (Cairo: The American University in Cairo Press, 2000), 10.
- <sup>67</sup> Hall, *Strategy for Victory*, 120.
- <sup>68</sup> *Ibid.*, 120.
- <sup>69</sup> Fennell, *Morale*, XX.
- <sup>70</sup> Barnett, *Desert Generals*, 251.
- <sup>71</sup> N. Barr, "High Command in the Desert," in *El Alamein and the Struggle for North Africa: International Perspectives from the 21st Century*, ed. J. Edwards (Cairo: The American University in Cairo Press, 2012), 211.
- <sup>72</sup> Orange, *Cunningham*, 125.
- <sup>73</sup> *Ibid.*, 154.
- <sup>74</sup> Hamilton, *Monty: 1942-44*, 274.
- <sup>75</sup> *Ibid.*, 333-4.
- <sup>76</sup> Bungay, *Alamein*, 214.
- <sup>77</sup> F. De Guingand, *Generals at War* (Hodder and Stoughton, 1964), 96-97.
- <sup>78</sup> Barnett, *Desert Generals*, 282.
- <sup>79</sup> Howard, *El-Alamein*, 8-11.
- <sup>80</sup> Bungay, *Alamein*, 217.
- <sup>81</sup> Murray, *A War to be Won*, 417.
- <sup>82</sup> Bungay, *Alamein*, 218.
- <sup>83</sup> Barr, *Pendulum of War*, 252.
- <sup>84</sup> Howard, *El-Alamein*, 8.
- <sup>85</sup> Orange, *Tedder*, 192.
- <sup>86</sup> *Ibid.*, 253.
- <sup>87</sup> D. Craig, "Bernard Law Montgomery: A Question of Competence." *Armor*, May-June (1992), 28.
- <sup>88</sup> Barr, *Pendulum of War*, 197 - 199.
- <sup>89</sup> Barr, *High Command*, 216.
- <sup>90</sup> LHA, LH687, Letter Thompson to L-H dated 17 May 1965.
- <sup>91</sup> Orange, *Tedder*, 192.
- <sup>92</sup> *Ibid.*, 194.
- <sup>93</sup> Orange, *Cunningham*, 119.
- <sup>94</sup> Terraine, *Right of the Line*, 398.
- <sup>95</sup> Orange, *Cunningham*, 144.
- <sup>96</sup> Orange, *Churchill and His Airmen*, 239.
- <sup>97</sup> Orange, *Cunningham*, 140.
- <sup>98</sup> Gooderson, *Air Power*, 35-6.
- <sup>99</sup> Orange, 234.
- <sup>100</sup> Orange, *Churchill and His Airmen*, 232-3.

- <sup>101</sup> Hastings, *Overlord*, 268.
- <sup>102</sup> Horne, *Lonely Leader*, 235.
- <sup>103</sup> Horne, *Lonely Leader*, 188.
- <sup>104</sup> Orange, *Churchill and His Airmen*, 245.
- <sup>105</sup> D'Este, *Decision in Normandy*, 79.
- <sup>106</sup> Irving, *War Amongst The Generals*, 42.
- <sup>107</sup> Zuckerman, *From Apes to Warlords*, 284.
- <sup>108</sup> D'Este, *Decision in Normandy*, 396.
- <sup>109</sup> Ibid., 218.
- <sup>110</sup> Horne, *Lonely Leader*, 190.
- <sup>111</sup> Hastings, *Overlord*, 267.
- <sup>112</sup> Horne, *Lonely Leader*, 190-1.
- <sup>113</sup> Ibid., 190.
- <sup>114</sup> Ibid., 193.
- <sup>115</sup> Breuer, *Feuding Allies*, 202.
- <sup>116</sup> D'Este, *Decision in Normandy*, 219.
- <sup>117</sup> Horne, *Lonely Leader*, 193.
- <sup>118</sup> P. Grey, "Caen – The Martyred City," in *The Normandy Campaign 1944: Sixty Years On*, ed J. Buckley, (London: Routledge, 2006), 162.
- <sup>119</sup> D'Este, *Decision in Normandy*, 220.
- <sup>120</sup> Ibid., 221.
- <sup>121</sup> Grey, *Caen*, 163.
- <sup>122</sup> Orange, *Churchill and His Airmen*, 244.
- <sup>123</sup> Lamb, *Montgomery in Europe 1943-1945: Success or Failure?* (London: Buchan and Enright, 1983), 84.
- <sup>124</sup> LHA, LH 1/679, letter from Tedder 28 April 1952.
- <sup>125</sup> D'Este, *Decision in Normandy*, 220.
- <sup>126</sup> Ibid., 212.
- <sup>127</sup> Breuer, *Feuding Allies*, 199.
- <sup>128</sup> Orange, *Churchill and His Airmen*, 247.
- <sup>129</sup> Hamilton, *Montgomery: 1942-44*, 678.
- <sup>130</sup> Orange, *Tedder*, 273.
- <sup>131</sup> Orange, *Churchill and His Airmen*, 231.
- <sup>132</sup> LHA, LHII/1944. LH 15/15/127 – 22.
- <sup>133</sup> Irving, *War Amongst The Generals*, 256.
- <sup>134</sup> D'Este, *Decision in Normandy*, 212.
- <sup>135</sup> Gooderson, *Air Power*, 36-7.
- <sup>136</sup> Hastings, *Overlord*, 268.
- <sup>137</sup> D'Este, *Decision in Normandy*, 212.
- <sup>138</sup> Ibid., 223.
- <sup>139</sup> Ibid., 220.
- <sup>140</sup> S. Hart. *Colossal Cracks: The 21st Army Group in Northwest Europe, 1944-45* (Westport,



CT: Praeger, 2000), 148.

<sup>141</sup> *Monty's Men*, 227.

## Viewpoints

# The Trilateral Strategic Initiative - A Primer for Developing Future Air Power Cooperation

By Wing Commander André Adamson and Colonel Peter Goldfein

---

**Biography:** Wing Commander André Adamson is a Flight Operations Officer who has earned his master's and doctorate degrees in war studies from King's College London. He has operational experience in Afghanistan, Bosnia, and Mali, and has completed assignments in Germany and Canada. Since 2014 he has been the RAF exchange officer to the French Air Staff, serving in the Strategy Division.

Colonel Peter Goldfein is a command pilot with extensive operational experience in both Air Mobility Command and Air Force Special Operations Command. He has completed NATO staff tours at the Joint Warfare Centre and in the command group at Supreme Headquarters Allied Powers, Europe. Since 2013 he has been the USAF exchange officer to the French Air Staff, serving in the strategy division.

---

**Abstract:** The Trilateral Strategic Initiative (TSI) is an agreement between the Service Chiefs of the US Air Force (USAF), Royal Air Force (RAF) and French Air Force (FAF) to pursue trilateral cooperation at the highest levels of their air staffs to increase trust, better integrate and to advocate for air power. It encourages strategic collaboration between exchange officers from each air staff and provides a forum to identify collaboration opportunities, share concepts and recommend co-operative solutions. In turn, this informs the thinking of senior leaders at every level of each air force. It also provides a means to identify effective national cooperation in the employment of air power. This paper presents the purpose and challenges of the TSI and the role it is playing in developing trilateral strategic cooperation.

---

**Disclaimer:** The views expressed are those of the authors concerned, not necessarily the MOD. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form without prior permission in writing from the Editor.

---

## Introduction

Since the rudimentary deconfliction measures of the First World War, the US Air Force, Royal Air Force, and French Air Force have developed their ability to conduct coordinated air operations, a practice which they have further refined since the end of the Cold War. Interoperability—the effective integration of planning and execution during coalition operations—is now a critical factor for success. Specific to air operations, the importance of interoperability has consistently been identified during North Atlantic Treaty Organization (NATO) actions in the Balkans, Afghanistan, and Libya, as well as ongoing coalition efforts in Iraq, Syria, and sub-Saharan Africa. Although each campaign has highlighted specific challenges for the three Air Forces, they have also demonstrated the potential of air power integration. Thus, even though all three nations reserve their prerogative to act autonomously, a coalition effort seems a likely response to future crises.

