

Air Power Review

Volume 20 Number 3 Autumn/Winter 2017

The Royal Air Force Centre for Air Power Studies Academic Awards 2017

The Royal Flying Corps During Operation MICHAEL
Squadron Leader Phil Clare

'We Never Talk About That Now': Air-Land Integration in the Western Desert 1940-42
Wing Commander Dave Smathers

Strategic Bombing and Morale: To what extent did Operation GOMORRAH affect British and German Morale?
Mr Warren Huggins

Viewpoint

Basil H. Liddell Hart: His Applicability to Modern War
Colonel (Retd) Phillip Meilinger USAF

Book Reviews

Waging Insurgent Warfare: Lessons from the Vietcong to the Islamic State
Reviewed by Dr Vladimir Rauta

Apache Over Libya
Reviewed by Dr Christina Goulter

Fighting with Allies: America and Britain in Peace and War
Reviewed by Group Captain Mark Smith

Homo Deus: A Brief History of Tomorrow
Reviewed by Flight Lieutenant Lee Ashcroft

Why Spy? The Art of Intelligence
Reviewed by Flight Lieutenant Mark Kennedy

The Myth of the Strong Leader: Political Leadership in the Modern Age
Reviewed by Group Captain Sean O'Connor

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

See The Royal Air Force Air Power Review Online

www.airpowerstudies.co.uk

Air Power Review

is the professional
flagship publication
of the Royal Air Force

Royal Air Force Air Power Review

The 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, space and cyber power, with the objective of stimulating debate and promoting the evolution of air, space and cyber 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Contributions from both Service and civilian authors are sought provided the submission is original and unpublished.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 air power. Articles should comply fully with the style guide published at the RAF Centre for Air Power Studies website, www.airpowerstudies.co.uk; essentially they should be between 5,000 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 £100 for a published viewpoint and £50 for a book review. 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 broader 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

Executive Board Members

Gp Capt Jim Beldon (Editor)
Director of Defence Studies (RAF)

Dr David Jordan
King's College London (JSCSC)

Mr Sebastian Cox
Head of Air Historical Branch (RAF)

Editorial Board Members

Gp Capt (Retd) Clive Blount

Air Cdre (Retd) Dr Peter Gray
University of Birmingham

Dr David Lonsdale
University of Hull

Dr Jonathan Fennell
King's College London (JSCSC)

Dr David Hall
King's College London (JSCSC)

AVM (Retd) Prof Tony Mason

Dr Ian Gooderson
King's College London (JSCSC)

Dr Mark Hilborne
King's College London (JSCSC)

Dr Sebastian Ritchie
Air Historical Branch (RAF)

Dr Christina Goulter
King's College London (JSCSC)

Dr Peter Lee
Portsmouth Business School

Dr Steve Paget
Portsmouth Business School
(RAF College Cranwell)

Editorial Staff

Assistant Editor
Wg Cdr Al Green
Dep Director Defence Studies (RAF)

Co-ordinator
Sqn Ldr Victoria McCormick
SO2 Defence Studies (RAF)

Researcher
Sgt Paul Marr
SNCO Defence Studies (RAF)

Secretary
Miss Jane Curtis
Admin Support, Defence Studies (RAF)

Production and Design
Mr Anthony Jones
Air Media Centre,
Air Command (RAF)

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

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.

Photographs Courtesy of: RAF Museum, Hendon and Air Historical Branch, Northolt

Print: Williams Lea

Air Power Review

Volume 20 Number 3 Autumn/Winter 2017

4

Foreword

Squadron Leader Victoria McCormick

6

The Royal Air Force Centre for Air Power Studies Academic Awards 2017

10

Articles

The Royal Flying Corps During Operation MICHAEL

Squadron Leader Phil Clare

32

'We Never Talk About That Now': Air-Land Integration in the Western Desert 1940-42

Wing Commander Dave Smathers

50

Strategic Bombing and Morale: To what extent did Operation GOMORRAH affect British and German Morale?

Mr Warren Huggins

74

Viewpoint

Basil H. Liddell Hart: His Applicability to Modern War

Colonel (Retd) Phillip Meilinger USAF

86

Book Reviews

Waging Insurgent Warfare: Lessons from the Vietcong to the Islamic State

Dr Vladimir Rauta

90

Apache Over Libya

Dr Christina Goulter

94

Fighting with Allies: America and Britain in Peace and War

Group Captain Mark Smith

98

Homo Deus: A Brief History of Tomorrow

Flight Lieutenant Lee Ashcroft

102

Why Spy? – The Art of Intelligence

Flight Lieutenant Mark Kennedy

104

The Myth of the Strong Leader: Political Leadership in the Modern Age

Group Captain Sean O'Connor

Foreword

By Squadron Leader Victoria McCormick

In recognition of the RAF100 celebrations next year, all three 2018 editions of *Air Power Review* will be special editions. Each will have an exciting line-up of articles and book reviews covering three distinct epochs: the first will cover the period from the formation of the RAF until the end of the Second World War; the second will cover the period 1946 to 1991; and the third will examine 1992 to the present and beyond into the future. Our first article in this Autumn/Winter 2017 edition is therefore particularly poignant as it covers the last few days of the existence of the Royal Flying Corps (RFC) and the 1918 German Spring offensive: Operation MICHAEL. In the article, author Sqn Ldr Phil Clare argues that the criticism directed at the RFC for the failures in artillery cooperation in the days following the initial German assault is unwarranted. Further, despite a lack of training, agreed procedures and aircraft suited to the role, the RFC rapidly adopted a ground attack role in response to the determined German advance, a significant diversion from its accepted doctrine.

The theme of Air-Land Integration continues in our second article in which Wg Cdr Dave Smathers explores the difficult path towards successful British Air-Land Integration in the Western Desert in the period 1940-42, demonstrating that key factors for success included control of the air, willingness to cooperate, Joint headquarters, effective communications and sound doctrine. Staying with the Second World War, but switching focus to strategic bombing, our third article investigates the impact on British and German morale of the Combined Bombing Offensive (CBO) raids against Hamburg in the summer of 1943, codenamed Operation GOMORRAH. Although it is now accepted that the bombing failed to break German morale, Warren Huggins argues that the raids did in fact exert a far reaching moral impact in Germany. The author's examination of the impact in Britain suggests that whilst there was discomfort at the idea of German civilian deaths, the public's recognition that the CBO was the only way of striking Germany directly was a morale-enhancing aspect of the campaign.

This edition's viewpoint is by Colonel Philip Meilinger (USAF Retd) who examines the views of Basil Liddell Hart, Clausewitz and Sun Tzu on what Liddell Hart referred to as the 'Indirect Approach'. While pointing out the flaws in Liddell Hart's analysis of historic case studies, Meilinger argues that (given the perceived shortcomings of a direct approach in Iraq and Afghanistan since 2003) the UK and US should reinvigorate the indirect approach to limit liability and highlights the winning combination of air power, indigenous ground forces, Special Forces and intelligence assets.

A diverse mix of book reviews concludes this edition of *Air Power Review*. To start, Dr Vladimir Rauta reviews *Waging Insurgent Warfare: Lessons from the Vietcong to the Islamic State* by Seth G Jones. This informative book presents the modern realities of the complex world of insurgencies, demonstrating that a sound understanding of insurgencies is required before

discussion on counterinsurgency should be considered. Will Laidlaw's *Apache Over Libya* is then reviewed by Dr Christina Goulter. Although the conversational tone and pointed criticism of sister Services may be off-putting to some readers, this is a valuable addition to the studies of the Libyan civil war in capturing the role played by the Apache Force. In *Fighting with Allies: America and Britain in Peace and War*, reviewed by Gp Capt Mark Smith, the author combines his experience as a former British Ambassador to the United States and third-party sources to produce an enjoyable and insightful analysis of the relationship between the two countries, concluding that common interests will ensure that the relationship endures. *Homo Deus: A Brief History of Tomorrow*, reviewed by Flt Lt Lee Ashcroft, addresses the future of humankind, providing an insight into how our world is changing and suggests that humans will be put aside as the primary source of authority in favour of robots and nanotechnology. In *Why Spy? The Art of Intelligence*, reviewed by Flt Lt Mark Kennedy, the authors provide a captivating examination of the importance of intelligence, using pertinent case studies and examination of methodology, highlighting the recurrent difficulty faced by intelligence professionals of telling 'those who would not listen all the things they did not wish to know'. Lastly, *The Myth of the Strong Leader: Political Leadership in the Modern Age*, reviewed by Gp Capt Sean O'Connor, is a compelling and meticulously researched study of political leadership in which the author, Archie Brown, argues that strong, dominant leaders are not the most successful. Instead, he suggests that the leadership attributes of an effective leader include encouraging sanctioned critique, creating a culture of collective responsibility and supporting positive change.

For more thought-provoking insights into air, space and cyber power, you may wish to view the regular posts on the RAF Centre for Air Power Studies Facebook page – we would welcome your engagement in the discussions on historic, contemporary and future air and space power themes.



www.facebook.com/RAFCAPS/

The Royal Air Force Centre for Air Power Studies Academic Awards 2017

The Royal Air Force Centre for Air Power Studies (RAF CAPS) Academic Awards for 2017 were presented on 12 July during the Chief of the Air Staff's Air Power Conference held at the IET Savoy, London. The presentations were made by Air Chief Marshal Sir Stephen Hillier in front of over 400 delegates comprising visiting air chiefs, academics, members of the civil service, and service personnel, both regular and reserves.

The Gordon Shephard Memorial Prize

The Gordon Shephard Memorial Prize is awarded in memory of Brigadier General G F Shephard DSO MC RAF. Awarded annually since 1919, previous winners include Flt Lt Slessor MC (1923), Wg Cdr Leigh-Mallory DSO (1930) and Sqn Ldr Graydon (1974). The prize is awarded to an RAF airman or woman for the best Service paper or essay published through RAF CAPS.

The recipient for 2017 was Sqn Ldr Daniel Shaw, an RAF pilot (GR4 and Typhoon) and Qualified Weapons Instructor whose tours include an F-18 Instructor Pilot exchange with the US Marine Corps and operational tours on Ops TELIC and HERRICK with 13 Squadron.

His paper 'A 'Miserable Damn Performance'?

The Effectiveness of American Air Power Against Insurgency in Vietnam' was published in *Air Power Review Volume 19*

Number 1 and suggests that the Vietnam War saw the USA, at the pinnacle of its power, defeated by technologically overmatched opponents, using political violence as part of a sophisticated information warfare campaign. The paper highlights lessons from Vietnam in the integration of kinetic and non-kinetic effects from an air perspective, the importance of which are manifest in the current conflict against Daesh in Syria and Iraq. 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.



Sqn Ldr Daniel Shaw

The Salmond Prize

The Salmond Prize is awarded in memory of Sir John Salmond who, as an Air Chief Marshal, was appointed CAS in succession to Marshal of the Royal Air Force Sir Hugh Trenchard in 1930. The Prize is awarded annually for the best essay on an air power topic submitted to RAF CAPS by a civilian or non-RAF serviceman or woman of any nationality.

The recipient for 2017 was Mr Charlie Sammut who was not able to receive his award in person. Mr 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. He is a graduate of the University of Cambridge MPhil International Relations programme.

His paper *'A Gift to Our People': The Use of Drone Technology by Islamist Insurgents*, co-authored by Gp Capt Clive Blount, was published in *Air Power Review Volume 19 Number 1*. The authors argue that while it is unlikely that Islamist groups such as Hamas, Hezbollah and ISIS will ever be able to rival the tactical and technological sophistication of Western drone usage, drones have taken on their own cultural meaning beyond their mere technical capability. The use of drones by these groups to enhance their own technological credibility and popular legitimacy in the battle for allegiance is an effective political tool and the operational capabilities of the drones matter less than the potent message sent by their use.

The Air Power Defence Research Paper Prize

The Air Power Defence Research Paper (DRP) Prize is awarded annually to the Advanced Command and Staff Course graduate who produces the best air power related DRP. The recipient for 2017 was Wg Cdr William Cooper, an RAF pilot (Typhoon) who is currently Officer Commanding 6 Sqn.

His DRP, *'To what extent will air power be a feature of security in the maritime domain in an A2/AD environment?'*, analyses US and UK doctrine and concepts, historical and modern case studies and concludes that air power is critical. The paper also suggests that an important facet of an anti-A2/AD strategy is strategic, political leverage and that continuing technological advancement is necessary despite limited defence budgets. It argues that UK doctrine should specifically reflect A2/AD such that a UK force is effective both unilaterally and as part of a coalition.



Wg Cdr William Cooper

The CAS' Fellows' Prize

Awarded annually, the CAS' Fellows' Prize recognises the CAS' Fellow who has made the greatest contribution to the study and promotion of air power.

The recipient for 2017 was Cpl (now Sgt) Lee Tomas, who was awarded a Dowding Fellowship under the CAS' Fellowship Scheme, graduating with an MA from King's College London in 2017. His establishment of the 'RAF Benson Strategic Awareness Group' to increase understanding amongst the junior ranks of international relations, world affairs and the role of air power, particularly impressed the award panel. His achievements as the driving force behind the 'Strategic Awareness Group' are entirely deserving of credit.



Sgt Lee Tomas

The Royal Flying Corps During Operation MICHAEL

By Squadron Leader Phil Clare

Biography: Squadron Leader Phil Clare is an RAF Logistics Officer. He is currently serving as a member of the Directing Staff at the UK Joint Services Command and Staff College and holds an MA in the British History of the First World War from the University of Wolverhampton.

Abstract: The 1918 German Spring offensive, Operation MICHAEL, began on 21 March. The British Third and Fifth Armies that stood in the way were, in many cases, overwhelmed by the speed and ferocity of the initial German attack. For the Royal Flying Corps (RFC), artillery cooperation became difficult due to the disruption suffered by the British artillery. Instead, the RFC found itself outnumbered in the air and having to conduct extensive low-level attacks against German troops moving in the open. Whilst support to troops on the ground may seem perfectly normal today, the RFC lacked the training and equipment to undertake this role and suffered very high casualties in the process. This article explores the RFC's efforts and the criticism from some elements of the British Expeditionary Force (BEF), notably the Artillery, who felt they had been let down by the RFC.

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

'Not content with destroying the enemy in the air, they have vigorously attacked his infantry, guns and transport with bombs and machine-gun fire, and in the fighting south of the Somme in particular gave invaluable assistance to the infantry by these means on numerous occasions.'

Sir Douglas Haig's Sixth Despatch (German Spring Offensives, 1918), War Office, 21st October 1918.

Field Marshal Haig's praise for the RFC in his despatch quite rightly reflects the bravery and dedication of the RFC personnel who supported the Third and Fifth Armies as they attempted to halt the 1918 German Spring offensive.¹ Whilst his description of an air arm conducting low-level attacks in support of troops on the ground may seem nothing out of the ordinary today, in 1918 such operations were out of kilter with the RFC's contemporary doctrine which focused on defeating the German Air Service in the air and on providing photographic reconnaissance and artillery observation. Haig's praise was later tempered somewhat by what Hilary Saunders described as the post-war '*sterile wind of controversy that blew down Whitehall and through the Service Clubs*', which blamed the RFC for missing an opportunity to call down accurately ranged artillery fire against German troops advancing in the open.² Reports drawn from Divisional Artillery Commanders over that period are also largely unsympathetic towards the RFC and their perceived inability (or refusal) to support the guns during this critical period.

Political and Military Developments Prior to Spring 1918

The genesis of Operation MICHAEL, and the five other German offensives that would be launched against the British and French armies between March and July 1918, can be traced to 1917 and developments concerning Russia and the United States of America. Although the first Russian Revolution of March 1917 resulted in a gradual reduction rather than a complete collapse in the Russian Army's fighting power, it had nevertheless handed the strategic initiative to Germany.³ America's entry into the war in April 1917 forced Germany's hand with Ludendorff adamant that Germany had to strike before the American Expeditionary Force grew in number. The armistice between Russia and Germany in December 1917, concluding with the Treaty of Brest-Litovsk in March 1918, meant that by early 1918, Germany had been able to concentrate its strength against the West, forcing the BEF to come to terms with an unfamiliar challenge of having to prepare for a major German offensive.⁴

While global events were beginning to affect the military balance on the Western Front, the BEF was undergoing significant challenges of its own. In November 1917, the Cabinet Committee agreed to prioritise manpower for the Navy and the RFC, shipbuilding, tank production and agriculture ahead of the BEF. This meant that the BEF was forced into a restructuring programme in the Winter of 1917 that resulted in the disbandment of 115 battalions; a process that did not finish until a month before Operation MICHAEL.⁵ This reduction in fighting manpower was compounded by the fact that in February 1918 the BEF was directed to take over an additional 20 miles of the front-line previously held by the French.⁶ By spring 1918, Germany could field 192 divisions in the west, the French and British only 156.⁷ The Germans

possessed a numerical advantage which Ludendorff sought to exploit with a series of offensives against the British and French armies.⁸

Germany's numerical advantage was given real credence by a series of victories in Romania in 1916 and at Riga and Caporetto in 1917 which demonstrated its army's ability to deliver decisive blows on the battlefield.⁹ However, a BEF General Headquarters (GHQ) intelligence summary published on 16 February 1918 entitled 'German Methods in the Attack' concluded that *'there was no reason to believe the method of breaking through which was effective on the Russian and Italian fronts would succeed in the face of determined resistance.'*¹⁰ This operational assessment of the BEF's ability to withstand a German assault was overoptimistic to say the least, especially considering the success of the recent German counter-attack at Cambrai less than three months earlier.¹¹ Tim Travers believes the German counter-attack on 30 November was the most significant part of the Cambrai battles as the BEF could, and perhaps should, have recognised that the German Army was using new offensive tactics.¹² In the eyes of others such as Robert T Foley, Ludendorff was simply restoring the traditional German concept of *Bewegungskrieg* (Manoeuvre Warfare) to his divisions.¹³ Whether this was a revival of long-standing German doctrine or a new way of warfare, what is beyond dispute is that on 30 November 1917 the British Third Army lost 7,500 men, mostly as prisoners, and 162 guns.¹⁴ Disruption to the British Artillery was not just felt in losses - only 26 of 203 artillery calls made by the RFC were answered on the day of the counter-attack.¹⁵ It appears that the relevance of the German tactics did not register with GHQ. Six weeks after the battle had ended, General Rawlinson was forced to urge Haig to distribute the 'Lessons of Cambrai Counter Attack' report in the belief that the anticipated German offensive in 1918 would model itself on that attack.¹⁶

In assessing his defensive options, Haig placed most of his forces to the north of Arras, stretching to Flanders and Ypres, thereby protecting the vital Channel Ports that were the BEF's lifeline. The defensive line that protected these assets was certainly sound, but it lacked depth. Looking further south, Haig knew that Gough's Fifth Army lacked the strength to hold the line around Saint Quentin, but the ground that lay behind the front-line would allow commanders in this area to conduct a controlled retreat before the Germans reached any significant objective.¹⁷ Unfortunately, Haig's assessment appears to have ignored the German success at Cambrai, and it is possible that the BEF's own self-belief may have been laced with a degree of hubris. Their view that the British Army could withstand the German attack would be tested to destruction along the Fifth Army's front.¹⁸ Operation MICHAEL began on 21 March 1918 and, over the next 2 weeks, British forces were pushed back distances of up to 40 miles, losing 1,200 square miles of territory in the process.¹⁹ The gains made by the German Army vastly exceeded the progress made by either side on the Western Front in the previous four years, but the advance was eventually halted outside the town of Amiens.