Current doctrine and future strategy also confirm the importance of a coalition approach to air operations.<sup>1</sup> Broadly speaking, coalition operations offer some tangible advantages. Specifically, political resilience, strategic reach, and individual niche capabilities are better employed when Air Forces combine capacity. The identification of common objectives makes national efforts more closely aligned and coherent. Additionally, responding collectively at short notice is increasingly important to national leadership; consequently, success depends upon the constant monitoring of and investment in interoperability, even for the closest of allies. Operations act as a catalyst to integration (through sheer necessity), but difficulties that emerge during complex multinational operations point to the need to pre-empt those frictions by raising the baseline of trust and interoperability ahead of the next operation. The effort demands clearly articulated political intent, the identification of common objectives, and the necessary resources to develop a trust-based, effective partnership.

The Trilateral Strategic Initiative (TSI) provides one such framework. The initiative had its origins in the personal relationships among the three Air Force Chiefs who articulated their initial vision via a letter of intent in 2011 and signed a TSI charter in 2013, which not only outlines both intent and objectives but also designates a steering group. Three pillars of strategic importance lie at the heart of the initiative: increasing trust, improving interoperability, and advocating for air power. Together, they set conditions for the more effective employment of air power. Oversight of the initiative is the responsibility of the Trilateral Strategic Steering Group (TSSG), composed of senior officers from the three nations, serving in tri-national teams placed in strategic posts close to the Chiefs. This arrangement maximizes their effectiveness in areas of trilateral interest.<sup>2</sup> The TSI is now in its third generation of trilateral Chiefs who are equally supportive of the initiative, and a new version of the charter was recently signed at the Royal International Air Tattoo, United Kingdom, in July 2015.

To better understand the potential of this initiative and its steering group as a model for advancing international cooperation, one must explore the elements that make it a viable proposition for the constituent Air Forces. Doing so requires consideration of the initiative's

defining characteristics, the means chosen by the steering group to develop it, and the challenges that the initiative faces to achieve its goals.

### **Natural Convergences and Characteristics of the TSI Model**

The US, French, and Royal Air Forces have strong historic and cultural ties; moreover, each has played a predominant role in developing and employing air power as an instrument of national security. The core values of integrity, service, and excellence permeate these countries' military cultures, which also have been shaped by a historic record demonstrating a consistent political appetite to employ air power in support of national and international interests.

Existing and emerging crises have brought about a convergence of many national security objectives for the United States, France, and United Kingdom. Further, contextual reality, simultaneous multinational global operations, the diversity of threats to collective security, and an environment of increasing financial scrutiny continue to support a more compelling case for cooperation. At the same time, each of the three Air Forces has confronted the issues of maintaining readiness while remaining committed to expeditionary operations and wide-scale modernization. Such centripetal forces, therefore, have reinforced the need for "burden sharing" and have highlighted the value of effective military cooperation. All of these factors validate the chiefs' vision of shared operational efficiency.

As for the characteristics of the TSI that help define its potential to progress under this vision, two in particular stand out. First, the exchange of senior officers who make up the steering group offers a small-scale but enduring framework to build trust and improve interoperability at the strategic level of each air force. Granted, the crucible of a multinational air campaign or even a complex exercise normally results in improved trust and interoperability among international participants. However, without a permanent framework designed to capitalize on progress, any advances risk being overlooked in subsequent efforts. Although not designed as a "lessons learned" mechanism, the TSI does give each air staff a mandate to promote an agenda of improving international cooperation, and its multinational steering group includes action officers charged with that responsibility. Second, the fact that the TSSG operates without the cumbersome bureaucracy commonly associated with a formal alliance or coalition gives it the liberty to creatively pursue the chiefs' vision within the limits of its resources and to be innovative in its approach. The convergence of values, as well as historic and current context, combined with national and organisational goals across the three Air Forces, helps explain the "why" behind the TSI, and the defining characteristics of its steering group help clarify the parameters of their mission. The "how"—the means employed under the initiative to realise its ambition—clearly need to be consistent with these parameters in order to sustain the tangible progress towards fulfilling the vision of the three service chiefs.

### **Means**

The establishment in each air staff of a cadre of international officers responsible for driving trilateral cooperation at the highest level of each air force, itself a manifestation of trust,

is a central pillar of delivering this vision. As with any exchange of international officers, incumbents quickly recognize the limitations of a purely national view, and their perspectives are necessarily broadened by their wider exposure. Although tactical-level exchange officers are rightly focused on developing tactics, techniques, and procedures, the individuals on this strategic exchange cross-pollinate ideas and concepts that directly influence the employment of air power. In turn, having privileged access to the Air Force chiefs, they are well placed to influence the thinking of senior leaders.

The approach adopted by the steering group is a relatively simple one: it identifies impediments to air power's interoperability and presents solutions involving trilateral cooperation. The basis of the chosen model is ongoing collaboration among the elements of the steering group in each air force, creating opportunities for an informal exchange of ideas and for the sharing and debating of concepts (flavoured by the perspective of each air staff) designed to feed the thinking of senior leaders. By maintaining an understanding of ongoing bilateral initiatives among the three Air Forces and an awareness of their institutional and operational priorities, the steering group can identify areas most likely of interest for trilateral cooperation. The desired results are not predicated upon placing any one nation in a lead role; rather, given the open-ended nature of the initiative, the interoperability and trust it seeks to build could support any number of cooperative constructs well adapted to a variety of operational requirements. To prime this model, each Air Force must select officers for this type of exchange who are well suited professionally and personally for the demands of duty at the strategic level of an air staff and who possess additional traits necessary to collaborate and advance a trilateral agenda while serving abroad. To inform its own internal discussions, the TSSG has brought together subject-matter experts and has hosted a number of forums on a rotational basis, reflecting the service chiefs' specific priorities or deriving from major lessons identified during combined operations. Previous subjects have included combined crisis response, command and control, operational readiness, air advocacy, and national approaches to regional tensions. The formats have included workshops, planning exercises that address particular scenarios, academic seminars on air power topics, and broad analyses. Generally, TSI activity also incorporates civilians, academics, and members of think tanks who make recommendations that will have the most impact not only on modifying reflexes and shaping behaviours but also on improving trust. The subsequent publication of trilateral results is intended to influence broader, higher-level national debate.

By steadily developing the network of officers and civilian air power professionals associated with the TSI, efforts to institutionalise this collegiate approach are gaining traction. In Europe, trilateral cooperation has taken root among the three air operations centres, initiated through a series of exercises called Tonnerre-Lightning, launched in 2013 to conduct combined air command and control and to incorporate live sorties under progressively more complex scenarios.<sup>3</sup> With its imperative to maximize the output of trilateral exercises, the combined air staff continually identifies opportunities to integrate collective aims into the exercise calendar. This aspect of the trilateral relationship has been reinforced by quarterly video teleconferences

among air operations chiefs of the three Air Forces and by a new operational trilateral charter that they signed in March 2015.<sup>4</sup>

The trilateral exercise hosted by the US Air Force's Air Combat Command at Langley Air Force Base, Virginia, in December 2015 is another excellent example of cooperation. US F-22 Raptor, French Rafale, and UK Typhoon aircraft operated together for two weeks at Langley to develop and better integrate their niche capabilities. This type of initiative, which seeks to prepare our combat forces prior to a complex conflict, concentrated on generating a disproportionate operational advantage. Other, equally pertinent opportunities for trilateral cooperation exist. An infrastructure-protection exercise held at the Avon Park auxiliary field in Florida in 2015 highlighted how this sort of cooperation can extend beyond aircraft participation. Security forces from each air force sought to protect and defend an air base by utilizing shared resources and objectives. The exercise provided an excellent basis for future operational integration among support mechanisms for air operations.

Efforts conducted under the TSI also contribute to more effective and credible air advocacy. Each of the air chiefs recognizes the priority of preparing airmen to positively influence joint and national decision makers. The most recent trilateral workshop, conducted in Washington DC, in March 2015, was tailored to crafting a more refined, targeted trilateral air power narrative. Furthermore, by contributing to the development of air power, other allies can benefit from the TSI acting as a "trailblazer" or an intellectual catalyst. Results of TSI-sponsored activities have already informed ongoing debates within NATO and in the headquarters of allied Air Forces. The initiative can have a continuing role as a body representing the position of the three most capable Air Forces in the alliance on a broad range of air power determinants. The seventh TSI workshop, to be held in France in 2016, will address potential convergences among the three Air Forces' visions of future air power employment. Moreover, it will shape recommendations for areas of emphasis in the trilateral relationship, which can complement a wider NATO study on the future of joint air power in the alliance.

## **Intrinsic Challenges**

Just as trilateral progress requires continuous effort, so does it demand perseverance in overcoming a variety of challenges. Fulfilling the trilateral vision of the Chiefs calls for stamina, patience, and a deep cultural understanding of the three Air Forces so they can reach a mutually agreeable position. The steering group's independence from organizational bureaucracy, a sort of blessing from which it derives a substantial degree of freedom of action, can equally be viewed as a curse when it comes to implementing trilateral activities.<sup>5</sup> The streamlined nature of the model, which empowers a small group of senior officers to creatively advance their service Chiefs' vision, helps minimize implementation costs to each service. It sits on the opposite end of the spectrum from treaty-based military cooperation, created to respond to higher and more complex political objectives that require significant investment across the joint military staffs of participating allies into the oversight of cooperative objectives. Although the trilateral steering group is easier to implement than a

treaty-based military hierarchy, its independence from organizational oversight means that the group cannot act as an empowered executive staff entity. Rather, it relies on initiative and creativity to overcome friction, and—given the limited degree of direct leverage that the steering group can exert on senior decision and policy makers—it must make the most effective use of its time and manpower.

At the practical level, a common impediment to cooperation is simply a lack of technical interoperability. Incompatibility of communication, information, and computer systems has a significant effect on effective integration. Coupled with the commercial sensitivities associated with procurement and open competition within the defence sector, such incompatibility makes industrial collaboration an even more complex issue. Therefore, new approaches to defence procurement may need to innovate; it is even conceivable that trilateral interoperability could become a contracted requirement in the future. Equally, in the conduct of air operations, trilateral activities will be inherently more complex than either national or bilateral alternatives and, at least initially, will demand more time to plan. To be addressed effectively, matters such as information exchange, security caveats, and intelligence sharing will call for considerable effort and trust. A central aspect of this shift is the willingness to exchange sensitive information. That is, building trust and confidence will depend upon moving from the principle of a “need to know,” which underpins many protocols related to information security, towards a “need to share” in the context of multinational operations. The TSI facilitates this principle by promoting among the partner nations an open exchange of concepts and doctrine that can propagate into wider, more accepted practices. A lack of language proficiency can also reinforce technical and procedural barriers. During a recent combined joint expeditionary force exercise between the United Kingdom and France, for example, translation and communication issues were identified as one of the major impediments to timely and accurate decision-making in the combined headquarters.

However, the predominant strategic impediment to trilateral activity is cultural. Despite historic links and an increasingly rich operational capital to draw on, vested national interests and “national reflexes” can still offer a reassuring alternative to the inevitable friction and uncertainties associated with multinational operations. Even with shared NATO doctrine, defence policy and ambition are not identical and reflect the capacities and priorities of each nation. The US-UK “special relationship,” however defined, is woven into the cultural fabric of generations of military and political classes in the United Kingdom.<sup>6</sup> This kinship greatly facilitates cooperation between the two countries’ Air Forces but is insufficient in itself to ensure an equally coherent trilateral relationship. Similarly, the principle of strategic autonomy is a *sine qua non* to France’s defence policy and continues to define many aspects of its military culture.<sup>7</sup> Work under the TSI, therefore, must honestly acknowledge these differences and identify and exploit opportunities in each bilateral relationship to better align behaviours at a trilateral level.<sup>8</sup>

Furthermore, practical realities within each air force demand that a preponderance of the effort focus on national priorities. The inevitable consequence for most airmen is an infrequent

exposure to their international counterparts, which in turn reinforces cultural reflexes towards national solutions when a country faces the need to employ air power. Activities sponsored under the trilateral initiative are designed to expose participants to the potential of multinational operations and seek to readjust their reflexes for national responses towards a more trilateral perspective. The model must also confront limitations associated with any single-service initiative, given that many issues of interest to the three Air Forces inevitably have joint equities. If the TSI is to address those issues, exposure to the Joint level will be necessary, and—in the absence of parallel trilateral initiatives outside the air domain—solutions for particular matters must be sought on a case-by-case basis.

Finally, the dynamic and cyclic nature of national politics presents a challenge to continuity. The TSI's ambition to continuously improve integration is vulnerable to political cycles—a nation's appetite for foreign intervention can change on short notice. Moreover, the level of priority afforded to defence and security concerns in national dialogues can have a profound effect on the sustainment of military partnerships. To remain insulated from these dynamics, cooperative initiatives such as the TSI must constantly prove their value. Thus, ambition should be tempered accordingly. The TSI was never intended to become the basis for an executive body in each air staff; rather, it serves as a framework designed to inspire activities to strengthen personal relationships, develop mutual understanding, and build confidence.

Consequently, even though the initiative offers a common vision for high-level trilateral cooperation, technical challenges, cultural dynamics, and national priorities will inevitably act as a drag on the rate of progress. Faced with these issues, the three countries will find that results are often difficult to quantify and must be validated against more pragmatic criteria. In this context, incremental gains and gradual progress pursued under the TSI meet the spirit of the Chiefs' vision and reflect the relatively informal nature of the steering group they established to pilot the initiative.

## **Conclusion**

Although not a unique approach, the TSI and the steering group responsible for its implementation represent an original and potentially innovative model for exploring common ground and improving coherence in the development and employment of air power. Each nation offers a different perspective on how to employ air and space capabilities, but the TSI seeks to refine the combined capabilities of the three Air Forces to respond as a team to rapidly emerging crises. By implementing a valuable forum for strategic communication and coordination, these Air Forces can identify and address operational impediments, establish greater cohesion, and explore the frontiers of trilateral cooperation.

As for the chosen means to implement the initiative, one finds an elegant approach in the establishment of a multinational steering group cross-pollinated at the strategic level of the three air staffs, which collaborates and sponsors trilateral activities, free from bureaucratic oversight but equally limited in its executive role. Its simplicity differs significantly from more



formalized and more ambitious cooperative models such as the NATO command structure and the framework created in the French and UK military staffs to advance political objectives of the Lancaster House Treaty. In this sense, the group meets the Chiefs' intent to advance their vision while respecting the practical realities confronting each air staff and its capacities to confront cultural barriers and practical challenges. The success of the TSSG depends on cultivating a community of participants in its trilateral activities and widening the number of individuals exposed to the results of its debates.

As this model gains traction, some questions inevitably arise concerning the broader utility of such an agreement: what, for example, might its applicability be for land and maritime forces or within a joint construct among the United States, United Kingdom, and France? These aspects could broaden trilateral cooperation to build trust and advance interoperability across a wider spectrum of military operations. Are there other international trilateral groupings that might benefit from a similar initiative of their own, based on its own logic, such as that of regional cooperation? Responses to these types of questions could depend on exposure and evaluation of this trilateral initiative beyond the three participating Air Forces. The future success of trilateral efforts under this model hinges on several factors: sustained political intent, the highest levels of support within each air force, and continued evidence of advancement towards objectives. This progress is anticipated on multiple fronts in 2016, in collateral activities subsequent to the December 2015 trilateral exercise at Langley Air Force Base, in the continuation of the Tonnerre-Lightning exercise series in Europe, and directly from the forthcoming TSSG workshop in France. The strategic context demands these types of efforts from close allies, and ongoing operations are sure to reinforce this requirement. The TSI model is a valuable tool in meeting that need.

## Notes

<sup>1</sup> Joint Doctrine Publication 0-30, *UK Air and Space Doctrine*, July 2013, 2-5–2-6; Joint Concept Note 3/12, *Future Air and Space Operating Concept*, September 2012, 1-12–1-13; Department of the Air Force, *USAF Strategic Master Plan* (Washington, DC: Department of the Air Force, May 2015), 28–29, 34–35; and Ministère de la Défense, *Livre Blanc: Défense et Sécurité Nationale* (Paris: Ministère de la Défense, 2013), 21.

<sup>2</sup> The US Air Force hosts UK and French officers in its Strategic Studies Group (HAF/SSG); the French Air Force hosts US and UK officers in its Plans Bureau, Strategic Studies Division; and the Royal Air Force hosts US and French officers in its Air Staff, International and Engagement Division.

<sup>3</sup> The three centres include the 603rd Air and Space Operations Centre at Ramstein Air Base, Germany; the UK Joint Force Air Component Commander at RAF High Wycombe, England; and the French Centre National des Opérations Aériennes at Lyon Mont-Verdun Air Base, France.

<sup>4</sup> An agreement between the US Air Force's Third Air Force commander, the Royal Air Force's commander of operations, and the French Air Force's commander of air defence and air operations, the document creates a framework for multiple trilateral working groups designed

to improve interoperability, specifically in the planning and conduct of air operations.