The Question of Doctrine

*'All our thought and training had gone into how to chase and destroy German fighters in the air. Now we were having to carry out very low-flying attacks with bombs and machine guns.'*²⁰

As Commanding Officer of an RFC Squadron flying the SE5a fighter, Major Sholto Douglas would not have expected his unit to be taking part in low-level attacks against German troops. Sholto Douglas commanded an Army, or Scout, Squadron, trained and equipped to engage the German Air Services at altitude. Their counterparts, the Corps squadrons, conducted reconnaissance, bombing and artillery cooperation missions, flying in 2-seat aircraft designed to offer stability rather than speed and manoeuvrability. Sholto Douglas' comments suggest that RFC squadrons during Operation MICHAEL were required to operate outside the parameters set by their training, experience and equipment. Today's British military defines doctrine as something that *'sets out the fundamental principles by which military force is employed'* by drawing upon the lessons of history, incorporating original thinking and from experiences gained from training and operations.²¹ Although the First World War predates this modern definition by almost 100 years, it is perfectly acceptable for the purposes of this article. In February 1918, Major General Sir Hugh Trenchard's 'The Employment of the RFC in Defence', released just prior to his departure from France as Officer Commanding the RFC in the Field to assume the position of Chief of the Air Staff, provided RFC commanders with direction and guidance as to how they should operate in the face of the much-anticipated German offensive. Trenchard stated that the RFC's primary role in this instance was to use reconnaissance flights to detect the initial stages of a logistical build-up and then to hamper that build-up through sustained bombing attacks. Once the enemy offensive had begun, the focus should switch to *'rendering our artillery fire effective'*. The next priority for the RFC was to attack enemy reinforcements, de-training points, road transport, artillery positions and reserves. Finally, and this is of particular relevance to Operation MICHAEL, it was to send *'low flying machines, on account of their moral effect, to cooperate with the infantry in attacking the enemy's most advanced routes'*. Although this gives the impression that the entire RFC would be given this last task, Trenchard was in fact referring to a flight from each squadron – not exactly a main effort.²² These activities were to be conducted whilst ensuring the RFC maintained control of the air. In many respects, Trenchard's parting shot does not represent a seismic shift in the roles that the RFC was already undertaking.

Artillery in the Defence

The February 1918 Conference of Army Commanders at Doullens decreed that when used in the defence, artillery should operate on elastic and mobile principles. To do this, the Field Artillery would have to be trained for open warfare and be able to come into action rapidly in the open if necessary.²³ That same month, the Artillery were issued, under Stationery Service (SS) 139/7, Artillery in Defensive Operations. SS139/7 was unequivocal about the importance of artillery stating that it alone was the only weapon that could have a serious and decisive effect on the enemy and *'it must be regarded as the strongest weapon of the defence'*.²⁴ The document only required three paragraphs to inform the reader, and the RFC, that the aircraft's primary role was to observe for the artillery. RFC Commanders were to *'subordinate everything'* to ensure their Corps aircraft were kept in the air. It may therefore appear that the RFC had little freedom of manoeuvre, but it was in fact a reflection of Trenchard's 'RFC in the Defence' paper.²⁵ It was the view of the Artillery that if the RFC accorded with these principles,

they would be of far greater assistance to the infantry and artillery than any amount of low-flying or bombing would achieve.²⁶ Whilst SS139/7 was unequivocal regarding the primacy of the artillery and the supporting role of the RFC, it sent a mixed message on exactly how the artillery was meant to conduct itself if forced to retreat. Talk of adapting to mobile warfare is one thing, but to tell the Battery Commanders that '*the bold policy of holding a battery position to the last will generally pay*' (as it would allegedly buy time for the infantry to advance and assist the guns) is another matter entirely.²⁷

RFC and Artillery Cooperation

Prior to the release of the 1918 documents for the RFC and the artillery, the two Arms had been furnished with a series of SS pamphlets that covered in detail either the work of the artillery or the cooperation between the artillery and the RFC. Whereas the RFC had developed from first principles, the artillery entered the war as a long-established element of the British Army. By late 1917, the strength of the artillery was increasingly enhanced by the techniques in aerial observation and ranging that would see prolonged barrages give way to more nuanced techniques such as creeping barrages and predictive fire. The doctrine supporting the artillery and the RFC developed apace as both arms expanded, became more capable and better integrated.

Although the RFC and the artillery enjoyed a close relationship, observation from the air was not the only method available to the guns to register and correct the fall of shot. Sound Ranging, which used an array of microphones to detect the firing positions of enemy batteries, had been used effectively from as early as 1915. In many ways, this technique exemplified how the destructive power of the guns went hand-in-hand with their inflexibility. As important as sound-ranging was, it was clearly a technique developed from (and was ideally suited to) static warfare. At best, the arrangement of microphones and the associated 40 miles of wiring could take 36 to 48 hours to set up.²⁸ During the initial advance at Cambrai, Sound Ranging Sections took at least 60 hours to come into action.²⁹ Ultimately, the success of this system required that the vast network of cables between the Sound Ranging Unit, the battery and the observation group remained intact and functioning '*at all times*' (emphasis added).³⁰ Nevertheless, in terms of accurate and destructive fire, British artillery using sound ranging and flash spotting techniques could target German guns to within 25 yards by 1917. Although Sound Ranging was affected by strong winds blowing into or across the microphones, it could operate both in the hours of darkness as well as in poor visibility – something the RFC could not replicate.³¹

It would be disingenuous to say that fire control for the artillery was *totally* inflexible. The 'Zone Call' system was introduced in 1916 when it was recognised that the artillery and the RFC required a method that would allow them to deliver impromptu or unplanned fires. The system needed the gun battery and the RFC observer to have identical maps overlaid with a grid covering 6,000 sq yards, with the grid lines being drawn every 1,000 yards. The RFC observer could give an initial 'grid' location and then use a series of codes to correct the fire.

One such code, the 'LL call', required all available batteries to open fire against a priority target that warranted a powerful concentration of fire.³²

The lack of physical movement along the Western Front for much of the War did not mean that the BEF itself was not in a state of flux, as it had in fact experienced significant changes in both organisation and strength. It became clear during the battles of 1917 that the expansion of the Royal Artillery and the RFC incurred unintended negative consequences as both moved units from one command or formation to another. The result was that battery commanders would often find themselves working with newly-arrived pilots and observers who were not fully trained in the work of cooperation or that their own batteries were transferred from one command to another and found themselves working with new squadrons that were often employing different methods and techniques. Lieutenant Colonel Edgar Ludlow-Hewitt, Officer Commanding Number 3 Wing, believed that the relationship would continue to worsen. His solution was to adopt a common process where the aircraft and the battery worked as one, regardless of their location or formation.³³ Adopting a standardised approach within Fourth Army had, throughout 1917, seen the number of rounds fired during a sortie increase from 80 to 200. In December 1917, Ludlow Hewitt's work became enshrined in SS131, 'Cooperation of Aircraft with Artillery'. Although SS131 delivered a common understanding for both the artillery and the RFC, it also served to reinforce the *status quo* of static warfare without exploring the full implications of mobile warfare.

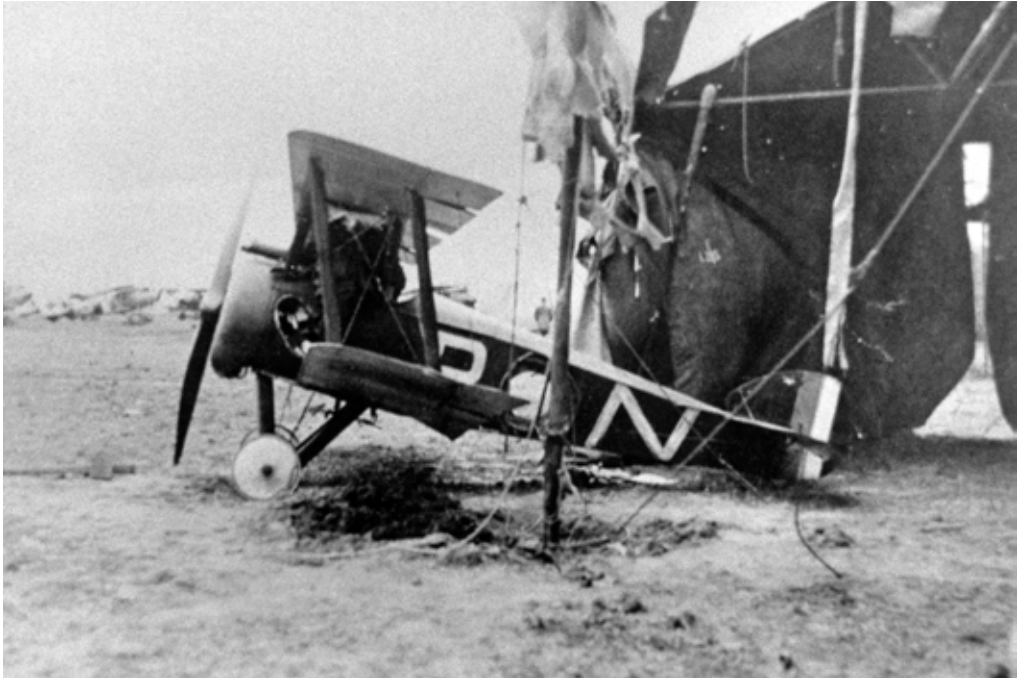
Although SS131 recognised that the ability for personal interaction and liaison between a Corps squadron and an artillery battery was becoming difficult, it nevertheless recommended that a new RFC observer should spend two or three days with a battery before they flew on artillery cooperation missions. On a similar note, it also stated that artillery officers should, if possible, '*spend a few days with their Corps Squadron and Balloon Company*'.³⁴ Although such interaction was clearly encouraged, it appears that not everyone was a willing participant or indeed saw the benefit. Flight Lieutenant Macfarlane, 35 Squadron, remembered hosting groups of infantry officers for three or four days during the winter of 1917/18 and he also recalled attending a course at an artillery school near Abbeville for about a week but said that he could '*not remember deriving much benefit from it*'.³⁵ Flight Lieutenant Bell of 69 Squadron also recalled that measures were taken in late December 1917 and January 1918 to encourage a close liaison with the Army whereby officers were sent from the squadron to the infantry and artillery for two to four days. The Squadron in turn supported a programme of visits from artillery and infantry officers, generally eight at a time, who stayed for a period of four days. Interestingly, Bell considered that better liaison was usually achieved through sport and guest nights than by formal exchange visits.³⁶ The artillery's perception of what the RFC had to offer was dealt with in a rather trite manner via the guidance issued to young officers from the heavy and siege batteries which, in a single paragraph, merely asked: '*Are you in close touch with the R.F.C., the Kite Balloon Section, the Topographical Section, and the nearest Field Company? All these people can help you with your work*'. By comparison, the same document dedicates 23 paragraphs to Stable Management for Horse Drawn Batteries.³⁷

Ultimately, it would seem that Weber's view holds sway that the three previous years of static warfare had produced a sensation or appearance of cooperation that was not backed up with sufficient commitment from either side.³⁸ Although the doctrine was in place, as was the direction from the commanders, the real difficulty for the artillery was that the gunners of 1918 were not as well imbued with the principles of open warfare as their predecessors.³⁹ At Cambrai, neither officers nor men were well trained in mobile warfare; in fact, General Farndale was of the view that they were not trained at all.⁴⁰ Ultimately, it was a lack of movement on the Western Front that meant that the artillery suffered from a process of ossification that, as 1917 ended, would hamper its ability to respond to the re-emergence of mobile warfare. The Field Artillery on the Western Front had, in Weber's view, abrogated its mobility and its tactics were those of siege warfare with only a minority of the Royal Horse Artillery (RHA) training for mobile operations.⁴¹

Control of the Air

*'The primary objective of all operations. . . was to secure air superiority over the battle line, to enable our reconnaissance and artillery aircraft to carry on their work.'*⁴²

Underpinning the whole of Trenchard's paper on RFC in the Defence was the need to maintain sufficient control of the air to provide freedom of movement for the RFC's own Corps Squadrons as well as the BEF's infantry and artillery below. At the outset of the campaign, the RFC could muster 31 squadrons to support the Third and Fifth Armies. As impressive as this sounds, the 579 British aircraft were outnumbered by the German Air Service, which had 730 machines at their disposal. This meant for the first time during the war, the German air concentration on the Western Front was greater than that of the RFC.⁴³ However, the speed and reach of air power meant that no RFC machine on the Western Front was more than 90 minutes flying time from any part of the Third or Fifth Armies' areas. However, this speed of movement could not prevent the German Air Service from gaining the ascendancy during the early stages of Operation MICHAEL, where the combination of German numbers and the speed of their advance meant that RFC operations were certainly disrupted. As early as 1100 hrs on 21 March, Number 8 Squadron (FK8), based only four miles behind the front line at Templeux, was ordered to relocate to their alternate airfield at Chilpilly. By the time this order was received, British guns were already firing from the edge of their airstrip. The airfield was taken by the Germans only four hours after the last squadron vehicle had left.⁴⁴ It was a similar tale for Number 5 Squadron RNAS (DH4), which had only transferred from the Dunkirk area on 18 March. Just like Leigh-Mallory's 8 Squadron, they were forced to set fire to buildings and hangars before abandoning their airfield. Goble, their Commanding Officer, remembers that just before the evacuation took place, he received a message from HQ RFC that provided instructions on how to construct cold frames to allow the growing of vegetables over the coming months – an irony that was not lost on Goble or his fellow pilots. The German Air Service, according to Hoepfner, found themselves in the ascendancy on 23 March when their pilots were presented with ample opportunities to target British formations that were crowding the roads approaching the front-line. Nevertheless, by 24 March, German formations



Sopwith Camel of 70 Squadron after being abandoned, Marieux, March 1918



RE8 aircraft of 15 Squadron RFC during the retreat caused by Operation MICHAEL, 25 March 1918

were beginning to complain about hostile air activity. Hoepfner's earlier statement that the German Air Service's choice not to challenge the RFC in the air in the run up to Operation MICHAEL was part of a wider deception plan does not tell the whole story. Truth be known, the German Air Service had lost its ability to challenge the RFC for absolute control of the air. The technical edge they possessed in April 1917 had evaporated. Not only were the British aircraft such as the SE5a, Bristol Fighter and Sopwith Camel a match for German designs such as the Albatross D.V, Pfalz III and Fokker Triplane, they were being produced in greater numbers. The German fighter aircraft also possessed a limited endurance. Whilst this was not a factor when these aircraft were defending their own airspace, as was the German preference, a lack of range limited their ability to loiter over the British lines when the offensive was launched.⁴⁵ As Operation MICHAEL progressed and the amount of territory captured increased, the short-ranged German fighter force struggled to find undamaged former RFC airfields from which to operate. They were also facing an opponent that had recovered from the shock of the initial advance, had been re-equipped from a highly efficient logistics system, was now operating from newly-established alternate airfields and had been reinforced by Wings from neighbouring areas.⁴⁶ Whatever the shortcomings of the German Air Service at this critical time, the fact their ground forces were feeling the effects of British air power was because, after only four days of battle, the RFC were able to assign 27 squadrons to ground attack duties.⁴⁷ The original role of the SE5a-equipped squadrons was to engage and destroy German fighter formations, but the character of the air war had changed. Combat reports from 84 Squadron on and after 18 March recorded offensive patrols being flown at altitudes of 8-18,000 feet, but from 22 March the reports recorded initial bombing missions followed by air-to-air combat taking place at an average height of 3,000ft.⁴⁸ By 29 March, the German offensive had virtually ground to a halt. Two days later, British pilots struggled to find any meaningful opposition with only 3 combats being fought.⁴⁹ The RFC had regained control of the air whilst, at the same time, in the face of extant doctrine, using its Corps and Army squadrons to provide additional support to the BEF whenever and wherever possible.⁵⁰

Artillery Cooperation

*'About 200 bosche are in front of BOUCHOIR but wez cannot be certain if they our people or the enemy as they are lying doggo.'*⁵¹

The same unit from 61st Division that received this message from a passing RFC crew also cites a separate instance on 22nd March when they tried to contact the RFC to report German infantry massing near Vaux that could have been wiped out if an aircraft had given immediate indication as to their whereabouts.⁵² The problems encountered by the 61st Division were not unique. The ferocious German barrage in the early hours of 21 March had targeted known battery positions as well as communication cables; if gun positions were not themselves coming under direct fire, their ability to react and respond to events was severely curtailed. Only those batteries held in reserve or the 'silent batteries' that had been instructed not to open fire in the preceding weeks proved to be the most use as the Germans had been unable to target them.⁵³

The speed and ferocity of the German offensive found the Third and Fifth Armies' defensive plans wanting. Edmonds describes the battle as one fought by battalions and small bodies of men, assisted by the divisional batteries and that the first information many of the heavy artillery batteries received was from infantry units who were retreating through their own positions.⁵⁴ Where the British were able to mount counter-attacks, they were invariably small affairs with artillery support – where it existed – provided by a few guns firing over open sights.⁵⁵ The fog on the morning of 21 March was so thick in places that it prevented artillery observers from seeing the red flares that were sent up by the infantry to call for immediate support.⁵⁶

It was not just the Field Artillery that was engaged at close quarters. Number 33 Siege Battery Royal Garrison Artillery came under such heavy machine gun fire that it suffered 75% casualties. By 1700 hrs on 22 March, the battery had fired 3,000 rounds – that is to say 36 tons of ammunition - in 36 hours. The two guns that had been towed away on the evening of 22 March when German infantry were only 500 yards away, were in action again that same night.⁵⁷ The bravery of the artillery crews was not in doubt. As Haig stated in his Dispatch of 21 July, 'The loss of artillery in the series of battles, though considerable, might well have been much greater but for the courage, skill and resource displayed by all the ranks of the artillery, both heavy and field.'⁵⁸ As if to reinforce Haig's words, the German attack on Fort Vendeuil that was carried out on the afternoon of 21 March was met with direct fire from guns of A and B batteries from 82 Artillery Brigade. By nightfall, 82 and 83 Artillery Brigades had lost 31 guns between them.⁵⁹ It should be remembered that 'Artillery in the Defence' put significant emphasis on 'bold policy of holding a battery position to the last'.⁶⁰

The first few hours of Operation MICHAEL had, in effect, dismantled the complex yet fragile communications structure that the British artillery relied upon so greatly. Any fixed wires that did survive were invariably overwhelmed by a multitude of users – Griffith cites as many as 13 Divisional Headquarters using a single line. It was not just fixed communications that suffered; 40 pigeon lofts also fell into German hands.⁶¹ As if the speed of the German advance was not enough, a thick mist meant that the vast majority of the RFC's Corps aircraft from III Brigade were unable to take off and provide aerial observation for the guns or indeed to discover the German progress.⁶² A solitary RE8 from Number 59 Squadron was able to monitor and report on the German advance for an hour before it was shot down.⁶³ If the Third Army was finding it difficult to see, the Fifth Army was blinded, losing the services of the RFC in their entirety until 1600 hrs on 21 March.