<sup>5</sup> This independence could be contrasted with the proliferation of bilateral responsibilities assigned to officers in the military staffs of France and the United Kingdom as a result of the 2010 Lancaster House Treaty on Defence and Security Cooperation, a binding agreement designed to significantly improve defence and security cooperation between the two allies. Implementation has resulted in well-developed plans at the joint and single-service level to field a combined joint expeditionary force, providing a scalable asset up to two brigades in strength with an associated naval task group and air expeditionary wing. Of necessity, this approach demands general officer engagement at multiple staff levels and a commitment to training and regular exercises.

<sup>6</sup> The US Air Force and Royal Air Force benefit from a privileged level of information sharing that underpins a robust officer exchange programme and a tradition of high-level bilateral training. Though somewhat mirrored in the post-Lancaster House Treaty growth of UK-French cooperation, this sharing still outbalances similar US Air Force programmes with the French Air Force.

<sup>7</sup> Ministère de la Défense, *Livre Blanc*, 19–22.

<sup>8</sup> Bilateral relationships include those provided under the United Kingdom–France Lancaster House Treaty and from increasing US-French cooperation in Africa.



## Viewpoints

# Reply to: The Battle of France, Bartholomew and Barratt: The Creation of Army Cooperation Command

By Mr Greg Baughen

---

**Biography:** Greg Baughen has been researching the history of British and French Air Forces for over forty years, examining how air power evolved in both countries. He has published *Blueprint for Victory* and *The Rise of the Bomber* with his third book, *The RAF in the Battle of France and Battle of Britain*, due for release in summer 2016.

---

**Abstract:** Published in APR in spring 2015, Matthew Powell's article, *The Battle of France, Bartholomew and Barratt: The Creation of Army Cooperation Command* examined the impact of the Battle of France, 1940 and British Army's subsequent investigations into these events and the delivery of tactical air power on the battlefield. Here, Greg Baughen gives an alternative insight to the investigations, the inter-service acrimony surrounding these events and the eventual creation of Army Cooperation Command by the RAF.

---

**Disclaimer:** The views expressed are those of the authors concerned, not necessarily the MOD. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form without prior permission in writing from the Editor.

---

## Introduction

I read with interest the article *The Battle of France, Bartholomew and Barratt: The Creation of Army Cooperation Command* in your Spring 2015 issue, which set out to untangle the tangled web of British Army/Air Cooperation in 1940. Might I suggest that perhaps the War Office was not quite as ill informed as the article suggests?

It is true that the British Army had problems understanding the blitzkrieg tactics the Wehrmacht used in 1940. It did not help their cause that the BEF was the only Allied Army involved in that campaign that did not experience the full weight of the initial Panzer/Luftwaffe onslaught. The Dutch Army had to deal with the 9th Panzer, the Belgian Army was brushed aside by the 3rd and 4th Panzer on the Albert Canal and the French Army ended up having to deal with nine of the ten panzer divisions committed. The BEF was very much in the eye of a storm. It was difficult for British commanders to appreciate the problems faced by their counterparts on other fronts. Lt.- Gen. Pownall, Gort's Chief of Staff, was convinced the French had collapsed at Sedan in the face of a few German raiding parties.<sup>1</sup>

The panzers were of course the decisive factor in the defeat of the Allied Armies in France. The German Air Force was merely playing a supporting role, but it is perhaps not surprising that the German air effort made more of an impact on the British Army than the German use of tanks. It was not so much a case of deliberately trying to deflect attention from the failings of the British Army; it was just that British commanders did not have the opportunity to discover how serious these failings were.

The generals were, however, very aware of how effective the Luftwaffe had been, especially against troops in the battle zone. The BEF was not immediately affected by this, but from the very first day of the campaign, Ju 87 Stukas and Henschel Hs 123 ground attack planes were providing very close support for the German airborne forces that had captured Dutch airfields and bridges over the Maas and Albert Canal. There was more close support for the panzers heading for Rotterdam and Gembloux. The aerial bombardment of French defences at Sedan was a very dramatic example of the effectiveness of close air support, but was far from being a one-off. After this assault, the German Air Force continued to provide close as well as indirect support to smooth the path of the advance and beat off Allied counter attacks. As the British forces fell back on Dunkirk, and, in the second phase of the German offensive, as they tried to halt the German drive westwards from Abbeville, British troops in the frontline felt the full weight of German air power.

Even without the panzers to take advantage, the Luftwaffe was capable of having a decisive influence on the battlefield. Once the Belgian Army had retreated out of the path of the panzers heading for Gembloux, it only had to deal with German infantry. Belgian commanders believed their troops had demonstrated they could hold their own on the ground. They could not, however, deal with incessant air attack. It was the German Air Force that broke the Belgian Army.<sup>2</sup> The Luftwaffe was proving to be a very effective battlefield weapon and the

Bartholomew report was quite right to identify this willingness to operate close to as well as far behind the frontline as the key difference between the RAF and Luftwaffe approach to air support.

The War Office fully appreciated the value of attacking targets deep in the enemy rear. It had been pushing for better air support since long before the French May-June campaign and this included "strategical support ...extending to a considerable depth".<sup>3</sup> But they also wanted air support much closer to the frontline. For more distant support, they were happy to rely on twin-engine planes like the Blenheim and its proposed B.11/39 replacement, but for close air support, they wanted a much smaller, more manoeuvrable, single-engine plane capable of dive-bombing and low-level attack. This was much closer to what was required than the large twin-engine planes the Air Ministry kept offering. The War Office had even suggested that close air support could be performed by older single-seater fighters being phased out of service.<sup>4</sup> This would soon become the standard way of using fighters no longer suitable for the air superiority role. The success of the Ju 87 Stuka in the French campaign inevitably led the War Office to focus more on the need for a steep dive-bombing capability. However, whether the dive-bomber, armoured low-level assault plane or a fighter-bomber was the best way to apply close support was merely a side issue. The central controversy was whether the Army should have any close air support. The Bartholomew report was quite right to insist it should.

This was always going to be extremely hard for the Air Staff to accept. The segregation of air and land warfare made it difficult for the Air Force to understand what the Army needed. In the eyes of the Air Staff, using aircraft to hit battlefield targets was, as Slessor colourfully put it, 'using well-trained pilots as propellant for artillery shells'.<sup>5</sup> The Air Staff could not see why the Army needed aircraft if a target was within range of a land-based weapon. For their part, the War Office could not understand how the Air Staff could fail to appreciate the immense value of a means of engaging the enemy that could move in three dimensions above the battlefield.

Air Ministry attempts to meet Army demands caused more frustration. If the Army insisted on having a plane for close air support, the Air Staff wanted it to be a large plane that could exchange its armour for more fuel and its solid nose with machine guns for a bomb aiming position.<sup>6</sup> The plane would then be able to play a part in their strategic bombing offensive. The final straw for the War Office came when the Air Ministry invited them to inspect the prototype Armstrong Whitworth Albemarle as a potential close air support plane.<sup>7</sup> Reading War Office documents of the time, one is struck by the frustration bordering on despair at the Air Ministry attitude. It is not surprising some saw an army air arm as the only way round the problem.

The War Office was also right to question the way fighters had been used. The RAF had emerged from the First World War with a sound tactical fighter doctrine, but the tactics used

in the first part of the French campaign were more reminiscent of the RFC in 1916/17 than the more focused fighter operations of late 1917/1918. Attempting to sweep airspace clear of enemy fighters so that unescorted bombers and reconnaissance could operate unhindered was a complete failure. By the end of the French campaign, RAF commanders had accepted this and close escorts had become standard.<sup>8</sup> Similarly, when protecting ground forces, RAF fighters had to focus their effort where the Army needed it. On 21 May, the key event was the Arras counter-attack and the Army expected fighter cover. Hours before the attack, with German spotter planes hovering above and no sign of RAF fighters, Gort issued an urgent request for an intensification of fighter effort in the area.<sup>9</sup> During the course of the afternoon fighter sweeps and escort missions were flown fifty miles to the west, but none were sent to the Arras area until the evening.<sup>10</sup> By the time they were dispatched, the counter-attack had been halted and retreating British troops were being dive-bombed. Once the Army had retreated to Dunkirk, there could be little doubt about where the fighters should be operating, but for such a crucial operation, the Army might reasonably have expected more than 200-320 fighter sorties a day.

Bombing operations controlled by the BAFF in France were fairly well directed, but this was not always the case for those controlled by Bomber Command. The War Office would not have been fully aware of the AASF efforts to support the French further south, so some of their criticisms were not entirely justified. Nevertheless, the Bartholomew report's overall conclusion that German air effort was more focused was valid. The report was also correct to highlight the effect air power can have on morale. The expression 'flying the flag' was perhaps a hostage to fortune, but it was demoralising for troops if the enemy had visible air support and they did not.<sup>11</sup> Again, this was something the War Office had been concerned about long before the May-June campaign. 'In all conversations on the subject of direct support I find the same', the Director of Military Training (Maj. Gen Malden) complained. 'We think close co-operation is really close in, the RAF think 50 miles is close.'<sup>12</sup> Rather pointedly, the Bartholomew report also emphasised that German air effort had not been diverted to strategic bombing.

This was the crux of the problem. Hindsight is a wonderful thing. We now know that RAF attacks on German oil plants were not causing any serious damage, but at the time, the Air Staff genuinely believed they were crippling the German war machine. This made it far more difficult for the Air Staff to appreciate the value of tactical air support. From their perspective, the Army was expecting the RAF to go to a lot of trouble to destroy a handful of targets on the battlefield when the Air Staff believed that it would not be long before the entire German Army would be crippled by a shortage of fuel. If the Air Staff had known how little their oil offensive was achieving, their attitude to tactical air support would surely have been very different. It needed to be different. Britain could not assume it would not be invaded in 1940. Nor could an invasion in 1941 be ruled out. Army/Air Force cooperation was not just required for some distant invasion of mainland Europe. It might be required at any time to help repel German troops landing on the south coast.

As the article points out, only one RAF officer was asked to appear before the Bartholomew committee. Brook-Popham's parallel Air Ministry investigation into the French May-June campaign did not ask any Army officers to give their views. That perhaps summed up the state of British Army/Air Cooperation in 1940. The two ministries could not even coordinate their investigations. It is just as well the Army and Air Force did not have to work together to defeat an invasion in 1940.

## Notes

<sup>1</sup> Bond, *Chief of Staff Vol. 1* (1972), p. 327.

<sup>2</sup> National Archives CAB65/7/39 (28 May 1940) Comments of Sir Roger Keys and Lt-Col. Davy.

<sup>3</sup> National Archives AIR2/2896 (11 July 1940).

<sup>4</sup> National Archives WO106/5152 (Festing to DCIGS 31 December 1939).

<sup>5</sup> National Archives AIR2/2895 (June 1939).

<sup>6</sup> National Archives AIR9/137 (December 1940).

<sup>7</sup> National Archives WO106/5151 (December 1939-August 1940).

<sup>8</sup> National Archives AIR41/21 p.466.

<sup>9</sup> National Archives AIR20/2061 (21 May BEF HQ to Air Ministry).

<sup>10</sup> National Archives AIR25/193 No. 11 Group Operations book 21 May 1940.

<sup>11</sup> In fact the "flying the flag" was actually a reference to the RAF having to do the best it could with existing equipment until specialist close air support planes were developed.

<sup>12</sup> National Archives WO106/5152 (7th May 1940).





## Book Reviews

# Crowded Orbits: Conflict and Cooperation in Space

By James Clay Moltz

Reviewed by Wing Commander Gerry Doyle

---

**Biography:** Wing Commander Gerry Doyle is currently serving at HQ Air Command as the 'Develop' desk officer for Future Combat Air Systems. A former Nimrod and E-3D pilot and Bulldog QFI, he is also a CAS' Fellow at the University of Reading, working on a thesis about Bernard Schriever and early US Military Spaceflight.

---

### Introduction

For many military practitioners, their first exposure to military spaceflight applications comes via a lecture or lesson on 'orbitology', leading to an understanding of the commonly used orbital belts around the Earth, and some general background about Kepler's Laws. This is then backed up by a suitable text giving more details of orbits, something about rocketry and the space environment and a description of satellite design features. While this may be a good start, it does little to explain to the would-be practitioner the context in which they hope to operate and the motivations and goals of other space users. This short volume addresses that gap in a most accessible way. For those interested in policy constraints, multi-national perspectives or the growth of space law, rather than the associated hardware and science, it might even provide a better starting point.

In its 226 pages, *Crowded Orbits* includes enough introductory material to get a complete beginner started in the field, as well as providing deeper analysis for those already familiar with some of the background. Since all spaceflight to date has been enabled by rocket technology, it bases its introduction to the space age around the development of practical rockets in the

20th Century. It similarly introduces space policy and politics against the prism of Cold War rivalries and the 'Space Race'.

To understand its subsequent analysis of national positions, the reader is introduced to the distinctions between 'civil space' (meaning 'scientific space', primarily with a research focus), 'commercial space' (meaning 'space for business or profit'), and 'military space', possibly the area of greatest interest to APR readers. For each category, an overview is given of the various national positions held around the world. The treatment of 'military space' majors on the debate surrounding space weaponization - a sound editorial decision given the degree of contention associated with it. Readers particularly interested in this debate might wish to reflect on the national positions described against the framework of space 'schools' outlined in the 1980s by David Lupton, and ponder which nations are aligning themselves with which schools of thought.<sup>1</sup>

The text concludes with an analysis of how and why progress on an international governance structure for space operations has stalled, and what the future might look like. Given the setbacks suffered by the proposed International Code of Conduct at the meeting held in New York during July 2015, the concerns raised are both real and serious. Moltz is entirely correct to highlight the importance of developing consensus in this area, though whether the current hiatus is due to the large number of interested parties in the debate, or their tendency to align themselves with what they perceive as the 'US' view or the 'BRIC' view is debatable. His analysis of three possible outcomes: military hegemony, piecemeal international engagement or enhanced international institutions is convincing, as is his preference for the last of these alternatives. Whether and how progress towards this desirable state could or should be made is inevitably, however, left unresolved.

Why should all this be of interest to a military reader? Principally, because of the growing recognition of the inextricably linked interests of all operators in space. The distinctions between civil/scientific space, commercial space and military space are real and useful - they enshrine the varying motivations and constraints on the players and thus serve to make activity more predictable. But once those constraints are understood, the actions play out in a shared theatre - there is only one low-Earth orbital band where most of the action takes place. Awareness of this can be demonstrated by the recent initiative undertaken by the UK, USA, Australia and Canada to enter a partnership relating to combined space operations. The author plainly hopes that such agreements will become commonplace so that all can enjoy access to space for civil, commercial and military/security purposes for a long time to come.

This is an excellent introduction to an important area of national policy - both security focussed and otherwise. It is not the complete compendium to address every issue - that so much can be fitted into 226 pages is a testament to the author's skill, but there are inevitable limits to what can be discussed. Arguably, for the military reader, their most likely exposure

to space-derived capability will be via 'space force enhancement' - the enhancement of terrestrial forces by means such as satellite communications, navigation or reconnaissance or surveillance. In this respect, the focus on weaponization in the analysis of military space activity skews the content somewhat. But that is small criticism of an interesting and elegant introduction, which also serves as a prompt for further study. The work is annotated, but there is (regrettably) no Bibliography. However a careful search of the authors and works cited will provide at least initial lines of enquiry for the interested reader. Other works have covered similar ground in the past; Professor Michael Sheehan's 2007 volume 'The International Politics of Space' springs to mind for its regional and national analysis of motivations displayed by space actors.<sup>2</sup> But the world keeps turning, new nations develop space capabilities and the ebb and flow of alliances is eternal. This would make an excellent initial text for anyone seeking a broad view of the topic, and will hopefully spur its readers to pursue their own research in this important area.

## Notes

<sup>1</sup> David E. Lupton, *On Space Warfare: A Space Power Doctrine* (Maxwell AFB, AL: Air University Press, 1988), Lupton's 'schools' were further analysed in Bruce DeBlois (ed) *Beyond the Paths of Heaven: The Emergence of Space Power Thought* (Maxwell AFB, AL: Air University Press, 1999).

<sup>2</sup> Michael Sheehan, *The International Politics of Space* (Abingdon: Routledge, 2007).



## Book Reviews

# The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests

By James Clay Moltz

Reviewed by Wing Commander Mark Presley

---

**Biography:** Wing Commander Mark Presley - The Course Development Team Lead at the Kuwait Staff College - is a CAS' Fellow with experience in space policy from numerous tours in MOD and the Cabinet Office. He is also a PhD Candidate at King's College London researching the drivers of US national space policy.