Although Edmonds is generally supportive of the RFC's efforts, he is quite correct to point out that ground observation could not detect the advance of reinforcements or the assembly of troops behind the line and the loss of communications between the RFC and the Artillery meant that great opportunities for doing damage were therefore lost.⁶⁴ Not every instance of lost communications was as a result of the German barrage. Batteries were continually on the move and when they did halt, they did not always put up their masts (albeit these were masts

that Moore refers to as 'clumsy').⁶⁵ Some antennae were designed and built to be portable, but even before the offensive began, Salmond believed that these (and the less mobile variants) would be, in his words, 'an embarrassment'.⁶⁶ Even when masts were erected, the operators were often unaware of the particular zone that was now covered by the guns. Ultimately, most of the Zone Calls sent by the RFC in the first days of battle went unanswered.⁶⁷

The Third Army report, drafted after the operation, specifically cited severance of telephone communications and a failure to receive wireless messages on battery masts as the main reasons as to why communication between the artillery and RFC failed. The artillery only too often failed to erect aerials that allowed air-to-ground messages to be received, or the aerials were erected within the gun line so as to make reception extremely difficult.⁶⁸ Both the care of wireless equipment whilst on the move and directions on the construction of RFC wireless posts were detailed in the respective SS Leaflets and were known to the Battery Commanders.

In the confusion and reality of retreat, Major Leigh-Mallory, Commanding Officer of Number 8 Squadron, clearly felt that a minority of the Zone Calls being placed by his crews were being answered. On the morning of 22 March, he sent his Squadron Wireless Officer to locate IV Corps' batteries and re-establish air-to-ground communications. The officer was unable to find a single battery that had an aerial erected and was of the view that 'As soon as the retreat started, all idea of cooperating with the aeroplanes seemed to have been abandoned. Many batteries had simply thrown their wireless equipment away and under these circumstances little use was made of zone calls'.⁶⁹ Such behaviour was not new. Major General Game, Chief of Staff at HQ RFC, found that a pre-arranged shoot had failed to go ahead in April 1917 because the battery commander had failed to establish a radio section, having ordered the ground wireless operator to leave his apparatus on the roadside.⁷⁰ Leigh-Mallory's and Game's findings are backed up by Brigadier General Charlton, Commanding Officer 16th Divisional Artillery, who acknowledged that his Brigades should have erected their wireless masts directly after they had moved and that this was often forgotten.⁷¹

The distance that the artillery was forced to move was a critical factor. In SS139/7, the artillery was given direction and guidance on how to operate when undertaking defensive operations but the document gave little indication of what 'movement to the rear' consisted of. The rule of thumb, according to Marble, was that if the front moved faster than three miles per day, the heavy artillery could not play a useful role as they required too long to pack up and move to new positions.⁷² Whilst such a distance may have been in line with the GHQ February Intelligence Summary as well as Haig's assumption of a gradual withdrawal, it was badly out of touch with the reality of Operation MICHAEL. On 23 March, units of the Fifth Army retreated at an average of four to six miles.⁷³ It was not just the distance involved: the frequency of moves was also a critical factor. 107 Brigade Royal Field Artillery (RFA) moved location on ten occasions over a three-week period and did not come to a halt until 10 April when it went into a 4-day long refit programme.⁷⁴ It was not just the Field Artillery that was forced to constantly relocate. Between 21 and 27 March, 138 Battery Royal Garrison Artillery moved a total of 65

miles and found itself coming into action from seven different positions.⁷⁵ The rate of movement did not merely impact the artillery's ability to provide coordinated and accurate indirect fire, it meant that the basic building blocks of ground-to-air communication had broken down at a very early stage.

Corps squadrons supporting the Third Army launched their first missions by noon on 21 March when four aircraft from 59 Squadron (RE8) sent several Zone Calls for counter-battery fire but all of them were ignored. A total of eight calls were made in 20 minutes, including a high priority LL call to target two battalions of German infantry moving along the Pronville-Queant road, but that too was ignored. Instead, the crews fired at the advancing Germans from 900 feet and dropped their 25lb bombs before returning to base, via IV Corps HQ, where they dropped a message bag reporting the location of the German troops. In the Fifth Army sector, crews from 82 Squadron (FK8) were unable to get airborne until 1600 hrs and, although they could see sunken lanes packed with German infantry as well as batteries firing in the open, were unable to get a response for their own LL calls.⁷⁶

The rate and frequency of movement within the Artillery not only made the role of sound ranging and flash spotting techniques redundant, it meant that in extremis, the Zone Call system also became ineffective. Marble maintains that those Artillery Brigades that retained their wireless sets could continue to work with aerial spotters but this fails to acknowledge the weakness of the Zone Call system when faced with large scale movement.⁷⁷ What the system had not taken into account was that the movement of the batteries may be so great that the zone grid upon which the calls were based no longer bore any resemblance to the new location of the battery. The retreat and confusion caused at the start of Operation MICHAEL meant that British batteries were unable to relate their locations to the grids that had been drawn up to support the planned 'gradual withdrawal'. When a battery commander *did* have the opportunity to do so, he was often unaware of which zone his battery was now meant to cover.

27 March was, according to Farndale, 'a good day for the guns'. Coordination was returning and communications were re-established and, at last, the value of overwhelming concentrations of artillery on men exposed in attack was being realised.⁷⁸ In fact, 39th Divisional Artillery reported that all of its batteries were in action by 26 March and that all communications were fully established.⁷⁹ That is not to say that all was well; conditions on the ground continued to confound the RFC's efforts to conduct artillery missions. On 25 March, a RE8 from 59 Squadron reported large numbers of German infantry east of Bapaume and requested artillery fire. However, the crew were unaware that much of the sector had been taken over by French troops and no battery answered the call.⁸⁰ If cooperation between the RFC and the British Artillery was proving problematical, performing artillery fires for newly-arrived French reinforcements was unlikely to bear fruit. The fact remains that much of the long-range destructive potential of artillery against troops in the open was not put to use by British artillery during the first few days of the German offensive.⁸¹ It was said that the RFC had missed

a wonderful opportunity; well-directed artillery fire might have so disconcerted the enemy as to have thrown his attack into confusion or even halted it. The initial efforts of the RFC did not necessarily attract universal praise with some officers from the hard-pressed Fifth Army remarking that abandoned airfields were the only evidence they saw of British air power.⁸² The Commander of the 66th Divisional Artillery reported that 'for the majority of the retreat, no calls were received from the RFC due to the fact that their aircraft were too busy dropping bombs – which is wrong! He also believed the presence of a contact artillery machine on each Corps front could have brought down a significant amount of firepower against targets that were hidden from ground-based observers.⁸³ What the artillery commanders were unaware of was that the RFC had tried to support the guns with little success, and had consequently turned their attention on delivering Trenchard's final priority for air power in the defence – low level attacks.

Low-Level Attacks

*'Strafen' – a German verb meaning 'to punish.'*⁸⁴

At the outbreak of the First World War, the RFC's contribution to the land battle was limited to one of observation, liaison and reconnaissance. For the next 18 months, the emphasis would be improving aerial photography and cooperation with the artillery. At Neuve Chapelle, several bombing (interdiction) missions were flown against railway stations as well as a suspected German headquarters, but the RFC was some distance away from developing a close air support capability over the battlefield itself.⁸⁵ The first experiments were conducted by numbers 12 Squadron (FE2b) and 60 Squadron (Nieuports) during the Battle of Arras.⁸⁶

Two months later, 14 pilots were brought together from six Army squadrons to conduct roving missions to attack enemy troops behind the lines at the Battle of Messines.⁸⁷ It was during the Ypres offensive that the British first used ground-attack aircraft in a pre-determined and organised manner when three aircraft from each of the four Army squadrons were tasked with attacking enemy airfields and other targets of opportunity. Each engagement brought about new discoveries and opportunities to refine tactics and techniques, but the RFC's development of what we would now recognise as close air support can be viewed as nothing more than experimental.⁸⁸

Further developments took place ahead of the Cambrai offensive when Prettyman's III Brigade allocated four squadrons to specifically conduct low-level attacks. He also made provision on the training programme for the pilots to practise dropping bombs from low level. Number 64 Squadron (DH5) had already undergone low-level flying training in England and once in France they were able to practise formation flying at low level.⁸⁹ It is important to note that preparations for Cambrai were not the norm, to the extent that pilots discovered carrying out this type of flying only a few weeks earlier were likely to be court-martialled.⁹⁰ A lack of practice for the pilots is mirrored by the guidance provided by the February 1918 edition of 'Fighting in the Air' which states that although bombing at low level had been used with 'very considerable success', it also admits that individual pilots would have to find out 'by experiment

exactly how far ahead they should aim' – not exactly a glowing tribute to the RFC training methods in use at the time.⁹¹ The four Army squadrons allocated to low-level work were seen by the Third Army as being particularly effective against concentrations of infantry, enemy airfields and artillery batteries.⁹² However, despite the additional training for the crews, losses to ground fire and aircraft accidents were significant and, in some instances, unsustainable. For example, repeated attacks against German positions in Bourlon Wood involving up to 50 aircraft from three different squadrons resulted in losses of 30%.⁹³ Nevertheless, the overall assistance provided by the four Army squadrons both in the attack and ensuing German counter-attack convinced GHQ that low-level attacks had proved their worth in helping them win battles; the earlier 'experimentation' of 1917 was beginning to pay dividends.⁹⁴

Even if the progression towards conducting low-level attacks had been supported by bespoke training regimes, RFC commanders still had the concerns of the aircrew to consider. There was very much a sense that when carrying out trench strafing, pilots felt that their skill, experience or boldness counted for nothing and that their survival was left to chance. Pilots from Army squadrons carrying out a low-level attack would often be unaware whether they had done any damage and the sensation of delivering a successful attack against a ground target did not equate to the sensation of claiming a downed aircraft.⁹⁵ There is also the matter of anti-aircraft fire: gaining control of the air at 3,000 or 13,000 feet was of little importance to a pilot having to sideslip his aircraft to avoid ground-based rifle and machine gun fire. Lee, a Flight Commander with Number 46 Squadron (Camels), had taken part in 45 combats between May and November 1917, during which time his entire Flight had only suffered two fatalities and only one of these was from enemy action. In seven ground attack missions during the Cambrai offensive, Lees was shot down three times and the squadron suffered seven fatalities, four of which were from his Flight.⁹⁶ Lee's views on the dangers of low-level attacks are mirrored by those of Squadron Leader Andrews of Number 70 Squadron (Camels) who stated that his unit abandoned offensive patrols over German territory in favour of low-flying attacks on troops. According to Andrews, the Squadron suffered very heavy casualties, his own Flight 'disappeared' and new pilots rarely survived more than one or two sorties (new pilots unfamiliar with the terrain would invariably 'pop up' to gain their bearings only to be brought down by ground fire). The threat posed by the German Air Service seems minimal in that Andrews says he never saw a German aircraft and rarely a British one as he spent his time flying as close to the ground as possible.⁹⁷

It was not just the RFC's training programme or the psyche of its pilots that were not necessarily in tune with low-level attacks. The aircraft that equipped the RFC had been developed to support Trenchard's directive whereby Army Squadrons would contest and win control of the upper airspace which would allow the Corps aircraft to provide artillery cooperation and photo reconnaissance. Any suggestions that low-level attacks were central to the RFC's doctrine need to be examined in more detail in light of this equipment programme. The power required by aircraft such as the SPAD and SE5a to enable them to operate and manoeuvre at height meant that these aircraft were fitted with heavy engines that made

them unsuitable for diving attacks at low level. Equally, the inherent stability of Corps aircraft such as the RE8 that made them such excellent observation platforms also meant they lacked manoeuvrability. That said, this stability also brought with it a degree of ruggedness and toughness that allowed these aircraft to accept a fair degree of damage compared to their more thoroughbred and fragile Army counterparts. One particular aircraft that found itself operating in an unfamiliar low-level role was the DH5. According to Lee, this aircraft was only chosen for this role as it was 'deemed to be of little use for anything else'.⁹⁸ Lee's view is mirrored by Lieutenant Commander Goble, who believed that the aircraft was only able to operate at such low levels thanks to the general confusion and congestion over the battlefield.⁹⁹ The Sopwith Camel had been used as a makeshift ground attack aircraft with some success at Cambrai but the heavy losses suffered by these squadrons could not be sustained. Whilst extremely manoeuvrable, the flying characteristics of the Sopwith Camel meant it was not necessarily best suited to ground attack missions but the fact it was being replaced in the Scout role by the SE5a meant the Camel was becoming available for this type of work. The range and type of aircraft available limited the RFC's choice of aircraft for ground attack missions and brings into question any suggestion that this was a core role. The Air Ministry had in fact placed a design specification with Sopwith in January 1918 to produce an armoured aircraft designed for low-level ground attack missions, but the resultant Sopwith Salamander would not see service until October 1918. In the meantime, two squadrons of Camels were fitted with armour which afforded a limited amount of protection.¹⁰⁰ This was not the equipment programme of an air arm that had a doctrine of low-level attacks at its core.

Hallion's statement that by March 1918, British Air Doctrine called for 'the mass employment of close air support aircraft' may be overstating the case somewhat as the actual position was not so clear cut.¹⁰¹ As late as February 1918, 'Fighting in the Air' stated that RFC reconnaissance machines 'should not, as a rule, carry bombs as the attention of the observer should be concentrated solely upon reconnaissance' because the 'opportunities for accurate bombing will be very small and the loss of such opportunities will be offset by the improvements in reconnaissance reports'.¹⁰²

Even amongst those Army squadrons that had gained some experience of low-level work, the notion of standardised tactics and procedures is a little misleading. Crews from 54 Squadron (Camels) found that 'flying in formation of five or six machines was found to be far too many as aircraft were just as likely to hinder each other, we therefore decided to work in pairs'. Conversely, 84 Squadron (SE5a) came to the opposite conclusion that attacking in flight strength gave the best results.¹⁰³ For their counterparts in the Corps formations, low-level work was an entirely new skill that had to be learnt very quickly. Many British pilots were learning the task of ground strafing almost from scratch and were devising their own tactics; there was no manual to consult. *Ad hoc* tactics, a lack of a dedicated ground attack aircraft and the absence of a formal training system for low-level attacks; at no point does this situation indicate that close air support was embedded in the RFC's doctrine of early 1918.

The weight of effort placed on low-level attacks grew at an exponential rate from 24 March. On that day, every available RFC aircraft was ordered to attack German ground units. The war diary of one German Grenadier Regiment stated that, whilst assembling near Athiers, their unit was attacked by British aircraft and within a matter of seconds had lost eight officers and 125 men. The 8th Grenadier Regiment reported that they were attacked whilst crossing the Somme by 20 British aircraft that appeared to be flying no more than a metre above the ground. The 52nd Reserve Regiment diary reports hostile airmen being present 'in droves', stating that in excess of 30 British aircraft were overhead at any one time with pilots coming down to as low as 20 metres before releasing their bombs. One Regiment suffered so many casualties from air attack that it became non-effective and had to be withdrawn.¹⁰⁴

On 25 March, Salmond gave an order to the Commanding Officer of IX Brigade that in many ways was the RFC's very own version of Haig's 'Backs to the Wall' order of 11 April:

*'I wish as soon as you can after receipt of this, to send out your scout squadrons. ... on to the line Grevilliers-Martinpuich-Maricourt. These squadrons will bomb and shoot up everything they can see on the enemy's side of the line. Very low flying is essential. All risks to be taken. Urgent.'*¹⁰⁵

The fact that Salmond could commit an entire Brigade to shore up the defence of the BEF after four days of intense air fighting is testament to the RFC's ability to re-assign formations from other parts of the front at short notice. One of Salmond's more significant and earliest decisions was to increase the establishment and number of Reserve Lorry Parks (RLP). By March 1918, there were five RLPs available, capable of supporting the move of up to 30 squadrons at any one time.¹⁰⁶ The movement of squadrons during Operation MICHAEL also required the RFC logistics system to react and keep pace so that the operational tempo was not interrupted. Brooke-Popham decided to dispense with the long-established demand-led supply system whereby squadrons would request spares and stores and replaced it with a 'push' model to ensure petrol and weapons were either pre-positioned or delivered to each airfield. The latter was certainly less efficient but proved to be a highly effective solution in the circumstances.¹⁰⁷ Whereas the German Air Service was struggling to operate in forward locations, the RFC's logistic support was more than coping. The German advance was threatening Number 2 Aeroplane Supply Depot (ASD), responsible for supporting III and V Brigades. The ASD began moving from Fienvillers, 15 miles north west of Amiens, on 25 March and completed the 40 miles move to its new position at Verton, near Etaples, on the 27 March,¹⁰⁸ a major undertaking in itself, but one made all the more impressive in that it took place as the squadrons were engaged in some of the most intense flying activity the RFC had witnessed.¹⁰⁹ Von Kuhl's statement that enemy air activity had accounted for 'one half of all casualties suffered' is a source of debate amongst writers, but his comments do imply that the RFC caused a significant degree of damage and disruption.¹¹⁰

That the RFC was able to achieve a significant effect on the battle can in some ways be put down to the fact that they had learnt some limitations regarding low-level attacks from the

Cambrai campaign; notably, that that a 25lb bomb was unlikely to damage an artillery piece and it was far better to machine gun the crews and horses.¹¹¹ The RFC were targeting what was the Achilles Heel of the German Army during Operation MICHAEL – its mobility. As Foley points out, the German army of 1918 was short of horses, was being forced to advance over extremely poor terrain and therefore could not manoeuvre to the extent required by Ludendorff's approach.¹¹² Finally, a word on losses is appropriate. Salmond knew that his orders of 25 March would result in heavy casualties amongst his pilots.¹¹³ The loss rate at Cambrai had been a warning and the pattern was to continue during Operation MICHAEL. It is certainly difficult to accept Wise's view that 'as tragic as retreat was to other arms, to the RFC it was something of a picnic'.¹¹⁴ Total RFC losses over the period 21 to 31 March amounted to 478 aircraft lost, either as a result of combat or having been abandoned by retreating units. By 29 April, the figure had risen to 1302.¹¹⁵ This represented the worst attrition ever suffered by the RFC – including Bloody April – with the 478 aircraft being equivalent to over 70% of the front-line strength.¹¹⁶

Conclusion

*'Although the infantry were not always conscious of it, the assistance received from the RFC during the 1918 offensive was probably one of the most valuable and effective contributions made by the air arm during the whole war. The endeavour and sacrifice of the airmen in March 1918 has rarely been equalled.'*¹¹⁷

The same day that Salmond issued his 'all risks to be taken' order to IX Brigade, he is said to have overheard a phone conversation in GHQ where Brigadier Dill, Haig's Deputy Chief of Operations, had said that the RFC had temporarily 'frozen up' the German attacks in the south.¹¹⁸ Low-flying aircraft certainly harassed the advancing Germans and in some instances had a decisive effect. GOC V Brigade sent a message to his squadrons stating it was mainly due to their efforts that the gap near Roye was held on 26 March.¹¹⁹ The inability of the RFC to provide support to the artillery has been criticised by some almost as a dereliction of duty. In a mobile battle, the techniques of sound ranging and flash spotting were made redundant, making aerial observation even more critical. The frequency that batteries were required to re-locate was clearly a factor, but by abandoning the aerial masts, many batteries had removed their most effective way of communicating with the RFC. The failure of SS139/7 to adequately deal with the real possibility of retreat was a major failing. Whilst the batteries firing over open sights inflicted significant casualties on the German army, they were operating in a way that, except for a small number of RHA formations, they were not trained to do. The RFC itself was also struggling to operate in accordance with its doctrine. Outnumbered by the German Air Service and forced to operate from a series of relief landing grounds, the RFC initially lost control of the air and would not regain it for several days.

Although the RFC had conducted several low-level operations during the battles of 1917, the *ad hoc* tactics adopted by both Army and Corps squadrons during Operation MICHAEL and the fragile nature of their aircraft stripped away any semblance that such missions were

a core role of the Service. Had better training and a dedicated, perhaps armoured, aircraft been in service, the RFC's impact on the German advance in March 1918 could have been even greater.

Two weeks in any timeline of the First World War is but an instant. But thanks to the actions of the aircrew and groundcrew, the commanders and the logisticians of the RFC, Op MICHAEL should be remembered as a pivotal moment in the history of British air power. The effort of the air arm is made all the more poignant considering it was made over the final days of the organisation's existence.

Notes

¹ For simplicity, the term 'RFC' as used in this article includes those Royal Naval Air Service squadrons assigned to support the RFC.

² Hilary St J Saunders, *Per Ardua – The Rise of British Airpower 1911-1939* (Oxford: Oxford University Press, 1944), p.163.

³ Gary Sheffield, *Douglas Haig: From the Somme to Victory* (London: Arum Press Limited, 2011 [2016]), p.265.

⁴ Ibid, p.265.

⁵ Brigadier General James Edmonds, *Military Operations France and Belgium, 1918 Volume 1* (London: MacMillan and Co, Limited, 1935), p.55.

⁶ HA Jones, *The War in the Air, Being the Story of the Part Played in the Great War by the Royal Air Force: Appendices* (Naval and Military Press reprint of 1937 original), Appendix XLIII p.162.

⁷ Gary Sheffield, *Forgotten Victory*, (London: Headline Book Publishing 2001 [2002]), p.223.

⁸ David Stevenson, *With our Backs to the Wall – Victory and Defeat in 1918* (London: Allen Lane, Kindle for PC Edition, 2011), Chapter 1, Preparations, Paragraph 12.

⁹ David Zabecki, *The German 1918 Offensives A Case Study in the Operational Level of War* (Abingdon: Routledge, 2006), p.27.

¹⁰ Jim Beach, *Haig's Intelligence - GHQ and the German Army, 1916-1918* (Cambridge: Cambridge Military Histories, 2013), p.288.

¹¹ Ibid, p.302.

¹² Tim Travers, *How the War Was Won – Command and Technology in the British Army on the Western Front, 1917-1918* (London: Routledge [1992] 2003 Kindle for PC Edition), Ch1, para 25.

¹³ See Denis Showalter, *Instrument of War: The German Army 1914-1918* (Oxford: Osprey, 2016), p.245. Foley's first name is rendered incorrectly on this page.

¹⁴ Travers, *How the War...* Ch1, para 36.

¹⁵ The National Archives (TNA) WO158/316 – 'Third Army (Cambrai) Narrative of Operations and Lessons Learnt Nov 1917'.

¹⁶ Travers, *How the War*, Ch1, para 39.

¹⁷ Peter Hart, *1918: A Very British Victory* (London: Weidenfeld and Nicholson, 2008), p.39.

¹⁸ Edmonds *1918 Volume 1*, p.117.

¹⁹ Brigadier General James Edmonds *Military Operations France and Belgium, 1918 Volume 2* (London: MacMillan and Co, Limited, 1935), p.489. The figures refer to German operations

21 Mar to 4 Apr.

²⁰William Sholto Douglas (84 Squadron), *Years of Combat* (London: Collins, 1962), p.263; Hart, 1918, Chapter 5 para 24.

²¹Joint Doctrine Publication 0-01 (JDP 0-01) (5th Edition), dated November 2014, DCDC Shrivenham.

²²Jones, *The War in the Air*, Appendices, Appendix XIV, pp.444-446.

²³TNA WO158/311 'General Information by GHQ to Army Commanders Apr 1917-Nov 1918'.

²⁴Stationery Services Pamphlet SS139/7, 'Artillery Notes No. 7: Artillery in Defensive Operations', February 1918.

²⁵'RFC in the Defence' states that 'Once an enemy offensive had begun, the principal duty of the RFC was to 'render our artillery fire effective'.

²⁶SS139/7 – Alongside the three paragraphs given over to cooperation with aircraft, eight paragraphs were dedicated to dealing with enemy tanks.

²⁷Ibid.

²⁸Sanders Marble, *British Artillery on the Western Front in the First World War* (London: Ashgate, 2013), pp.168-169 and (40 miles) SS552 pp.5-6.

²⁹TNA WO158/316, 'Third Army (Cambrai) Narrative of Operations and Lessons Learnt November 1917'.

³⁰Stationery Services Pamphlet SS199/1, 'Ranging with Observation by the Field Survey Company', May 1918.

³¹Shelford Bildwell and Dominick Graham, *Firepower – British Army Weapons and Theories of War 1904-1945* (London: George Allen and Unwin, 1982 [1985]), p.110.

³²Stationery Services Pamphlet SS124, 'Notes for Artillery Officers on Shoots With Aeroplane Observation', May 1916.

³³HA Jones, *The Great War in the Air, Being the Part Played in the Great War by the Royal Air Force*, Volume 4, (Oxford, Clarendon Press, 1934), pp.214-218.

³⁴Stationery Services Pamphlet SS131, 'Cooperation of Aircraft with Artillery' December 1917 (there had been previous iterations of this pamphlet in December 1916 and August 1917).

³⁵TNA Air 1/2388/228/11/88.

³⁶TNA AIR 1/2388/228/11/78.

³⁷Stationery Services Pamphlet SS592, 'Catechism for Heavy and Siege Artillery Subalterns', October 1917 Issued by the General Staff.

³⁸Lt Col WHF Weber, 'With the Field Artillery from Trench to Open Warfare on the Western Front', *Journal of the Royal Artillery*, XLV (1918-19), pp.358-361.

³⁹General Herbert Uniacke, 'Actions Performed by the Artillery of the Fifth Army', *Journal of the Royal Artillery*, XLV (1918-19), pp. 255-282.

⁴⁰General Sir Martin Farndale, *History of the Royal Regiment of Artillery Western Front 1914-18* (The Dorset Press, 1986), pp. 257-258.

⁴¹Weber, 'With the Field Artillery', p.357.

⁴²Wing Commander J C Slessor, *Air Power and Armies* (Oxford: Oxford University Press, 1936), p.2.

⁴³Edmonds, 1918 Volume 1, p.118.

⁴⁴TNA AIR 1/2388/228/11/80.

- ⁴⁵ Peter Hart, *Aces Falling – War Above the Trenches, 1918* (London: Orion Books, Kindle Edition, 2008), Chapter 4 (Impending Storm), paragraph 5.
- ⁴⁶ Ernst Hoepfner, *Germany's War in the Air – the Development and Operations of German Military Aviation in the World War* (London: The Battery Press, 1921 [1994]), pp.148-149.
- ⁴⁷ Hart *Aces Falling*, Chapter 5 (Götterdämung on the Somme), paragraph 96.
- ⁴⁸ TNA AIR 1/1227/204/5/2634/84.
- ⁴⁹ Saunders, *Per Ardua*, p.170.
- ⁵⁰ S F Wise, *Canadian Airmen and the First World War* (Toronto: University of Toronto Press, 1980), p.492.
- ⁵¹ TNA WO 158/343 Report on the Retreat of the Artillery March 1918 as reported by 61 Divisional Artillery.
- ⁵² TNA WO 158/343 Report on the Retreat of the Artillery March 1918 61 Divisional Artillery.
- ⁵³ Marble, *British Artillery*, p.217.
- ⁵⁴ Edmonds, *1918 Volume 1*, p.167.
- ⁵⁵ Marble, *British Artillery*, p.219.
- ⁵⁶ It is not to say that the infantry was not using their rifle grenades to call for urgent artillery support. By 29 March Third Army reported that stocks of SOS rifle grenades had actually run out and would be replaced by green and red very lights – TNA WO 158/252 Fifth Army Operations Nov 17 to Jul 1918.
- ⁵⁷ Farndale, *Royal Regiment of Artillery*, p.264.
- ⁵⁸ Sir Douglas Haig's sixth Despatch (German spring offensives, 1918), War Office, 21st July 1918.
- ⁵⁹ Jerry Murland, *Retreat and Rearguard: Somme 1918 – The Fifth Army in Retreat* (Barnsley: Pen and Sword, 2014), p.48.
- ⁶⁰ SS139/7.
- ⁶¹ Paddy Griffith, *Battle Tactics of the Western Front – The British Army's Art of Attack, 1916-1918* (Yale: Yale University Press, 1994 [2000]), p.173.
- ⁶² Farndale, *Royal Regiment of Artillery*, pp.262-263.
- ⁶³ Robert Jackson, *Army Wings – A History of Army Air Observation Flying 1914-1960* (Barnsley: Pen and Sword, 2006), p.38.
- ⁶⁴ Edmonds, *1918 Volume 1*, p.169.
- ⁶⁵ William Moore, *See How They Ran – The British Retreat of 1918* (London: Sphere Books Limited, 1975 [1970]), p.94.
- ⁶⁶ John Laffin, *Army Wings – A History of Army Air Observation Flying 1914-1960* (Barnsley: Pen and Sword, 2006), p.102.
- ⁶⁷ Edmonds, *1918, Volume 1*, p.168.
- ⁶⁸ Saunders, *Per Ardua*, p.163.
- ⁶⁹ TNA AIR 1/2388/228/11/80.
- ⁷⁰ Jones, *The War in the Air... Volume 4*, p.213.
- ⁷¹ TNA WO 158/343 Report on the Retreat of the Artillery March 1918.
- ⁷² Marble, *British Artillery*, p.218.
- ⁷³ Hart, *A Very British Victory*, p.142.
- ⁷⁴ TNA WO 95/2197/4.

⁷⁵ Uniacke, *Artillery of the Fifth Army*, p.274.

⁷⁶ Wise, *Canadian Airmen*, p.491.

⁷⁷ Marble, *British Artillery*, pp. 219-220.

⁷⁸ Farndale, *Royal Regiment of Artillery*, p.274.

⁷⁹ TNA WO 158/343 Report on the Retreat of the Artillery March 1918.

⁸⁰ Jackson, *Army Wings*, p.40.

⁸¹ Wise, *Canadian Airmen*, p.492.

⁸² ER Hooton, *War Over the Trenches – Air Power and the Western Front Campaigns 1916-1918* (Hinckley: Midland 2010), p.211.

⁸³ TNA WO 158/343 Report on the Retreat of the Artillery March 1918.

⁸⁴ David Ian Hall, *Strategy for Victory: The Development of British Airpower, 1919-1943* (Westport: Praeger Security International, 2008), p.20.

⁸⁵ David Jordan, *The Army Co-Operation Missions of the Royal Flying Corps/Royal Air Force 1914-1918* (Unpublished PhD thesis, University of Birmingham, 1997), p.210.

⁸⁶ *Ibid*, p.224.

⁸⁷ Arthur Gould Lee, *Open Cockpit - A Pilot of the Royal Flying Corps* (London: Jarrolds, 1969 (kindle edition 2012)), Ch 14, Paragraph 15.

⁸⁸ Hall, *Strategy*, p.6.

⁸⁹ Jones, *The War in the Air...* Volume 4, p.234.

⁹⁰ Lee, *Open Cockpit*, Ch 14, paragraph 19.

⁹¹ Jones, *The War in the Air... Appendices*, p.99.

⁹² Saunders, *Per Ardua*, p.157.

⁹³ Jones, *The War in the Air...* Volume 4, p.247.

⁹⁴ Lee, *Open Cockpit*, Ch 14 paragraph 14.

⁹⁵ Lee, *Open Cockpit*, Chapter 14, Paragraph 31.

⁹⁶ *Ibid*, Chapter 14, Paragraphs 1-2.

⁹⁷ TNA Air 1/2388/228/11/91.

⁹⁸ Lee, *Open Cockpit*, Chapter 14, Paragraph 18.

⁹⁹ TNA Air 1/2388/228/11/68.

¹⁰⁰ TNA Air 2/1027.

¹⁰¹ Richard P Hallion, *Strike from the Sky – the History of Battlefield Air Attacks 1911-1945* (Shrewsbury: Airlife, 1989), p.23.

¹⁰² TNA AIR 1/675/21/13/1422.

¹⁰³ Hart, *Aces*, Ch 5 (Götterdämung on the Somme), paras 46-48.

¹⁰⁴ Jackson, *Army Wings*, pp.40-41.

¹⁰⁵ John Laffin, *Swifter Than Eagles: The Biography of Marshal of the Royal Air Force Sir John Maitland Salmond* (Edinburgh: Blackwood, 1964), p.107.

¹⁰⁶ Peter Dye, *Air Power's Midwife – Logistics Support for Royal Flying Corps Operations on the Western Front 1914-1918* (Department of Modern History College of Arts and Law., University of Birmingham, 2013), p.230.

¹⁰⁷ Dye, *Logistics Support*, p.242.

¹⁰⁸ *Ibid*, p.241.

¹⁰⁹ Over 40,000 hours were flown during March – a total exceeding any previous month in the war, including Arras and Third Ypres. Dye, *Logistics Support*, p.239.

¹¹⁰ Wise, *Canadian Airmen*, p.507.

¹¹¹ Lee, *Open Cockpit*, Chapter 14, Paragraph 23.

¹¹² I am grateful to Dr Robert T Foley for this information.

¹¹³ Laffin, *Swifter Than Eagles*, p.108.

¹¹⁴ Wise, *Canadian Airmen*, p.493.

¹¹⁵ J.F. O'Connell, *The Effectiveness of Airpower in the 20th Century: Part 1 (1914-1939)* (New York, iUniverse Inc, 2007), p.8.

¹¹⁶ Dye, *Logistics Support*, p.239.

¹¹⁷ Moore, *See How They Ran*, p.91.

¹¹⁸ Hooton, *Trenches*, p.211.

¹¹⁹ TNA WO 158/343 'Report on the Retreat of the Artillery March 1918'.

‘We Never Talk About That Now’: Air-Land Integration in the Western Desert 1940-42

By Wing Commander Dave Smathers

Biography: Wing Commander Dave Smathers is an Aerospace Battle Manager. A Qualified Weapons Instructor (ISR) he has completed tours with 8 and 54(R) Sqns, achieving nearly 3000 hours on-board Sentry E-3D. Possessing extensive experience of the Joint environment, he has served on operations with 30 Cdo IX Group where he specialised in the integration of Air effects in support of land scheme of manoeuvre and as Chief of Staff of the Joint Cyber Unit Cheltenham. An MA graduate of Defence Studies at King's College London, he is presently XO of the Air Warfare Centre Conceptual Element.

Abstract: Effective Air-Land Integration (ALI) has historically proven cyclical and difficult to achieve. This article examines how events in the Western Desert between late 1940 and 1942 allowed British Forces to develop an efficient and effective system of ALI. It examines how these ‘ALI principles’ evolved after calamitous failures in France during early 1940 to create a Joint approach to warfare. Using operational case studies from Operation COMPASS in 1940 through to the battle of Alam el Halfa in late 1942, it demonstrates how control of the air, willingness to cooperate, joint headquarters, effective communications and sound doctrine became the critical tenets of successful 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.