---

### Introduction

James Clay Moltz is Professor and Associate Chair of Research at the US Naval Postgraduate School (NPS). He joined the NPS in 2007 after 14 years at the Monterey Institute of International Studies, leaving as the Deputy Director. He has also served as a staff member on the US Senate, as a consultant to the NASA Ames Research Centre and to the Department of Defense. Originally published in 2008, this second edition of his excellent book brings his expansive coverage of the space age up to date to reinforce his enduring and increasingly relevant central argument, that there is a compelling logic to the exercise of military restraint by all actors in space because of their shared interest in maintaining safe access to the valuable regions of space. A topic he explores further in his most recent book, published in 2014, *Crowded Orbits: Conflict and Cooperation in Space*, and also reviewed in this edition of APR.

Moltz provides a longitudinal analysis of the space age, exploring the tensions between competition and cooperation in space, fashioning an argument for future cooperation

based on the repeated learning of past strategic restraint. Although aimed squarely at a scholarly audience, the lack of jargon and broad historical detail, set in a clear structure, make the book accessible to a much wider readership. The excellent supporting footnotes also make the book a fine portal to further research and is an excellent addition to the collection of anyone interested in space security policy, international relations or security in general.

Organised in three parts, the first part provides a comprehensive review of existing space security literature ranging from the hawkish realists advocating space dominance in the national interest to the liberal, institutionalist doves advocating empowered global institutions to control space. Moltz captures these themes to develop four schools of thought that he uses as his conceptual framework. These schools range from space nationalism (the deployment of space defences to assert 'space control'), technological determinism (a slower emergence of space weapons amid multiple actors deploying a limited range of weapons in space), social interactionism (a loose coupling of national and international goals for safe access to space that is driven in part by the rising influence of commercial actors) to global institutionalism (the empowerment of international organizations to govern space). In considering these approaches, Moltz extends the space security calculation to include environmental considerations - a theme he returns to throughout the book.

The second part comprises the main historical narrative, ranging from the origins of the space age prior to the Second World War to the turn of the millennium with a focus on the key space rivalry between the Soviet Union and the US during the Cold War. It is a fascinatingly detailed history of space security and the ebb and flow between competition and cooperation. In particular, the early competition to exploit space - and to explore the use of nuclear weapons in orbit - that preceded the dawning realisation of the awful impact such weapons had on the space environment. He analyses the steps that gradually moved the space race away from military-led strategies of achieving space security to agreeing to preserve the space environment for other purposes including civilian programmes, space science and military support systems; including military reconnaissance to verify missile numbers as part of the calculation used to achieve balance in the Cold War. The effect of this early competition was a recognition that space had become too valuable to be used for war. This understanding played a part in the signing of a number of arms control treaties and a subsequent legacy of relative cooperation and restraint.

Part three continues the historical narrative, bringing the book up to date with a compelling analysis of contemporary space security and the rising interest in the space environment. Moltz begins with a critical look at the shift towards greater space nationalism under President George W. Bush, who instead of continuing the Clinton era cooperation with Russia promoted a concept of space security aimed at unilateral military means, including a return to Reagan era missile defence and withdrawal from the ABM Treaty. The book has a dominant US focus, although Moltz does reflect on the rise of China and particularly the effect on the

space environment that the debris from the 2007 Chinese ASAT test had and how it caused concern about the space environment to jump from obscure scientific journals to the front pages of major world newspapers and thousands of Internet sites. It also coincided with an increasingly vocal discussion about space security that included many commercial actors. The book captures this shift in the new chapter covering the Obama space policy announced in 2010 that emphasized international outreach and the need to develop international norms to promote safe and responsible space operations.

Throughout, Moltz considers the views of both the hawks and doves of space security. He comes down firmly in favour of the doves and a more cooperative and restrained approach to space security. He argues that there is a compelling logic to the exercise of military restraint by actors in space because of their shared interest in maintaining safe access to the Earth's critical orbits, and for space to be viewed as a sanctuary free from the traditional military-strategic contest and instead the focus of an interdependent concept of environmental security. The book provides a balanced and considered analysis of the politics of space security, tracing the ebb and flow of the role space has played in the wider history of security throughout the Cold War and in to the modern, complex world of multiple actors competing in areas that were once the sole domain of the nation state. The book is an excellent textbook that also serves to provide food for thought on the changing dynamics of space security. Moltz's book complements Walter McDougall's seminal 1985 Pulitzer Prize winning book *The Heavens and the Earth: A Political History of the Space Age*, picking up where McDougall leaves the space age to articulately capture the tension between competition and cooperation in the search for space security. He explores the key issues that vex space analysts today and provides clear historical context to space security that make the book of interest to all in the defence and security field who understand the critical importance that space plays in the military, economic and social fabric of today's interconnected world.





## Book Reviews

# War: What Is It Good For? The Role of Conflict In Civilisation, From Primates to Robots

By Ian Morris

Reviewed by Squadron Leader Ralph Dinsley

---

**Biography:** Squadron Leader Ralph Dinsley is currently assigned to HQ 1 Gp as the lead staff officer for space operations. He leads the RAF contribution to global space situational awareness activity which includes 2 significant programmes; the Combined Space Operations Initiative and EU Space Surveillance and Tracking Framework.

---

### Introduction

Depending on the age of the reader the title of this book will immediately invoke Marvin Gaye's counter culture song of the late Sixties or, Frankie Goes to Hollywood or Bruce Springsteen's covers from the early/mid-Eighties respectively. However, putting popular music aside, the aim of Ian Morris's latest book is not to advocate the evil of warfare but to convince us of the unpalatable paradox that although "war is mass murder" (p. 7) it has been inherently good for the development of society over the centuries. Challenging some of our core beliefs he argues that war has been instrumental in the gradual pacification of civilisation whilst concluding that although we are still far from the eradication of warfare its end may also be within our grasp. In this his third commercial publication, the acclaimed author, historian and archaeologist leaves no stone unturned to support the theory that war has made the world a richer and safer place recognising also that the future of warfare is intrinsically changing. It is a compelling read which draws upon a breathtaking, yet

sometimes confusing, array of data from palaeography, anthropology, history, psychology, political science and more to support an unimaginable conclusion.

Following an introduction highlighting a four-part case supporting the author's argument, the book is divided into seven chapters covering three core sections. Chapters 1 – 5 establish the history of war before Morris contextually explores its evolutionary roots, finally moving on to speculate on the future of both warfare and mankind ("transhuman" and "posthuman" p. 387-88). Telling "the story of war" (p. 25) over the first five chapters he tracks the evolution of warfare from ancient times through to the 1980's, culminating on a moment in time introduced early in the book as "when I almost died in battle" (p. 3); a reference to one night in 1983 when the Third World War almost began and a thread the author revisits many times. Morris reasons that historically there are two kinds of warfare, 'productive' and 'counter-productive', and rather than a steady linear progression from early simple societies through to the complex ones of modern times, conflict has created an 'ebb and flow' as empires have expanded and subsequently declined. These examples underscore the first part of his case, that productive wars created more organised societies subsequently reducing the risk from violent death. With the collapse of empires, through counter-productive war, there was a decline in safety and prosperity and therefore a greater risk of violence.

Referencing Hobbes Leviathan the author shapes his argument around the theory that "war makes the state and the state makes peace". Chapter 4 focuses on the global rise of European countries through their unique ability to take "Asian ideas in radically different directions" (p. 178) and utilise them to their own advantage; particularly in the case of the development of the gun. By the time Chapter 5 concludes Leviathan has spawned a greater beast in the form of a 'globocop'. A giant which not only had the power to transform but ultimately the power of near total destruction; first in the form of "Pax Britannica" (p. 225) transforming the world and ultimately assumed by "Pax Americana" (p. 340) and its modern weapons of mass destruction. At this point the narrative of war, stability, prosperity and safety is broken by broadening the context to explore the evolutionary nature of conflict in Chapter 6. Morris enlists the anthropological studies of chimpanzees not only to "answer the fundamental question of what war is good for" (p. 293) but also to project the future of humanity. The final chapter provides some fascinating analyses of a number of troubling scenarios which may play out in the near future, but ultimately settling on the overarching aim of the book.