Introduction

The achievement of effective Air-Land Integration (ALI) has been elusive and difficult to achieve. Whilst numerous examples of successful cooperation exist, the ability to project air power in support of ground forces has proven to be a major challenge for over 90 years.¹ Perhaps the greatest irony is that during the Great War, the British created an effective process of air support to ground operations and possessed what many people believed to be 'the finest tactical Air Force in the World'.² Due to inter-war cuts in annual defence budgets, the relationship between the Army and RAF in 1939 was burdened by friction and deep-rooted prejudices.³ Certainly, the two Services had developed irreconcilable differences over the conceptual employment of air support to land operations and the lessons learnt from the Great War were forgotten. When war commenced in Europe in 1939, both Services were underequipped and unprepared for the cooperation necessary for Joint warfare. Indeed, in the early years of the War, air support was inadequate and the Army lost every campaign; it was held in some quarters that the RAF 'trained and equipped to fight a separate war, could not give much support to the Army and begrudged what it gave'.⁴ This has inevitably coloured judgements about the delivery of ALI, but the importance of combining air and land power was widely recognised, perhaps best exemplified in 1943, when, in one of his regular observations about the importance of ALI, General Sir Bernard Montgomery noted:

If you can knit the power of the Army on land and the power of the air in the sky, nothing will stand against you.⁵

Montgomery had been in command of 3rd Division (and briefly II Corps) in the British Expeditionary Force in France, and had seen at first-hand some of the problems in ALI during 1940. His appointment to command the Eighth Army in 1942 occurred as steps to correct many of the failings which had become apparent in 1940 were underway; although his relationship with his senior airmen was to collapse spectacularly in 1944, his part in the development of effective ALI was significant.⁶

Any understanding of the evolution of effective ALI in the Second World War requires a study of its development in the North African campaign. This article considers how fundamental weaknesses were overcome in the Western Desert between late 1940 and the Allied victory in 1943 to produce an efficient and effective system of ALI. It will examine how processes evolved after the 'calamitous Battle of France' to create a Joint approach to warfare.⁷ First, it will consider initiatives developed in the UK and will show how these were learnt in parallel – and then eventually adopted – by the Joint forces in the Western Desert. Using operational case studies from Operation COMPASS in 1940 through to the battle of Alam el Halfa in late 1942, it demonstrates how control of the air, willingness to cooperate, joint planning and headquarters, effective communications and sound doctrine became the critical tenets of successful ALI. As John Terraine put it, the gradual adoption of these

principles 'ultimately provided a landmark in the development of air support organisation and technique during the war'.⁸

A way forward

Although the War provided an obvious distraction from the peacetime hostility between the two Services, the defeat in France demonstrated how woefully unprepared the Army and RAF were to meet the demands of Joint warfare. Indeed, the consensus of the War Cabinet and highest political office was that 'significant improvements... increasing the fighting potential of the Army, particularly in the air, must be made'.⁹ The success of air support depended on requests from ground forces being forwarded to air units in a timely fashion, with targetting coordinated and de-conflicted with friendly fires and troop movements. This presented a considerable Command and Control (C2) problem which necessitated extensive Army-Air coordination and cooperation. During the campaign in France, Army requests for air support were passed along lengthy chains of command at separate headquarters. The system proved to be utterly inadequate to deal with rapid German operations and it broke down completely after the collapse of the Allied Front.¹⁰ It proved impossible to carry out effective air support in a timely manner; indeed, there was no C2 process that successfully linked air power with the battlefield. Requests by Army commanders for air support would frequently take over 3 hours, often ensuring that all was lost as a consequence of disconnected and disjointed actions.¹¹ In contrast, German air support during the campaign proved to be sufficiently integrated to outmanoeuvre and outstrip the British model.¹² The Luftwaffe placed air signal liaison teams at headquarters and alongside advancing infantry and Panzer units. These controlled air strikes, whilst control teams acted as an important communications hub between requests and the Luftwaffe.¹³ This resulted in effective air-ground liaison, enabling German forces to concentrate air power quickly in support of land forces.¹⁴

The British defeat in France in 1940 proved to be a pivotal moment in the exposure and recognition of weak air-land coordination doctrine.¹⁵ Separate headquarters located miles apart hindered contact between RAF and Army planning staff – a problem magnified by unreliable communications and unwieldy C2 chains.¹⁶ Certainly, early examples of air support were not successful and the two Services had no systems in place that could replicate the success demonstrated by the Germans.¹⁷ Despite this, both agreed that 'air support was an essential prerequisite for success in a land campaign against a well-equipped and highly mobile enemy'.¹⁸ The events in France had now created significant impetus to resolve the air support dilemma.

With the coordination of air support now firmly on the agenda, the Air Ministry and War Office sanctioned a series of Joint Army-RAF signals experiments in order to develop tactics and procedures for close cooperation. Gp Capt A H Wann and Lt Col J D Woodall were appointed to progress the experiment as both had first-hand experience of the nature of the failures in France. Their aim was to devise an air support system that could be as effective as the one utilised by the Germans, and sufficiently robust to adjust to the rapid pace of modern

military operations.¹⁹ Prioritising flexibility, speed of response, target discrimination and communications, the output of these experiments became one of the most significant developments in the war.²⁰ When the report was released in September 1940, Wann and Woodall identified a system of 'unified command' that drew on the expertise of each Service. This was a critical first stage in creating 'Close Support Bomber Controls' (CSBC), a sophisticated signals network providing rapid and effective communications between controllers at the combined headquarters and signals operators attached to forward Army units.²¹ This enabled Joint decisions to be taken in a timely manner, with requests for support passed directly to the nearest available airfield. Once airborne, the aircraft then received target information directly from the signals officer at the forward unit. Coningham later described it as:

A plan that was far superior to anything possessed by the Germans then or thereafter, for coordinating the action of forward troops and supporting bombers. It was a signals network which sent out... "tentacles". Army officers... went forward to the leading troops and signalled back requests for support, by wireless links that avoided the normal channels, to a control centre where they were monitored by [Joint] Staff Officers sitting together. The Woodall plan, [or] what he called CSBC, was immediately adopted in principle, by both services... [and was] one of the outstanding successes of the war.²²

An additional step improving effective ALI was made with the formation of Army Cooperation Command. This new RAF command centralised all Army cooperation squadrons and training establishments with a remit to develop all elements of air support to be used at home and abroad. Although the creation of this organisation originally proved promising, its inception created further mistrust as both Services developed different perceptions of its role. The Army considered it central to developing its air arm, whilst the RAF considered it as a training and tactics organisation equipped with understrength Lysander squadrons which had made significant progress with CSBC.²³ Certainly, the Army anticipated that the Command would be complemented with fighter aircraft and high performance bombers, with assets allocated to the Army as their primary function. These views were opposed by the Air Ministry, which maintained that the achievement of air superiority was central to effective air support. These practical and conceptual differences of how to employ air power in air support operations remained largely unresolved as operational priorities overtook events.²⁴ Army Cooperation Command was largely successful in improving and developing tactics and techniques, but it failed to address broader policy issues and optimum aircraft usage.²⁵

One step forward, two steps back

Although it was still too early for the lessons identified between the Air Ministry and War Office to be properly evaluated, some success was still achieved during early air support operations in the Western Desert. Ironically, this coordination was necessitated through paucity of resources, rather than the introduction of astute foresight. The 'combined plan' required the Army and RAF to coordinate Joint effort in an attempt to overpower an Italian force of vastly superior numbers. Despite the absence of any standardised procedures, increased contact between

the Services was encouraged. This resulted in the co-location of headquarters, an act that immediately increased the effectiveness, if not the sophistication, of the in-theatre C2 system.²⁶ Army intelligence officers began to attach themselves to squadrons, whilst a direct signals network was created that linked headquarters and airfields. Perhaps the most significant step forward was the perceived willingness of both air and ground commanders to cooperate and work together towards a common objective. Terraine relates this to the 'stress of war,' where the pressures of conflict drew them together.²⁷ Whatever the reason, the rewards of this willing cooperation and combined approach delivered immediate results. In the first limited offensive along the Libyan front, air operations focussed on bombing air bases (to secure local air superiority), reconnaissance and attacks on enemy ground forces.²⁸ Although this air activity was independent and involved prosecution of pre-planned static targets, the level of cooperation was high and the RAF was able to provide full support to the Army.²⁹ The numerically superior Italian forces were contained and air superiority enabled air support operations to be conducted relatively unopposed.

In December 1940, Operation COMPASS became the first fully coordinated and cooperative Joint event of the campaign. From the commencement of planning operations, there appeared a determined willingness amongst both Services to plan and conduct operations together. Command headquarters were established on adjacent sites, whilst objectives were developed through Joint planning teams. Certainly, Bickers argues that from 'this cordial and perceptive planning grew the concept of modern tactical warfare and tactical air forces so critical to allied success.'³⁰ Most importantly, COMPASS demonstrated the necessity of achieving control of the air to enable air support operations. The principal perception was that without establishing air superiority, one could not hope to influence decisively the outcome of land conflict and retain key territory.³¹ Although the British had learnt the importance of air superiority in the Great War, inter-Service rivalry had ensured these principles were forgotten in the inter-war years. The Blitzkrieg clearly demonstrated how local air superiority led to overwhelming success in ground operations and RAF commanders had drawn this conclusion from German success in Europe.³² Initial RAF activity was focussed on seizing the initiative over a numerically superior Italian Air Force. By concentrating preliminary efforts on attacking airfields, the RAF was able to destroy large numbers of Italian aircraft, whilst forcing the remainder into a defensive posture. Within a week, Italian air operations all but ceased, providing the freedom of manoeuvre essential to conduct air support operations.³³ This was a critical development in effective support to land operations for two reasons. First, it enabled the ground commander to execute his offensive unimpeded by enemy air activity. Secondly, the RAF was able to focus effort on the delivery of vital and often decisive air support operations, rather than providing fighters in an umbrella against enemy air attack. Such was the success of this action that it drew praise from Army HQ:

Since the war began you [RAF] have...attacked an air force between five and ten times your strength...until finally it was driven out of the sky. You cooperated to the



Hawker Hurricane IIC aircraft of 94 Squadron, North Africa, 1942

full in carrying out. ...requests for [air support] and I would like to say how much this contributed to our success.³⁴

Although COMPASS was an undoubted air-land success, cooperation was still at an embryonic stage, understandably generating caution of the value of ALI lessons that could be drawn.^{35 36} Whilst the necessity of air superiority to air support operations was demonstrably clear, RAF success on this occasion was partly due to the lack of effective opposition, rather than sound tactical doctrine. Against a more coordinated and capable enemy such as the German Luftwaffe, the degree to which 'control of the air' could be achieved would likely be reduced.³⁷ There were additional weaknesses identified that ensured air-ground cooperation remained imperfect. Several attacks were ordered on troop concentrations without coordination with Army headquarters, resulting in ineffective employment of air assets during the mobile phase of the ground battle.³⁸ Equally problematic was the difficulty distinguishing friendly forces from the enemy. This was often caused by forward Army echelons hindering effective cooperation through poor behaviour and bad practice. Units frequently went for long periods without identifying their positions, making it almost impossible at times for the RAF to make positive identifications.³⁹ At this stage of the Desert War, Army and RAF Liaison Officers were only just starting to receive communications equipment for vectoring aircraft onto targets and these technical shortcomings made it almost impossible for the RAF to coordinate with forward troops. Furthermore, RAF headquarters frequently lost (or had no direct communications with) newly established Forward Operating Bases. Signals arrangements were poor and the telephone lines were frequently congested or unavailable.⁴⁰ Despite this, not all lessons were negative. Post-battle analysis reports declared the 'significance of airmen and soldiers working

together in close cooperation with arms of the service other than their own'.⁴¹ It also advocated the value of intelligence liaison officers with squadrons, able to provide pilots with the latest details of operational objectives and targets; a scheme that was recognised and developed by both Services.⁴²

The arrival of German forces under the command of the then Generalleutnant Rommel placed a new dimension on the Western Desert, and provided the impetus for the development of a system of air support which would have decisive significance.⁴³ In May 1941, Operation BREVITY provided the first example of spectacular failure. There was little coordination between both Services and conflict over the correct utilisation of air power for close air support. Significantly, the problem of distinguishing friend from foe in close proximity remained a problem and the lack of working communications magnified this problem.⁴⁴ In response, Operation BATTLEAXE was carefully conceived and planned with a degree of equanimity between both Services; although it also ended in failure.

The failure of BREVITY contributed to the replacement of Air Chief Marshal Sir Arthur Longmore as Air Officer Commanding-in-Chief Middle East by his deputy, Air Marshal Arthur Tedder. It was at this point that personalities began to play an even more critical part in the inter-Service relationship. Progress was not without hurdles, and serious problems emerged as the early air-land coordination that had begun to develop during COMPASS was lost.⁴⁵ Thus, within less than a month of assuming command, the failure of BATTLEAXE led to Tedder facing recriminations over the recent disappointments. The Army and RAF preferred to blame the other party for the operational failure, an almost inevitable consequence given that one of the major problems was the fractious relationship caused by a profound disagreement over what constituted the best model for the effective use and ownership of air power. Although RAF attacks against enemy lines of communication and airfields had proven successful, the Army wanted fighters to be available overhead in a protective umbrella.⁴⁶ They also wanted bombers to be available at their call to provide close support at the forefront of the battle.⁴⁷

Although Tedder was opposed to employing RAF assets in this manner, he had agreed to the proposal in an attempt to foster closer cooperation between the two Services. In retrospect, the use of an air umbrella had a negative impact on the outcome of the operation. Previous success had been based on quickly achieving air superiority through the aggressive and flexible use of the RAF's meagre resources; however, the defensive posture adopted in this battle by the RAF only served to aid the British defeat.⁴⁸ Of note, German reporting identified that RAF attacks on rear communications and supply columns had been very successful, but the ramifications would have been much worse had the RAF fighter force been released for offensive action.⁴⁹

In a report to London, General Wavell (Commander-in-Chief, Middle East) placed some blame on the RAF for the failure of the recent operation. Citing poor close support procedures and an inability to completely protect his forces from air attack, he contended that the

RAF was not properly organised to provide the type of air support enjoyed by the Germans.⁵⁰ These comments brought an angry response from Tedder, who claimed that Wavell 'did not begin to understand the first principles of air warfare'. Indeed, Tedder went as far as claiming that although the model employed during BATTLEAXE was not a good example of air support, only one request had been made by the Army during the entire operation.⁵¹ Interestingly, the Army put this down to the close proximity of enemy troops to friendly forces. This claim was refuted by Tedder who argued the fault was a consequence of poor communications procedure: in particular, the failure of the Army to respond to calls from the air to display recognition signals and the lack of friendly force positional data.⁵² This made it difficult, if not impossible, for the RAF to assist the Army directly due to the risk of hitting friendly forces.⁵³ As a result, 'the air support the Army believed it desperately needed went unused'.⁵⁴ This disagreement clearly illustrated the gulf that existed between the two Services in their attempts to create an effective system of close support. The Army was adamant that success against a well-coordinated enemy required RAF assets to be under its direct command. This, they argued, should consist of a fighter aircraft for defence, and dive-bombers for intimate support.⁵⁵ Conversely, the RAF disagreed, citing the necessity of air superiority to enable effective air support operations. It was necessary, they argued, to enable an air situation where ground forces could operate freely, with air power capable of so much more than simply acting in intimate support of the Army.⁵⁶

From a broader perspective, Tedder was concerned that the 'Services were not really working together and that [ALI] demanded a degree of coordination that was sadly lacking in the desert'.⁵⁷ He was supported by General Beresford Pierce, ground forces commander during BATTLEAXE, who believed that the position of his headquarters (some 80 miles away from the RAF headquarters) had been 'a grave drawback'.⁵⁸ It was apparent that commanders had little appreciation of the importance of the need to work together and this, in turn, resulted in a lack of willingness to do so. Desperate to make improvements to the process, Tedder advocated the importance of developing mutual training, with Army cooperation instructors brought forward from the UK to institute training based upon common lines.⁵⁹ The importance of air superiority as a prerequisite for air support operations was central to this, not least since it seemed evident that the persistent use of umbrella tactics by Army commanders was proving costly and ineffective. Furthermore, significant improvements to embryonic wireless communication systems, tactics and doctrine for air support and closer battlefield liaison were also urgently required.

Striding ahead

The failure of BATTLEAXE brought about almost immediate change. Wavell was replaced as C-in-C Middle East by General Sir Claude Auchinleck. Tedder and Auchinleck quickly found common ground, and their first and most important initiative was the creation of an inter-Service committee to rationalise a Joint system of cooperation.⁶⁰ In addition to this new committee, a series of trials was also initiated to improve communications, signalling and air support efforts. Supported by instructors who were familiar with the Wann-Woodall

experiments, amendments to existing communications and signals processes led to the rapid evolution of procedures already utilised within the Western Desert. The results of these trials were reviewed at a Joint air-land conference in Cairo on 4 September 1941, resulting in the production of an Air Support Directive that provided detailed doctrine on ALI concepts. In addition to defining air support operations as direct air support (close air support) and indirect air support (air interdiction) this directive also emphasised the significance of air superiority toward achieving effective ALI. The doctrine was widely published and subsequently underpinned the development of cooperation for the rest of the campaign.⁶¹ This conference was quickly followed by a damning edict from Churchill about the use of air power:

Nevermore must ground troops expect, as a matter of course, to be protected against the air by aircraft...the idea of keeping standing patrols of aircraft above moving columns should be abandoned...Upon announcing that a battle is in progress, the AOC-in-C will give him [the C-in-C] all possible aid irrespective of other targets, however attractive. The Army...will specify...the targets and tasks that he requires to be performed [and] it will be for the AOC-in-C to use his maximum force to these objectives...the sole objective being the success of the military operation.⁶²

Additional tactics identified within the directive included the co-location of headquarters and requirement of closer working relationships between personnel at all levels.⁶³ This had already begun with the arrival of Air Vice-Marshal Arthur 'Mary' Coningham, whom Tedder had chosen to succeed Air Commodore Raymond Collishaw as the commander of 204 Group in the



ACM Sir Arthur Tedder and AVM Arthur 'Mary' Coningham, 1943

Western Desert. Collishaw had done well with his command, but, in Tedder's view, was a 'bull in a china shop', too willing to attempt to perform every task asked of him by the Army without appreciating the limitations of air power, and too enthusiastic in his attempts to run everything himself, causing 'frustration and misery' amongst his staff officers.⁶⁴

In July 1941, shortly after his arrival, Coningham established a Joint Army-RAF Headquarters; an arrangement subsequently mirrored at Regional Command by Tedder and Auchinleck. Coningham later wrote that this decision 'was of fundamental importance and had a direct bearing on the combined fighting of the two services until the end of the war'.⁶⁵ The directive also provided a solution to one of the biggest problems that had faced effective air-land cooperation. Air Support Controls (ASC) closely mirrored the CSBC system developed in Ireland by Wann-Woodall to provide a communication system able to 'meet, modify or reject requests for air support in a timely fashion'.⁶⁶ An ASC was provided for each Army Corps and linked by a two-way wireless tentacle to the brigades in the field. Each brigade had an RAF liaison team, a Forward Air Support Link (FASL) equipped with a two-way radio to control the supporting aircraft and receive tactical reports. In this way, the Army was able to make timely requests for support that could be rapidly evaluated at the ASC. The ASC then had direct communication with the forward airfields to request immediate air support.⁶⁷ Sometimes, aircraft were given the precise location of the air support requirement on take-off, but often they would require target indication by the FASL. A recognition system based on lights and ground signs was also developed that enabled aircraft to identify friendly forces.⁶⁸ 'Army Liaison Officers also began to arrive in theatre, specially trained by Army Cooperation Command to explain air methods to soldiers... [and] to explain when things went wrong, how they could be put right'.⁶⁹ Figure 1 provides an overview of the C2 process for air support operations.⁷⁰

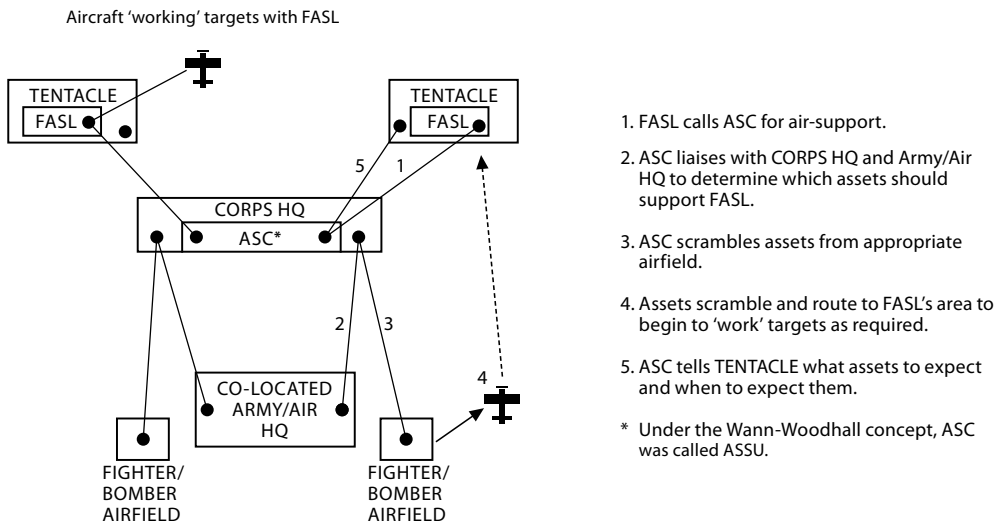


Figure 1

Operation CRUSADER in November 1941 provided the ideal testing ground for the changes that had been implemented as part of the directive. From the combined headquarters, senior officers were ideally placed to make rapid adjustments in response to operational requirements. The RAF supported land operations in three ways: first, air superiority was established and maintained throughout the battle. Secondly, indirect support isolated the battlefield through the targetting of communications, convoys and supply networks. Thirdly, direct support was allocated, albeit with difficulty at times, in support of forward troops.⁷¹ The introduction of the ASC was central to this improved procedure, although the newly created system was not without fault. Air support operations were often taking over two hours before the aircraft arrived over the target and the whole process required streamlining. Messages were frequently relayed in an untimely fashion, whilst aircraft transiting over 200 miles to the targets often became 'lost' trying to find their targets in the featureless desert.⁷² Perhaps the most significant issue remained the difficulty in identifying targets in close proximity to friendly forces. Despite unchallenged air superiority, the failure of Army communication processes meant that opportunities to conduct direct support against key targets were not exploited, particularly as friendly force positions could not be assured. This led Coningham to report an intense 'sense of frustration at Army ineptitude' and that he planned to focus efforts on indirect support until they [the Army] could get their act together.⁷³ Despite initial failings, CRUSADER was a victory for the new system. Nearly 8,000 sorties had been flown in direct support operations and cooperation between the services was at last beginning to work well.⁷⁴

After analysing and considering ALI during CRUSADER, further lessons for improvement were incorporated into a combined Army-RAF Training Pamphlet No.3A, issued in March 1942. This focussed on centralising C2 by streamlining the ASC communications system to allow ASCs at the battlefield to communicate directly with a Joint Headquarters. It was hoped that this would help to simplify the process of calling for impromptu direct support and reduce aircraft response times. Further doctrinal improvements included target identification techniques and procedures to improve navigation.⁷⁵

The battles of Gazala and El Alamein between May and July 1942 provided the first opportunity to test the procedures within the training pamphlet. With the British Army in retreat, similar themes continued to emerge. Due to the fluid nature of the battlespace, confusion regarding the position of friendly forces and poor communications continued to inhibit progress. A fundamental disregard to the arranged processes was evident, with the RAF dependent on its own reconnaissance to determine friendly positions. The Joint headquarters arrangement that had begun so well was severed with the Army relocating over 50 miles away from the nearest airfield, an action which Tedder stated defeated the most elementary principles of modern warfare.⁷⁶ Deep-rooted prejudices continued to emerge amongst the Army who naturally regarded themselves to be the senior parties on the battlefield. 'As Tedder and Coningham discovered, they were instinctively antagonistic to shared operational authority, especially with an airman... and held bias about aircraft being auxiliary weapons for the

Army'.⁷⁷ Despite this lack of coordination, air power was still able to isolate the battlefield through indirect support and provided a degree of air superiority that ensured total victory was beyond the enemy's capability. Auchinleck agreed, stating:

The Air Force could not have done more than it did to help the 8th Army in its struggle. The effect on the enemy was tremendous...had it not been for their efforts...we should not have been able to stop the enemy at El Alamein.⁷⁸

With fixed defensive positions finally established, the process slowly began to improve. Over 250 requests for direct support were made in July 1942 with 187 fed from the new tentacle system.⁷⁹ The time taken for aircraft to be over the target was also significantly reduced to around thirty minutes.⁸⁰ Indeed, ALI was beginning to see the benefits of doctrinal theory, cooperative training, experimentation and operational experience accrued in the desert.⁸¹

The arrival of Montgomery in August 1942 as Auchinleck's replacement set the conditions for ALI in the Western Desert to be perfected. With a philosophy of Joint operations, integration and cooperation at every level, Montgomery understood the need for air superiority to enable effective air support.⁸² Acknowledging the reliance placed on the RAF by the Army, Montgomery believed that 'any officer who aspires to hold high command in war must understand the use of air power'. He also stated that 'concentrated use of the air striking force is a battle winning factor'.⁸³

By immediately locating his headquarters with Coningham's, Montgomery encouraged liaison at all levels of planning and execution between land and air with Tedder observing that air cooperation was [Montgomery's] first priority.⁸⁴ The Battle of Alam el Halfa delivered a successful climax to ALI in the Western Desert. Providing a culmination to all the lessons learned, the battle 'exemplified the use of air power...when used in direct support of the Army'.⁸⁵ It began with the RAF providing indirect support several days before a German assault, targetting airfields, communications and supply chains which culminated in direct support right at the heart of the German Army. At the pinnacle of the operation, British bombs were being dropped every 40 seconds. Indeed, Montgomery believed that it was 'the tremendous power of the RAF in cooperation with the land battle that made the success possible'; the effect of ALI was proven.⁸⁶ By 2 September 1942, Rommel gave orders to retreat, largely due to the air superiority held by the RAF who were 'masters of the air'.⁸⁷ This was the first time Rommel had tried to fight a battle with absolute inferiority in the air and it was decisive.⁸⁸ In short, the battle at Alam El Halfa vindicated the newly constructed air support doctrine.

A considered evolution

One of the stark realities of the conflict in the Western Desert was the necessity of effective air power in successful land warfare. After the defeat in France, the Army and the RAF were finally forced to develop and refine the principles and procedures to ensure ALI was a success.

Despite the existence of deep-rooted prejudices within both Services and varying degrees of progress throughout the campaign, air and land activities became fully integrated. This resulted in the evolution of a coherent process that ultimately led to Germany's defeat in the desert. This paper has demonstrated that there are five significant tenets that must be achieved in order for the air and land battle to be truly synchronised. First and foremost is the requirement for air superiority, the essential pre-requisite for decisive air support operations.⁸⁹ Although the British experimented with the use of an air umbrella throughout the Desert Campaign, the great successes were only achieved after the RAF dominated the airspace by targeting airfields, enemy communications and directly engaging enemy fighters. Control of the air was necessary to enable ground forces to operate without interference and provided the conditions to develop air support operations. This is a sentiment that was echoed by Montgomery who claimed 'if we lose the war in the air, we lose the war and we lose it very quickly'.⁹⁰

The second tenet is willingness to cooperate. Early setbacks in the desert were often followed with accusations and blame, and the culture ensured that both sides were often quick to attribute responsibility for failure upon the other. The Desert War consistently demonstrated that effective cooperation depends on how well the parties work together and the system, no matter how coherent, will fail if one party is unwilling. It is imperative that both air and land commanders work together to achieve common objectives, and only when this has been achieved can Joint cooperation be properly achieved.

Third is the necessity for joint planning and headquarters. A combined land and air plan was a prerequisite for success. Commanders must work together at all levels of planning and executing operations to ensure a unity of purpose of the two Services' respective actions. By positioning headquarters together, plans are conceived jointly, whilst integration and cooperation is exponentially increased through combined awareness. Under these conditions, common goals are more frequently shared and decision makers are often connected, meaning that tactical decisions can be understood, ultimately providing greater knowledge at all levels.

The fourth tenet is the necessity for effective and reliable communications. Effective C2 is central to positioning assets effectively within the battlespace and this proved to be decisive in providing air support operations to the Army in a timely manner. Certainly, the introduction of ASC provided a mechanism that successfully linked tactical war fighters at the battlefield to operational decision makers at headquarters and rear airfields. Direct communications between aircraft and FASL also enabled pilots to distinguish between friendly and enemy forces on the front line. The development of these effective communication systems made a fundamental difference in enabling direct support operations.

The fifth and final tenet was the need for robust and recognised doctrine. Events leading to the conference in Cairo demonstrated that an absence of common understanding was inhibiting effective cooperation. The Air Support Directive provided a Joint and coherent overview of how ALI should be achieved in theatre. Widely distributed amongst British

forces, this framework successfully captured previously identified lessons, whilst providing standardised procedures to be employed for greatest effect.

Conclusion

The importance of the Western Desert campaign to the establishment of effective principles of ALI is difficult to overstate. It also serves as a stark illustration of what can happen when key lessons are ignored or forgotten. In 1918, the RAF and British Army had developed what was possibly the best example of air-land cooperation seen during the First World War.⁹¹ There were clear echoes of the experiences of 1914-1918 in the efforts of the various air and land commanders in the Middle East to establish a similarly effective system of ALI, and the key tenets adopted by Tedder and the various Army commanders have clear parallels with those seen in the British Expeditionary Force in 1918. During the inter-war period, the understanding of ALI which had developed was allowed to wither, culminating in the disasters in France in 1940. This disaster poisoned relationships as the Army felt that it had been let down, while the RAF contended that a lack of understanding of air power had been at the heart of the problems. Fortunately, a willingness to cooperate – in part imposed upon commanders by circumstance – developed on operations. Although the 'learning curve' was not smooth, by the time that Montgomery assumed command of the Eighth Army in August 1942, the foundations for an effective system of ALI had been created, and Montgomery and his airmen were to build upon them to telling effect. Montgomery observed:

There used to be an accepted term of cooperation. We never talk about that now.
The RAF and Army are one. We do not understand the meaning of cooperation.
When you are one entity, you cannot cooperate.⁹²

Although the personal relationship between Tedder, Coningham and Montgomery collapsed in 1944 as the Allies liberated Europe, the enduring ALI principles laid down in the Western Desert remained strong, with the campaign marking the point at which the air and land components became one, demonstrating the validity of Montgomery's contention that knitting the two together created a structure against which the German army could, indeed, not stand.

Notes

¹ Sir Clive Loader, "Is True Air-Land Integration Achievable," *RUSI Defence Systems*, (Feb 2009): 50.

² David Ian Hall, *Strategy for Victory – The development of British Tactical Air Power 1919-1943* (USA: Greenwood Publishing Group, 2008), xi.

³ David Jordan and Gary Sheffield, "The British Army and Air Power", in PW Gray (ed) *British Air Power* (London: The Stationery Office, 2003), 67.

⁴ Hall, *Strategy for Victory*, 15.

⁵ John Terraine, *The Right of the Line* (London: Hodder and Stoughton Limited, 1985), 380.

⁶ See, *inter alia*, Vincent Orange, *Tedder: Quietly in Command* (Abingdon: Frank Cass, 2004) 268-271 and the same author's *Coningham* (London: Methuen, 1990), 180-181.

- ⁷ David Ian Hall, "Learning how to fight together – The British experience with Joint air-land warfare" (Air University Air Force Research Institute 2009-2), 11.
- ⁸ Terraine, *The Right of the Line*, 383.
- ⁹ Hall, *Strategy for Victory*, 56.
- ¹⁰ Ian Gooderson, *Air Power at the Battlefield – Allied Close Air Support in Europe 1943-45* (London: Frank Cass Publishers, 1998), 22-23.
- ¹¹ Ian Gooderson, "Doctrine from the crucible – The British Air-Land experience from the Second World War," *Air Power Review Vol 9*, No 2 (2006): 4.
- ¹² Ibid.
- ¹³ Richard Hallion, *Strike from the Sky: The History of Battlefield Air Attack, 1911-1945*. (USA: Alabama University Press 2010 [1989]), 146.
- ¹⁴ Hall, *Strategy for Victory*, 61.
- ¹⁵ The Air Ministry, *AP3235: Air Support* (London: Air Ministry, 1955), 22.
- ¹⁶ Gooderson, *Air Power at the Battlefield*, 23.
- ¹⁷ Stuart W Peach, 'A Neglected Turning Point in Air Power History: Air Power and the Fall of France', in Peter W Gray and Sebastian Cox (eds), *Air Power History: Turning Points from Kitty Hawk to Kosovo* (London: Frank Cass Publishing, 2002), 154.
- ¹⁸ Hall, *Strategy for Victory*, 89.
- ¹⁹ Ibid, 92.
- ²⁰ Terraine, *Right of the Line*, 351.
- ²¹ Hall, *Strategy for Victory*, 92.
- ²² Terraine, *Right of the Line*, 351.
- ²³ Hallion, *Strike from the Sky*, 152.
- ²⁴ Hall, *Strategy for Victory*, 99-102.
- ²⁵ *AP3235: Air Support*, 23-26.
- ²⁶ Richard Townsend Bickers, *The Desert Air War 1939-45* (London: Pen and Sword Books Ltd, 1991), 16.
- ²⁷ Terraine, *Right of the Line*, 352.
- ²⁸ Gooderson, 'Doctrine from the Crucible', 7.
- ²⁹ Hall, *Strategy for Victory*, 72.
- ³⁰ Bickers, *The Desert Air War*, 45.
- ³¹ Robert. S Elhers, *The Mediterranean Air War – Air Power and the Allied victory in World War II* (USA: University Press of Kansas 2015), 57.
- ³² Bickers, *The Desert Air War*, 46.
- ³³ Ibid, 53.
- ³⁴ Hall, *Strategy for Victory*, 77.
- ³⁵ Gooderson, *Doctrine from the Crucible*, 8.
- ³⁶ Hall, *Strategy for Victory*, 77.
- ³⁷ Ibid, 78.
- ³⁸ Ehlers, *The Mediterranean Air War*, 59.
- ³⁹ Ibid.
- ⁴⁰ Hall, *Strategy for Victory*, 79.

⁴¹ The National Archives (TNA), AIR 10/4004 War Office Report: Lessons of the Operations in the Western Desert, December 1940, 202.

⁴² Ibid.

⁴³ Terraine, *Right of the Line*, 334.

⁴⁴ Ibid.

⁴⁵ Gooderson, 'Doctrine from the Crucible', 8.

⁴⁶ Hall, *Strategy for Victory*, 82.

⁴⁷ Mike Betchthold, "A stepping stone to success: Operation Battleaxe (June 1941) and the development of British Tactical Air Doctrine," *Journal of Military and Strategic Studies* Vol 14 No 1 (2011): 18.

⁴⁸ Ibid, 16.

⁴⁹ Ibid.

⁵⁰ Hall, *Strategy for Victory*, 83.

⁵¹ *Air Support*, 52.

⁵² Hall, *Strategy for Victory*, 83.

⁵³ Betchthold, 'A Stepping Stone To Success', 19.

⁵⁴ Ibid, 89.

⁵⁵ Hall, *Learning how to fight together*, 10.

⁵⁶ Betchthold, 'A Stepping Stone To Success', 17.

⁵⁷ Hall, *Strategy for Victory*, 84.

⁵⁸ Terraine, *Right of the Line*, 345.

⁵⁹ Hall, *Strategy for Victory*, 84.

⁶⁰ Terraine, *Right of the Line*, 345.

⁶¹ *Air Support*, 56.

⁶² Ibid, 347.

⁶³ This amendment was added to the original directive on 16 Nov 1941.

⁶⁴ Orange, *Coningham*, 77-78.

⁶⁵ Ibid, 79.

⁶⁶ Air Ministry, AP3235; *Air Support* (1955), 213.

⁶⁷ Gooderson, *Air Power at the Battlefield*, 26.

⁶⁸ Orange, *Coningham*, 82.

⁶⁹ Ibid, 83.

⁷⁰ Wg Cdr Harv Smyth, "From Coningham to Project Coningham-Keyes: Did British Forces relearn historical Air-Land cooperation lessons during Op TELIC?," *RAF Air Power Review*, Vol 10 No1 (2007), 8.

⁷¹ Hall, 'Learning How To Fight Together', 16.

⁷² Hallion, *Strike from the Sky*, 360.