Ian Morris is quickly becoming an internationally recognised author of 'big history'. The Willard Professor of Classics and fellow of the Archaeology Centre at Stanford University wrote a number of scholarly works before penning his first commercial book in 2011. In this book he combines a personal account, military historian, technical study and reviews war within the broader pattern of evolution thus presenting a convincing argument for war; albeit through a 'single lens'. A libertarian, economist or pacifist would be horrified by the conclusion and perceive the pacification of society in a completely different light. Although Morris succeeds in his aim of making the provocative notion of 'war being good for society' appear feasible

I cannot concur with this conclusion. I find the concept particularly disturbing and morally corrupt; with the future vision not only unpalatable but also mind boggling. Simplistically, a world order 'policed' by the US to maintain the peace is a nightmarish contradiction. No matter how the facts are presented, the modern democratic state through free markets should recognise that its best interests lie in peaceful trade and cooperation, not through warfare. However this cannot detract from the risk of this book being used as the standard bearer for the justification of warfare.

Written for a generally educated audience his book will frustrate a number of academic and military readers and there is one fundamental question the author fails to answer even though he poses it early, during the introduction; what does he define as war? There is no clear cut definition within this book with violent death statistics taken from times when population density was scant through complex military conflicts and on to modern times. Arguably we've experienced some of the worst conflicts in history over the past hundred years but statistically with the world population at record highs the percentages are likely to be lower. Ultimately, this book is a fascinating alternative to conventional thought and I would recommend it to history and military buffs and social scientists alike. For a big picture view it is an original and challenging work which also advocates an extremely important discussion.



## Book Reviews

# The Better Angels of our Nature

By Steven Pinker

Reviewed by The Reverend Dr (Squadron Leader) David Richardson

---

**Biography:** The Reverend Dr (Squadron Leader) David Richardson is a graduate of the universities of Edinburgh, Belfast, Trinity College Dublin and King's College London, and a contributor to the Cambridge Dictionary of Irish Biography. Ordained in the Church of Ireland, he has served 10 years as a chaplain in the RAF at Lyneham, Odiham, Amport House, and Halton. Operational experience includes two tours of Afghanistan and a recent deployment on Op SHADER, working with both air force elements in Cyprus and training teams in Iraq.

---

### Introduction

**I**n this intriguing volume, Harvard professor and international prize winner Steven Pinker argues that humans have become less violent over the centuries; we may be living in the most peaceful era of all. Commencing with a diachronic survey of human cruelty, subsequent chapters analyse the factors behind the apparent decline of inhumanity. The essential thesis of the book is that through the civilizing forces of government, commerce, communication and reason, we have gradually become aware that physically harming one another can be replaced by more positive models of human interaction. Pinker concludes that the growing sophistication of the human race has made us more irenic. In an impressive sweep of scholarship, the author draws on psychology, biology, history and statistical analysis to make his case. Charts and graphs in abundance support his argument that violence is on the wane from back streets to international borders, accompanied by a smorgasbord of cultural and chronological examples. Wars have been getting less frequent and less bloody, he argues, and we are becoming a gentler species. Pinker's purview includes medieval hygiene habits, the structure of the human brain, and Kantian philosophy; the book is worth purchasing simply for the intellectual stimulus the reader will enjoy. Accessible to the curious

general reader, this volume offers a fascinating tour d 'horizon of the academic landscape, from laboratory to archaeological excavation and back again. From table manners to torture, Pinker argues that we have developed in such a way as to become more considerate of one another. The Whig view of history, which holds that humanity is on a steady upward trajectory to ever greater enlightenment, has clearly found a new advocate; the future can be bright, he maintains, and the 'new electronic Republic of Letters' will ultimately triumph.

Pinker's thesis, however, is best described by the Scottish legal verdict of 'not proven'. Attractive as his argument is, the statistical evidence is by no means clear-cut. Lacking consistent historical data, much of the material is extrapolated or simply implied, whilst the global conflicts of the twentieth century are described as 'unlucky samples' in a general trend towards peace. Inhabitants of Ukraine or the Balkans might be surprised to learn that the collapse of the Soviet Union had 'no discernible effect on the Long Peace'. Occasional factual errors and assertions of opinion without evidence also do little to support his argument.

Furthermore, Pinker's arbitrary and explicit limitation of the human experience to psychological, physiological, and sociological factors means that he finds it difficult to explain the apparent ease with which educated and culturally advantaged human beings will descend into gratuitous sadism when permitted. His reluctance to consider a moral absolute which lies outside and above our human constructs is perhaps the ultimate flaw in his argument. If all our values are simply conditioned by evolution and environment, then any judgments regarding the respective merits of violence and peace are similarly contingent. Even the title of the book admits that this may be more than simply an anthropocentric issue - although Pinker may find our roots in the apes, he cannot avoid the angels.

## Book Reviews

# No Good Men Among the Living: America, the Taliban and the War Through Afghan Eyes

By Anand Gopal

Reviewed by Flight Lieutenant Alexander McKenzie

---

**Biography:** Flight Lieutenant Alexander McKenzie completed 9 years' service as an Intelligence Officer serving in various appointments with multiple deployments in Iraq and Afghanistan. He is now a reservist on 602 Squadron and intelligence manager in Royal Bank of Scotland.

---

### Introduction

**N***o Good Men Among the Living* is Anand Gopal's first book. In it he combines his considerable investigative journalism skills with unrivalled access to virtually every stakeholder in the Afghanistan conflict. This provides a compelling insight into the effects and complexity of modern military campaigns from the perspective of ordinary Afghans. If Emile Simpson's *War from the Ground Up* is the most nuanced account of modern warfare from a practitioner's perspective, *No Good Men Amongst the Living* should be essential complementary reading to understand the impact and effect of contemporary military operations through the eyes of the primary target audience, the people. Readers of prominent 'embeds' such as Ben Anderson (*No Worse Enemy*) and Toby Harnden (*Dead Men Risen*) will be familiar with Gopal's expose of the chasm between strategic aspiration and tactical reality in post-Taliban Afghanistan. However Gopal provides an insight that goes beyond the now familiar description of subversive local political machinations, endemic corruption and incompetent indigenous security forces. He illuminates the myriad



of consequences of so-called precise military operations on a landscape so complex that the Byzantines would struggle to make sense of it.

The title derives from a Pashtun proverb; 'There are no good men among the living, no bad amongst the dead' capturing both the normality of conflict to contemporary Afghans and the de facto perception amongst ordinary Afghans of virtue and vice amongst all combatants. Access to the source material in this book is not unique; the various works of Alex Strick van Linschoten and Sarah Chayes rival Gopal in this respect, but *No Good Men Among the Living* was published as ISAF combat operations ended and will appeal to those seeking an immediate assessment of the efficacy of them. This is also a constraint of the book as it seeks to draw conclusions from dynamics that are still underway and the wider polity in Afghanistan may well prove to be more resilient than Gopal's grim predictions suggest. Nonetheless the book provides endless case studies that will be integral to future debate on the relative merit of counter insurgency as a strategy of choice.

Those who were immersed in operations in Afghanistan will immediately recognise Gopal's illumination of a kaleidoscopic landscape of patronage networks and complex loyalties at all levels of Afghan society. Gopal's skill lies in revealing contrasting Afghan perspectives on decisions made by western governments to support protagonists who inevitably carried considerable baggage from earlier years of conflict. The civil war years chime in their brutality with similar conflict waged across the Middle East today; revelations of atrocities committed by all sides, including the legendary and often venerated Ahmed Shah Masoud, reminds us that in civil war there are always consequences when deciding to support one faction over others. Indeed a lack of meaningful reconciliation in the years immediately following the Taliban's rout now seems a lamentable oversight and a consequence of thinking in terms of 'victory' and 'defeat'.

Although the strength of this book lies in its insight to layers of Afghan society rarely seen from inside the walls of a remote operating base, there is some direct relevance to those seeking to draw lessons relevant to the air component. Most striking is the devastating psychological effect of air power upon the Taliban in the days and weeks immediately following the US decision to support the Northern Alliance in late 2001. However the book also reveals the indirect consequence of a prolonged decapitation strategy with the emergence of younger, more radical leaders amongst the Taliban. This is one of the most noteworthy topics to emerge from the book and should lead readers to Wing Commander Keith Dear's contribution on the matter ('Beheading the Hydra') in the Defence Studies Journal. Concurrent to this dynamic was emergence of quasi-autonomous, highly effective, US-backed opponents of the Taliban such as Matiullah Khan in Uruzgan. Gopal succeeds in demonstrating their effectiveness but also raises questions about their long-term contribution towards the internal stability of Afghanistan. Both these issues matter to the Royal Air Force, within the contemporary political context, as air power is delivered at range in support of indigenous proxies to degrade amorphous militant groups.