⁷³ Bickers, *The Desert Air War*, 78.

⁷⁴ Hall, *Strategy for Victory*, 112.

⁷⁵ Ibid, 115.

⁷⁶ Terraine, *Right of the Line*, 364-366.

⁷⁷ Hall, *Strategy for Victory*, 132.

⁷⁸ Ibid, 133.

⁷⁹ Gooderson, *Air Power at the Battlefront*, 26.

⁸⁰ Ibid.

⁸¹ Smyth, From Coningham to Project Coningham-Keyes, 12.

⁸² Terraine, *Right of the Line*, 380.

⁸³ AP3235: *Air Support*, 72.

⁸⁴ Jordan, Sheffield, "The British Army and Air Power", 81.

⁸⁵ AP3235: *Air Support*, 69.

⁸⁶ AP3235: *Air Support*, 72.

⁸⁷ Terraine, *Right of the Line*, 383.

⁸⁸ Ibid.

⁸⁹ Hall, *Strategy for Victory*, 112.

⁹⁰ Terraine, *Right of the Line*.

⁹¹ David Jordan and Gary Sheffield, 'Sir Douglas Haig and Air Power', In Peter W Gray and Sebastian Cox (eds) *Air Power Leadership: Theory and Practice*, 282.

⁹² Gooderson, *Doctrine from the Crucible*, 11.

Strategic Bombing and Morale: To what extent did Operation GOMORRAH affect British and German Morale?

By Mr Warren Huggins

Biography: Mr Warren Huggins recently graduated with an MA in Air Power Studies from the University of Birmingham under the supervision of Air Commodore (Retd) Peter Gray. This article is based on his dissertation. Warren had a 14-year career as an avionics engineer in the Royal Air Force and now works as a technical manager for British Airways.

Abstract: Sir Michael Howard said of the bombing offensive that 'there is little doubt that the morale of the German population was one of the major objectives ... [but] another indirect target of Bomber Command was the morale of the British people themselves'.¹ That first objective is clear from documents such as the *Casablanca Directive*, but the second Howard considered not so obvious, 'especially to those who were not alive at the time'.² This article demonstrates how, in the case of Operation GOMORRAH, the British leadership considered those two targets as achievable, and assesses the extent to which they were realised. It argues that in order to assess fairly the impact on morale that British strategic bombing had exerted, the effects on British as well as German populations must be taken into consideration.

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 period between the two World Wars proved a breeding ground for ideas and theories concerning future air power and, in particular, the role of the bomber. The principle of attacking the morale of a population through aerial bombardment had been firmly established by inter-war theorists such as Douhet and Trenchard, based on their First World War experiences and unshakeable belief that the bomber would always reach its target.³ Consequently, doctrine was quickly developed on the premise air power would become the decisive force in war, shortening or even preventing, through deterrence, future conflicts. It was therefore unsurprising that with Trenchard as the dominant inter-war patron of the RAF, strategic bombing became intrinsically incorporated into British air power policy.⁴ Yet today, whenever the Combined Bombing Offensive (CBO) against Germany is discussed, its effect on morale is often given less prominence than it deserves. Both Jonathan Fennell and Richard Overy have promoted the importance of the effects of bombing on morale, but such effects are both hard to define and difficult to measure.⁵ When compared to physical destruction, damage caused to morale simply does not have the same measurable impact. Consequently, with the advent of revisionism, large sections of the public, academia (and even some former bomber crewmen) have come to denounce the CBO against Germany as both criminal and ineffective.⁶ The latter accusation is commonly based on assessments of the *physical* damage caused and the reality that it did not single-handedly bring about the fall of Germany.

John Galbraith had reached much the same conclusion in 1945 when he wrote that the bombing of Germany, far from crippling the economy and forcing Germany to surrender actually stimulated greater production and *raised* morale.⁷ There is an implication within Galbraith's reasoning that the ultimate aim was to force surrender on the back of a bombing offensive alone. But was that correct? It was certainly not a view shared by all during the War, especially not Winston Churchill.⁸ Indeed, the *Casablanca Directive* of January 1943, despite being an 'all things to all men' document, clearly stated that the aim of the bombing offensive was to attack the infrastructure and morale in Germany, and to support a *land invasion* 'whenever' it occurred.⁹ It is against that criterion that the CBO must be judged. It is, therefore, not the intention of this article to show that area bombing could, or did, destroy morale to the extent that the war could be won through strategic bombing alone. However, it will show how individual operations could have considerable success in affecting the morale of the people of countries carrying out the bombing as well as those being bombed.

Even when considered as one element within a greater whole, the impact of the CBO on German morale remains an area that some academics continue to consider to have been a failure. In A.C. Grayling's opinion the CBO had 'sought to undermine the morale and weaken the will of the German people, and ... signally failed to do either'.¹⁰ However, Overy has criticised such assessments for being too often based on speculation and unverified data.¹¹ For Overy, the only sure way to assess the success of the CBO would be to consider the actual impact

upon 'German strategy, economic power and morale' – an assessment requiring accurate primary data and testimony from German sources.¹²

Fortunately, when Jörg Friedrich published *The Fire* in 2002, a new phase in the study of the CBO was launched. It emphasized, for the first time since the War, the effect that strategic bombing had made on the morale and well-being of the German population, basing his findings predominantly on German primary sources.¹³ The different ways British and German historians viewed the CBO had been a contentious issue for many years. Hans Rumpf in particular claimed that assessments on the behaviour of German citizens had been too dependent on the opinions of foreign air war historians, whilst evidence from German citizens had been largely ignored.¹⁴ But *The Fire* initiated a new level of intensity in the study of the bombing campaign from the German perspective. With *The Fire's* publication, it became possible to address this issue without incurring shame or accusations of Neo-Nazism.¹⁵ *The Fire* rightly initiated a renewed interest in the wealth of primary source material that had hitherto languished in obscurity. Among these were the wartime letters of Hamburg resident, Mathilde Wolff-Mönckeberg and publications such as *The End* by Hans Nossack, a first-hand account of the Hamburg firestorm raids.¹⁶ Such rediscovered material has made it possible to create assessments of the CBO from the German perspective, for comparison against the established history based on contemporary British information. Indeed, Süss adopted just such a methodology within *Death from the Skies*, published in 2014.¹⁷

Despite a mass of publications on the CBO, omissions in the historiography on the CBO continue to arise. In *The Bombing War: Europe 1935-1945*, Overy lamented on how the dual approach of addressing both the social response and the military realities had rarely featured in histories of Bomber Command.¹⁸ However, the dual approach of considering the social effects on the civilians of the country carrying out the attacks alongside the targeted civilians has received even less scrutiny. Robert MacKay studied the British Government's exploitation of the CBO to reassure the population and emphasise the effectiveness of its bombing policy.¹⁹ Even so, it would surely be useful to consider the effects on both attacked and attacking populations when assessing the success or otherwise of the CBO from a morale perspective. To that end, the article will look at the extent to which morale had been expected to be both breached in Germany and bolstered in Britain, and whether those expectations were met in this case.

The measures used to attribute success or failure and the reception of the raids, by both sides of the conflict, were subject to change throughout the course of the war. Even so, the analysis of a single set of raids against a particular target can be useful in assessing the effect that it had on the morale of the participants at that time, and in its immediate aftermath. Of course, such an exercise can only provide a snapshot in time, as the results will naturally reflect how the area bombing policy affected morale at that specific stage of the war. It therefore follows that the raids selected for examination should be representative of a particular point of the CBO in order to place the results obtained in some context. With these issues in mind, the set of raids

chosen for this exercise is the one directed against Hamburg during July and August 1943, codenamed Operation GOMORRAH.

Operation GOMORRAH was selected for two reasons, the first of which was timing. The raids marked the midpoint of the bombing offensive, by which time Britain had already endured four years under military and economic attack. During that time, the RAF's Bomber Command had provided the only means of attacking Germany itself, making it reasonable to believe that bombing operations against German cities would have had considerable support in Britain. If measured by the level of destruction caused, Operation GOMORRAH was arguably the most successful bombing operation of the entire European war especially when measured against the *Casablanca Directive's* aim of bringing about the 'destruction and dislocation of the German military, industrial and economic system'.²⁰ The United States Strategic Bombing Survey (USSBS) estimated the death toll from the bombing and resultant firestorm to be 42,600, with a 64% drop in Hamburg's population resulting from the 973,000 people that were assessed either to have been killed, evacuated or fled the city and its environs.²¹ This was achieved for the loss of only 87 RAF aircraft, a relatively modest rate of attrition.²² If any CBO operation could illustrate the effect of strategic bombing on morale, Operation GOMORRAH would surely be it.

The second reason for selecting Operation GOMORRAH was the abundance of primary source material it generated in both Britain and Germany. There is a wealth of material available from The National Archives (TNA), including Cabinet papers and Bomber Command reports, whilst the success of the operation led to extensive press coverage, which is now accessible online. Together with personal accounts and diaries from the Imperial War Museum (IWM) and the Mass Observation Study (MOS), there is an abundance of information relating to the presentation of Operation GOMORRAH to the British public and its subsequent reception. Of course, the scale of destruction achieved by the raid meant it was a significant physical blow to Germany, where it was also very well documented in official correspondence such as the report from Hamburg's police president. There are also many personal accounts from survivors. These are either accessible directly, such as the letters of Mathilde Wolff-Mönckeberg, or via the excellent research of Süss in *Death from the Skies*, Friedrich in *The Fire*, and Noakes in *Nazism: 1919-1945*.²³

This article will examine the effect of Operation GOMORRAH on German morale then consider its reception in Britain. The evidence will illustrate how the raids, whilst not universally popular in Britain, nevertheless produced unprecedented levels of success in terms of influencing morale in both countries.

Germany's Nightmare

The USSBS report estimated that by the end of 1943, the city's industrial output was back to 82% of its normal capacity and that only 1.8 months of production was lost as a result of Operation GOMORRAH. But statistics fail to tell the full story.²⁴ The USSBS had been commissioned to assess the economic effects of the raids, not the effects on morale, because it did not consider morale to have been the prime purpose of the campaign.²⁵ Nevertheless the importance of morale

had been enshrined in RAF doctrine between the wars with *AP1300*, the official RAF publication, disseminating the belief that the enemy was defeated when the people or Government lost the will to fight.²⁶ Hence, as far as the RAF was concerned, the defeat of civilian morale was a justifiable measure of success for any air campaign. At the start of the Second World War, the British Government hoped that adherence to such doctrine would result in a repeat of the 1918 collapse of the German home front; indeed, it was the fear in Berlin as well.²⁷ However, by late 1943 it was clear that a collapse of Germany without an invasion was unlikely whilst the SS and Gestapo maintained their grip on the population. This was despite a prevailing feeling of hopelessness and general acceptance of defeat permeating German society.²⁸ Overy reasoned that the level of destruction required for such a collapse would leave 'an apathetic, miserable, dispirited population' totally incapable of fighting against a regime 'willing to impose terror on its own population'.²⁹ But Süss proposed another factor for the lack of rebellion. He reasoned that as a result of the State's integration into the system, individual survival had become dependent on cooperating with the Nazi Government. Sir Michael Howard had noted that very same tactic being employed by the authorities through the issuing of replacement ration cards to bombing survivors with their wage packets, thus ensuring people returned to work.³⁰ To survive, people had to eat; to eat, they needed the State; and to get the State's support, they had to work and obey. Somewhat ironically, the devastation benefited the Nazi cause: the more reliant the population became on State aid, the more obedient they were required to be.³¹ Clearly, as with the overall campaign, there was no mass rebellion against the authorities after Operation GOMORRAH, whatever the hopes or expectations of the British Government. The reason why can only be fully determined by examining the state of affairs in Hamburg from the standpoint of German survivors.

Operation GOMORRAH created a new level of destruction and horror due to the generation of the infamous firestorm. If ever such factors were going to generate a revolt, Hamburg must surely have been the most likely candidate. Witness statements testify to the horrors that were encountered, many of them commented on by Friedrich. A fierce critic of the bombing campaign, Friedrich used graphic descriptions of the anatomical damage inflicted on human bodies to support his opinion that the CBO was an act of inhumanity. He actually described Hamburg as a place of annihilation, where for three hours 'life was not possible, where it [could not] exist'.³² The accounts of citizens caught up in the Operation GOMORRAH raids are equally shocking, with their descriptions of debris, mutilated bodies and flames 'a hundred metres long'.³³ Hamburg resident Rosa Todt, for example, recalled the phosphorous burns that 'presented a fearful sight' and spoke of the panic as people clawed to get into shelters already full and secured.³⁴ Of course, such horrors had been experienced in other cities, but Herbert Heinicke, stationed in Hamburg as a member of the Wehrmacht, marked out Hamburg as having descended to a new level of horror. Heinicke recalled *Luftwaffe* personnel assisting during the raids relating how they 'had never seen anything like this, even in Russia'.³⁵ Military personnel were thus equating the devastation and terror of Hamburg with what they had witnessed on arguably the most brutal front of the war.

Civilian survivors of Hamburg could not draw on such comparisons, but perhaps Frau Schwarz's husband made the defining statement on their behalf. On returning to a bunker between bomb blasts, the Hamburg resident simply remarked of his street, 'Es ist alles aus,' it is all gone.³⁶

As well as the unexpected development of the firestorm, what marked out the bombing of Hamburg from other German cities at the time was the scale of the subsequent evacuation. Of course, the flight of people away from cities after air raids had happened before – it was actually a crucial part of the official policy to relieve pressure on areas under threat – but this was at another level.³⁷ Goebbels described it as the 'greatest migration of all time'.³⁸ Hamburg's Police Chief considered the evacuation to be of the highest priority and employed all possible means of transport to ensure an orderly clearing of the city.³⁹ But the reality for some was rather different. Wolff-Mönckeberg found that with no water or power, and with further raids expected, there was chaos everywhere. Everyone wanted to leave the city (in her case to stay with relatives) but there were endless queues to obtain the necessary travel permits. Even once issued with permits, there was no transport available, despite the Police Chief's efforts, and people resorted to using carts, bikes and prams in their attempts to escape the city. In fact, Wolff-Mönckeberg found herself 'very near to despair on account of the general atmosphere of panic'.⁴⁰ Such testimony certainly contradicts the official narrative of an orderly evacuation.

It also appears that enforced evacuations were unpopular and difficult to manage. A 1943 report on the raids on Cologne and Aachen showed that, rather than be relocated with strangers, people preferred to remain in their local area or stay with relatives.⁴¹ In fact, Rumpf considered this desire to remain in what was left of their home (or to be with family) as one of the factors from which the population drew its strength.⁴² In the case of Hamburg, Nossack noted that those evacuated often just went back home, in spite of the notices forbidding them to do so. Like Rumpf, Nossack believed that they returned to the decimated city because it was better to live in a hole than be tolerated by strangers. Above all else, it was still their home and it allowed for an appearance of normality, even if it was only an illusion. Such widespread disobedience led Nossack to believe that, in Hamburg, the authorities were eventually compelled to change the evacuation policy to one of compulsory return in an effort to save face!⁴³ But the survivors returned to a desperate situation with no power or water and 61% of the housing uninhabitable. Most returnees found their homes either destroyed or inhabited by other families with whom they were now obliged to share.⁴⁴ On her return to Hamburg, Wolff-Mönckeberg wrote to her children of the hopelessness of the situation she encountered and of how people were 'filled ... with a dumb kind of passive apathy'.⁴⁵ Nevertheless, over the following weeks people slowly adapted to the situation, accepting the circumstances and making the best of them.⁴⁶

Whilst Operation GOMORRAH was catastrophic for the population of Hamburg, the effects reached far beyond the city limits. The CBO meant that there was now no distinction between

the front line and the home front; indeed, following the raids on 25 August 1943, Luftwaffe Field Marshal Erhard Milch proclaimed that he 'would tell the front that Germany itself is the real front line'.⁴⁷ The German military were well aware that morale on the front line was being affected by the bombing of the homeland. Reports from those who had visited home, combined with poor communications from the *Wehrmacht* on the fate of towns being hit, left a big impression on front line soldiers. It fostered the belief that their personal sacrifice at the front would not be enough to protect their families at home.⁴⁸ Soldiers could accept the miserable conditions they had to endure; it was the situation back home that was intolerable.