Of interest too is Gopal's description of Gul Agha Sherzai's nefarious undertakings as he enriched himself by acting as the negotiator and contractor-in-chief with US forces establishing Kandahar Airfield as an operating base. Given considerable later efforts to expose and eliminate corruption amongst Afghan officials, via the CJTF Shafafyat, this serves as a reminder of the pitfalls in undertaking expeditionary operations without the background intelligence or luxury of time to perform due diligence. Related to this, the author's greatest critique is an issue that a generation of intelligence officers will be acutely aware of. Aside from profiteering, power-brokers like Sherzai who threw their lot in with US forces also exploited the opportunity to settle old scores, a risk that the US failed to mitigate because of piecemeal intelligence and over reliance on HUMINT whilst under considerable pressure to find and arrest/eliminate AQ and Taliban fighters. Further examples of botched raids and counter-productive kill/capture missions will make uneasy reading for proponents of high-tempo strike operations, as part of the wider counterinsurgency strategy, relentlessly pursued in Afghanistan. As a separate reviewer has remarked Gopal reveals how 'the Americans defeated the Taliban only to revive them'.

Overall this book will rank alongside some of the better insights into the Afghanistan campaign; journalistic style makes it a little long winded in places, but the narrative jumps geographically and topically across the country and is a compelling read. Another limitation, from a UK perspective, is the exclusive focus on American operations and the lack of balance in allowing any rebuttal from the US military. Despite this, in the final analysis it serves as a stark reminder of the complexity of intervention in a country as diverse as Afghanistan with such a long and deep conflict history. Most of all it reinforces the need for western militaries to understand the nature of conflict rather than being perpetually fixated by its character.



## Book Reviews

# Wings of Empire: The Forgotten Wars of the Royal Air Force, 1919 – 1939

By Barry Renfrew

Reviewed by Lieutenant Colonel (Retd) Richard Newton (USAF)

---

**Biography:** Lieutenant Colonel (Retd) Richard Newton is a senior lecturer at Joint Special Operations University at MacDill AFB, Florida, and an editor for the Air Commando Journal. A graduate of the US Air Force Academy and the US Army School of Advanced Military Studies, he served 22 years in the US Air Force as a combat rescue and special operations helicopter pilot, strategic planner, and educator.

---

### Introduction

**W***ings of Empire* offers a good story and is one that deserves to be read, especially by readers in the general audience who might wish an introduction to the history of the RAF during the 1920s and 30s. Mr Renfrew's journalistic style is easy to read and his research is unique.

This book builds upon previous histories of the RAF between the Wars by David Omissi, Phillip Towle, Seb Ritchie, and others in what are now Iraq, Jordan, Pakistan, Sudan, and Yemen. What sets this book apart from others' work though, is the author's extensive use of oral history interviews, personal diaries, and personal papers from the pilots, crewmen, and technicians who flew the missions and kept the aircraft flying. This book adds to the previous histories that were often based on squadron records, 'doctrinal' publications, senior leader biographies, and official documents from the Air Ministry, Colonial Office,

Foreign Office, etc. What gives *Wings of Empire* its realistic 'flavour', is that it captures the human perspective, i.e. how air control was implemented at the personal level, the hardships of barracks and mess life in the Middle East and NWF, and the difficulties of maintaining a nascent technical service on the edges of the empire in very austere conditions. This is a very different perspective from that found in official correspondences and publications.

Another strength of this book is its reflection of everyday social context as the young Service sought to establish itself among the traditions of the Army and Royal Navy. Unlike nearly all other treatments of the air control scheme, Renfrew gives one a sense of what it was like to fly and to maintain delicate canvas and wood biplanes against a guerrilla adversary in harsh environmental conditions characterised by sandstorms, locust swarms, excruciating heat, jungles, and soaring mountains at the end of a precarious logistic chain. And, because *Wings of Empire* relies heavily on the personal histories of enlisted technicians and mid-level officers to enlighten the official papers of more well-known senior officers such as A. Harris, N. Bottomley, and L.E.O. Charlton, the book offers a much more workaday perspective than previous histories of air control.

The author makes the disclaimer right up front that 'this book is not an attack on the men who tried to rule the empire from the sky'. (p. 15) The rankers' point of view serves to remind readers that the social context of the inter-war period was very different from current standards. This was an era where indigenous peoples were commonly labelled 'savages', 'uncivilised', or worse—an uncomfortable condition for modern sensibilities, but a necessary acknowledgement if one is to comprehend the attitudes and actions of those who implemented the air control scheme.

Renfrew, like others who have considered the cultural and ethical aspects of air control, occasionally strays worryingly from an accurate account of the sources. For example, he states that the RAF claimed in a 1924 Air Staff Memorandum, *Psychological Effects of Air Bombardment on Semi-Civilised Peoples*, that 'it was not immoral to bomb black women and children' (p. 107). This phrase is not contained in the original Air Staff Memo (ASM 19). The original four-page memorandum is actually a comparison of the effects of bombing on all civilians during war, both in developed and developing communities. The memorandum's main purpose was to defend the independence of the RAF by considering the effects on indigenous peoples caused by punitive expeditions by land forces, naval blockades, and sieges, in addition to imperial control from the air.

As an academic piece, this book adds little to others' research into RAF operations during the inter-war period, some of which has been presented in this journal. Students and researchers will find Renfrew's referencing frustrating, almost to the point of distraction. First, he has too many quotations without citations (e.g. on p.105 he quotes a proposal that aircraft sprinkle 'crow's feet' in order to cripple men and livestock, but does not offer a source for this extraordinary claim). Second, where he has cited primary sources from Kew or IWM, he only

provides the box/folio number (e.g. AIR 8/46) and does not offer the actual document name or page numbers. Some of these references are multi-year records containing dozens of individual documents, thus making it daunting to confirm his facts or use his citations to aid additional research. A sample of nine of the scores of documents in AIR 8/46 (*RAF operations in India between 1921 – 1931*) resulted in 152 pages a researcher would need to review in order to find the quote he referenced. And, because so few of the RAF records from the inter-war period have been digitised, students and researchers will be forced to physically travel to the archives and manually sort through the boxes, folders, and pages if they wish to explore any of the author's claims.

One should excuse the publisher's exaggeration that the story of air control is one of the 'great untold stories of the British Empire' and that *Wings of Empire* provides 'the first narrative history of Air Control'. For the general public this claim is generally true—RAF campaigns during the inter-war period rank well behind stories of RAF exploits during the First and Second World Wars. Yet for air power researchers and students on both sides of the Atlantic, the air control 'saga' is by no means forgotten. Indeed, modern students and researchers have looked at the RAF's Middle Eastern campaigns from the inter-war period seeking lessons from what Air Forces did to control guerrillas in the same regions nearly one hundred years ago.

Sadly, *Wings of Empire's* comparison to current wars being fought in the same regions is overly simplistic. Most scholarly examinations of air operations then and now have concluded that superficial similarities do exist: same countries, similar ethnic groups, and comparable guerrilla tactics. But, the 'ground' has changed to become more urban, ethnic homogeneity has been lost with the influx of foreign fighters, and the guerrilla's actions are now driven by zealotry, passion, and extremism. More importantly, air control between the Wars was a preventative strategy to maintain an otherwise stable and secure environment. Modern air operations in Afghanistan, Iraq, Yemen, and Syria have been and are palliative, trying to 'cure' or restore stability and security after fighting has erupted. Between the Wars, Imperial Britain was trying to retain control of nations whose independence was inevitable. Western nations today are trying to help those now independent nations maintain or regain control of their territories and restore some measure of stability and security in the face of extreme and often radical interpretations of faith. The comparison is thin at best.

Despite its academic limitations, this book is worth your time. The rankers' perspective that Renfrew provides is unique and fascinating. *Wings of Empire* complements the more scholarly treatments of air control by previous authors, and gives modern readers a view of who we were and how far we've come—as airmen and humans.













<http://www.airpowerstudies.co.uk>

ISSN: 1463-6298

Produced by Air Media Centre, HQ Air Command. 2049\_15AJ  
© UK MOD Crown Copyright, 2016

Sponsor telephone number: 01793 314848  
Sponsor Role email address: [enquiries.dds@da.mod.uk](mailto:enquiries.dds@da.mod.uk)

 **ROYAL  
AIR FORCE**  
**Centre for Air  
Power Studies**