Although there was no general uprising in Hamburg following the air raids, there were instances of localised disobedience. Perhaps one of the contributory causes was the general sense of unease that had permeated the city in the preceding months. Wolff-Mönckeberg described Hamburg before Operation GOMORRAH as a city whose people were already in despair. They resented having been taken into war and had no faith in either the press or the government. Following the Battle of Stalingrad, she wrote of how 'one knew too much by now and was completely disgusted'.⁴⁹ Then, after the raids, despair turned to anger. Wolff-Mönckeberg wrote of the dissent and anger defiantly aimed at the Hamburg authorities. She saw people ripping off the badges of Nazi party members and calling them murderers.⁵⁰ Nossack even recalled a woman screaming at police to arrest her for some fictional offence, because at least then she would have a place to stay. On that occasion, the police walked away, but for him it illustrated how the State was now both impotent and being treated with disdain by the people. Nossack believed that it was not apathy or fear of the authorities that prevented civil uprising; rather it was a feeling of utter contempt for the Government. To revolt would have been to acknowledge the Government's relevance.⁵¹

Most survivors were understandably angry or in despair; however, some were surprisingly accepting of the situation. Martin Middlebrook found survivors who believed the firestorm to have been a punishment for the German raids on Coventry and their treatment of the Jewish population of Hamburg. From this it would appear that Operation GOMORRAH forced some to question Germany's role in the war and their own responsibility for their Government's actions. Whilst these might be considered isolated views, Middlebrook still found that many Hamburg citizens were not surprised by the attacks. They just accepted that it had been their turn.⁵²

In the aftermath of the raids, many citizens appeared to be in no doubt that the war would soon be over one way or another.⁵³ As Friedrich put it, 'confidence in victory melted away in the Hamburg firestorm'; all the talk was of defeat at the hands of an unstoppable enemy.⁵⁴ Nossack claimed that Government slogans of revenge were only partly accepted by the public.⁵⁵ But Wolff-Mönckeberg went further. Privately she declared that everyone knew newspaper and radio reports were full of lies with people just ignoring the speeches and declarations of their leaders.⁵⁶ However, even with that air of despondency and defeatism, there was no major rebellion. Nossack believed that 'not only the enemy but also our own authorities had miscalculated on this respect'.⁵⁷

The miscalculation of the German leadership is perhaps understandable. They had also planned to generate large fires with which to destroy London and foment unrest amongst the civilian population.⁵⁸ As they did not succeed in creating a firestorm, or causing destruction on a scale even close to that visited on Hamburg, they had no evidence with which to disprove the concept. Therefore, it is not surprising that many in the upper echelons of the Nazi hierarchy feared for the future after Operation GOMORRAH. Goebbels, for one, dreaded the panic he envisaged invading public life and weakening the will to resist. In both military and political circles, there was an undercurrent of fear that the war might already be lost.⁵⁹ Speer informed Hitler that due to the material damage being caused, just six more attacks akin to Operation GOMORRAH would bring armaments production to a halt.⁶⁰ But, Speer's pessimism lessened upon seeing how quickly Hamburg's industry recovered: a recovery he credited to the survivors. In his opinion their morale had remained 'excellent throughout'. Hamburg's recovery and morale was further aided by a failure to maintain the intense bombing in follow up raids, thus allowing the population to acclimatise to the situation. This led Speer eventually to conclude that area bombing was not so great a threat as previously assumed.⁶¹ Even so, Overy has since claimed that, without bombing, the workforce would have been even more productive. His argument is supported by a 1944 British report on German morale which estimated a 10% drop in production as a result of the bombing campaign. In his opinion, although people continued to work, it was less frequently, willingly or attentively.⁶²

The German authorities were surprised at the resilience of their own people, but were the Allies? It does appear that throughout the campaign, they were presented with conflicting information as to the ongoing success of their strategy. For example, a British report entitled *Allied Attacks and German Morale* noted the compulsion and stern measures being imposed on workers to return to cities. It found an unwillingness to work and level of apathy that had become so pervasive as to consign parts of the civilian population to become 'useless ballast in the war machine'.⁶³ There were even indications of a desire within Germany to pressurise the Government to terminate the war.⁶⁴ These were all symptoms of a successful attack on morale as defined by *AP1300* as well as in the opinion of the MOS.⁶⁵ However, the same report also pointed out that the induced apathy made any rebellion unlikely and that 'such unrest as had occurred had remained small and local in character'.⁶⁶ Understandably, the report was non-committal in its conclusion that the 'lack of any uniformity in the views adduced from Germany makes it more than usually difficult to determine the probable course of events'.⁶⁷

To the credit of its people, Hamburg recovered far quicker than even the German authorities had expected.⁶⁸ Perhaps they should not have been so surprised. As Grayling pointed out, Germany had been well prepared. They knew there would be a war. They intended to start one! Therefore from as early as 1935, services, shelters, and systems for dealing with attacks were being put in place; measures that saved lives during the offensive.⁶⁹ As a civil defence officer, Rumpf travelled widely. He recalled the pre-war training and how it had helped lessen the shock when the air assault began.⁷⁰ The authorities knew that, post-attack, food and

accommodation were crucial for morale and so, before the war, they established systems to ensure relief supplies would be available when required. Just as importantly, they ensured the administration systems were able to efficiently process any claims for war damages.⁷¹ Therefore, by the time war arrived, local Gauleiters had clear instructions on rehousing, the registration of claims and reissuing of ration cards to dispossessed citizens. In addition, they were even empowered to increase food rations for those under bombardment.⁷² Although Wolff-Mönckeberg experienced only petty bureaucracy and chaos, the Hamburg Gauleiter, unsurprisingly, commended the efficiency with which all those systems swung into action after Operation GOMORRAH.⁷³ But thanks in part to such measures, Speer found that, much to his surprise, the population adapted to the situation 'from the point of view of morale' far quicker than expected.⁷⁴

Rumpf observed how sporadic bombing allowed people time to acclimatise to its effects and that morale actually strengthened as the raids later stepped up in intensity.⁷⁵ Speer also remarked on the effect of the gradual build up in intensity, considering it one of the major errors of the campaign. He believed that the British failed to take into account 'the fatalistic frame of mind which a civil population finally acquires after numerous air raids'.⁷⁶ The issue was noticed in the subsequent *Battle of Berlin*. A Ministry of Information (MOI) report noted that the expected break in morale had failed to materialise in Berlin because 'the factor of concentration in time which made so significant a contribution to the success of the Hamburg attacks, [had] been absent'.⁷⁷ Although essentially correct, the emphasis is placed on the necessity for continuous bombing during the raids to ensure success. There is no consideration for the necessity of maintaining such intensity in the longer term, or the consequences of failing to do so. Hamburg had already suffered 137 attacks before Operation GOMORRAH. It is clear that with such hard-earned experience and its efficient civil-defence organisation, 'Hamburg was [as] ready as any big town could be to survive further air attack'.⁷⁸ Bad as it was for Hamburg, it could have been far worse.

Personal testimony appears to contradict Süss and Overy in demonstrating a degree of disobedience to the authorities. However, it is only evidence of dissent at a local level and, as proven by Hamburg's recovery, it was of limited duration. It must also be kept in mind that there is a difference between what people thought, wrote and behaved in the immediate aftermath of personal tragedy and how they reacted as a populace to a civil disaster. The former is revealed in personal accounts and memoirs, but the latter is exposed in official documents. The official accounts support Süss' and Overy's viewpoints in that, due to a number of reasons, there was no breakdown in Government. There was State dependence and apathy, of course, but also disgust with the Government and defiance towards the enemy. The journalist Ursula von Kardorff wrote in her diary after a raid on Berlin that 'if the British think they are going to undermine our morale they are barking up the wrong tree'.⁷⁹ Pre-war measures had helped to prepare the population, but the inability of the CBO to maintain the intensity of the raids throughout the campaign was crucial. It allowed the population time to adapt and, to an extent, become inured to city bombing.

Britain's Reaction

Whilst the policy of the CBO set the destruction of the war-making capacity of Hamburg as an aim of Operation GOMORRAH, it was not the only measure of success. In fact, MacKay is convinced that British morale had to have been foremost in the Government's mind when it began the Strategic Bombing Offensive (SBO) in 1942. He reasoned that the ineffectiveness at the time of bomber forces meant that 'bombing was less a strategy for winning the war than a device for maintaining morale at home'.⁸⁰ Consequently, at the lowest periods of the war, the conviction that Britain would not be defeated was

buttressed by the knowledge, assiduously supplied by the press and radio, that offensive operations were being conducted against the enemy. In the early years this meant exclusively the bombing of Germany.⁸¹

As the campaign progressed, Bomber Command became ever more successful in disrupting the military and industrial capabilities of Germany. But still there remained the aim of ensuring that the British public, despite their own privations, were behind the campaign and the war in general. So how did Operation GOMORRAH fare against this measure of success?

Results of RAF raids were passed on to the British War Cabinet through fortnightly reports from Bomber Command with subsequent discussions recorded in the *War Cabinet Weekly Résumé*. Inevitably there would have been a lag within the chain of reporting. Even so, the post-operation reports for Operation GOMORRAH were not as prompt as might have been expected, especially considering the number of aircraft overflying the city. An explanation for the delay is alluded to in the *Immediate Interpretation Report 1640* dated 1 August 1943. Whilst claiming extensive damage had been caused to the North East of Hamburg, it also pointed out that a definitive account was impossible due to the amount of smoke over the city.⁸² The *Summary of Operations of Bomber Command* for the period ending 1 August 1943 concurred, blaming the lack of photographic evidence on excessive smoke and cloud. Even so, the War Cabinet was informed that Hamburg had 'suffered a series of the most devastating attacks ever launched against a great city' in a report that anticipated Hamburg's total annihilation.⁸³ By linking the operation on Hamburg with those on the Ruhr and the Rhineland, it also claimed that the destruction of Hamburg would, 'apart from the obvious results, have the most severe effect on German morale'.⁸⁴ The reasoning being that if the defences had failed on those targets, what hope could the German population have in other cities, especially Berlin. It was another fourteen days before the Cabinet received accurate photographic damage interpretation from reconnaissance flights, and the report was one of complete devastation. It was not just the damage to industry that was made clear but also the physical effects on the surviving population of Hamburg. Utilities and transport had been heavily affected, an estimated half a million people had been bombed out of their homes and an evacuation was being carried out on a vast scale. A further, though erroneous, claim was that systems for emergency feeding had failed due to the destruction of food stockpiles.⁸⁵



Hamburg, 29 July 1943 (RAF Museum)

Of course, British authorities had sources other than just RAF reconnaissance flights and photographic interpretation to rely on – including the German media. One Cabinet report included pronouncements from Josef Goebbels on the significance of morale to the German authorities. In the statement, reproduced from the Nazi newspaper *Völkischer Beobachter*, Goebbels outlined how bombing raids both affected German morale and shaped their responses. In fact he considered that the Allied Air Forces were actively targeting German morale. To his mind ‘the morale of the people [was] a decisive factor for the outcome’ of the war,

an admission that appears to condone area bombing as a legitimate action of war.⁸⁶ The only response that Goebbels could conceive of was to respond in kind, but retaliation at that time was not an option. Hence he could only call for defences to be strengthened and public resolve bolstered with appeals to public duty.⁸⁷ Clearly such reports supported the prevailing view within the British Government that the campaign was having a significant effect on the enemy's morale and causing a diversion of resources away from the frontline. This was a fitting message for the British public and sections of Goebbels' speech were published in the *Daily Mail*. Interestingly, the press ran with the story on 7 August 1943; in other words, before the War Cabinet received their report.⁸⁸ This raises the question of whether the authorities were passing suitable information to the press for publication, or gathering their intelligence from the press for assessment. In the long term, the answer was almost certainly both. The authorities released information about military operations whilst garnering feedback on raids from the press, in a symbiotic relationship that benefited both parties. Whilst the press got in-depth information about military operations, the authorities gained access to a publicity mechanism with which to bolster the public's morale. Unfortunately, the information the War Cabinet received was not always correct and, at times, was subjected to biased interpretations. For instance, it is now clear that the Hamburg authorities did in fact establish effective food distribution and re-housing procedures. Far from failing, as the War Cabinet had believed, those measures were successfully implemented after the Hamburg raids.⁸⁹ Nevertheless, the British authorities were obliged to run with the information they had available and so promoted a victorious operation against the city of Hamburg to a British public hungry for news of success.

The British press was fully active in the reassurance of the population during the war and the 'heroic achievements of the RAF were exploited for every last ounce of comfort they afforded – not merely the defence of Britain in the summer of 1940, but also the bombing raids on Germany.'⁹⁰ Reports on Operation GOMORRAH appeared almost daily in the newspapers, as well as in weekly magazines. The press were able to call on staff based overseas and embedded in RAF units, as well as information supplied by the offices of the British Government. They also had access to foreign reporters still active in Germany, and through them, to German sources. Accordingly, the press coverage appeared comprehensive and accurate. Swedish reporters for the *Daily Mail* were able to describe Hamburg as in a state of panic after a bombing campaign considered unparalleled in history. They interviewed survivors arriving in Stockholm who spoke of German authorities unable to cope with the chaos.⁹¹ Meanwhile, Berlin radio stations talked of enforced evacuation, whilst Hamburg radio admitted, 'our well-prepared plans against such an emergency [had] collapsed under this hell.'⁹²

The press were at times guilty of a xenophobic presentation that impacted on the veracity of their reporting. For example, an account from the *Daily Mail* described a German radio reporter, Dr Weininger, as speaking 'with the high-strung emotion typical of a Teuton who is being hit'.⁹³ Such an approach had been considered vital in order to portray the differences in national characters which would promote support for bombing Germany. The intention was to show that, whilst the British could survive bombing offensives such as 'the Blitz', the Germans could

not, due to deficiencies in their national character. To this end, bombing raids were referred to in such military terms as 'counter-offensives' and 'battles' rather than as 'retaliation raids'. In this way, the public could distinguish between the actions of the British 'gentlemen' and the German 'Huns'.⁹⁴ Even so, and despite of the *Daily Mail's* denigration of Dr Weininger, the text of his broadcast was significant enough to be recorded as an accurate and vivid account of events in the magazine *War Illustrated*.⁹⁵

Mark Connelly claimed that coverage of the bombing campaign was 'ambiguous to say the least', for whilst the press lauded the 'righteous retribution brought to all Germans', it constantly stressed the industrial nature of the targets.⁹⁶ Publicly, the British Government denied civilian targets even existed: they were either militarily effective targets or not.⁹⁷ Connelly appears supported by contemporary press reports with their marked tendency to avoid comment on civilian casualty numbers whilst simultaneously emphasizing industrial targets. The accurate reporting of RAF losses suggests that general squeamishness over casualty figures was not the problem, rather a reluctance to dwell on what appears to be the more sensitive issue, namely that of killing civilians.⁹⁸ Air Chief Marshal Harris and Air Secretary Sinclair had actually quarrelled over how to portray area bombing to the public, an argument that Sinclair eventually won.⁹⁹ Sinclair considered that too much information about bombing civilians was bad for public morale, especially for those of a heavily religious persuasion, and he is supported by evidence from the MOI reports. Following Operation GOMORRAH, the *Home Intelligence Weekly Report* noted that although the sounds of RAF bombers on their way to Germany comforted people, 'any sign of gloating [was] resented'.¹⁰⁰ Whilst people accepted the need for the offensive, and even believed that destruction on a similar scale would be required for Berlin, they did not want to be reminded of what they were doing.¹⁰¹ The following week's report claimed that whilst people were impressed with the success of Operation GOMORRAH, there was a level of 'distaste at gloating at the destruction of homes'.¹⁰² Such distaste might well have been due to memories of German raids and the uncomfortable knowledge the British public had of what German civilians were now having to endure.

Although the press had shied away from printing German casualty figures, there were still other angles to explore. *Flight and the Aircraft Engineer* drew their audiences' attention to the effect of the raids on U-boat production. In noting that attacks on U-boat pens had proven ineffective, it applauded the bombing of the production sites, the results of which would 'be seen in a shortage of U-boats in the Atlantic' and safer supply routes.¹⁰³ Of course, more supplies reaching Britain would further boost morale; a conclusion that British MOS diarist, Peter Adamson, had arrived at a few days earlier.¹⁰⁴ *War Illustrated* deliberated on the effects of continuous heavy raids and came to the same conclusion as Speer that piecemeal bombing was totally ineffective. Only 'real hard bombing blows' made a difference. To further illustrate the point, they linked the capitulation of Italy with the commencement of bombing raids on Rome.¹⁰⁵ Whether this causal link was correct or not, the British public appeared to have reached the same conclusion.¹⁰⁶

It was not just the press who disseminated Government doctrine to the public. HM Stationery Office was tasked with producing pamphlets such as *Bomber Command* whilst the MOI sponsored documentary films like *London Can Take it!*¹⁰⁷ That particular film reminded its audience that not only would Britain stand firm, but that 'every night the RAF bombers [would] fly deep into the heart of Germany, bombing munition [sic] works, aeroplane factories, canals, cutting the arteries which keep the heart of Germany alive.'¹⁰⁸ Although such films were understandably less than accurate in their depictions of strategic policy, combat or its aftermath, they nevertheless had a profound effect on their target audience. The diarist Vere Hodgson wrote of her fondness for such films, remarking on what she considered to be the accuracy of the depiction of air raids in the film *In Which We Serve*.¹⁰⁹ Hodgson, who had witnessed air raids herself, saw *The Moon is Down*, which depicted a brutal occupation, just after the Operation GOMORRAH raids, and opined that it was a film all pacifists should see in order to understand what the British bomber offensive had saved them from.¹¹⁰

Clearly the success of Operation GOMORRAH was heavily publicised. But what effect did that have on morale? From the evidence of private individuals, the results of Operation GOMORRAH were considered stunning, with significant consequences for Germany and the war in general. In her diary entries, Hodgson noted how 'damage to Hamburg is colossal – almost wiped off the map' and that 'the Berliners are frantically digging trenches ... they expect to be next.'¹¹¹ That last quote, almost identical to an article published in the *Daily Mail* on the same day, suggests that the press was indeed successfully influencing the public.¹¹² In fact, Adamson might have read the same article. He remarked on the evacuation scheme being employed in Berlin as a result of the raids on Hamburg, a subject of the same *Daily Mail* report.¹¹³ With regards to German casualties, both Adamson and Hodgson acknowledged the suffering of the Germans, but without regret. In remembering her own close encounters with death from German bombs, Hodgson remarked that although it was a terrible thing to be bombed, it was Germany who had started it and it was good that they were receiving the same treatment. It might even help deter future violence.¹¹⁴ Recent events might have influenced Hodgson's opinion as a raid on Eastbourne two months prior to Operation GOMORRAH could only have been viewed as indiscriminate bombing. After all, she wrote, 'one does not know what the Germans think there is in Eastbourne.'¹¹⁵ Adamson was also disturbed by German actions prior to the Hamburg bombing. In noting the sinking of a hospital ship by the Luftwaffe, Adamson considered that the action was indicative of Germany's attitude 'that in war everything is justified.'¹¹⁶ Perhaps it is not surprising that he thought Germany deserved to be fearful after the misery they had inflicted on others.

Adamson made two interesting points on German morale with regards to Operation GOMORRAH. The first referred to the speech by Goebbels, of which he wrote, 'it is astonishing for Gobbels [sic] to admit that the Germans cannot reply to the R.A.F raids ... I think the Gobbels [sic] speech is going to have far reaching consequence on morale.'¹¹⁷ The promise of reprisals had provided encouragement to the German people but with Goebbels' speech that small comfort had been lost. Adamson's second point was on the evacuation of women

and children from the cities, an action of which he approved. To his mind, their deaths would enrage the German population and encourage them to fight harder and for longer. Adamson based his argument on the British reaction to being bombed, aligning the British experience with what Germany was now enduring. In doing so, it appears that Adamson was rejecting the press-promoted – and xenophobic – view of the inferior character traits of the German people.¹¹⁸

It was not just the media reports on successful raids that helped lift British morale. The mere fact that British bombers were fighting back and hitting German cities also gave considerable comfort. Hodgson recalled how the sight of bombers making their way to Germany 'looked fine, and we felt safe beneath them.'¹¹⁹ Of hearing the bombers on their way to Hamburg, she wrote that this 'was a comfortable feeling. I turned lazily in bed and glowed at the thought'.¹²⁰ London resident and policewoman, Dorothy West concurred, claiming that people could determine British bombers from German by their engine noise, thus drawing comfort rather than alarm from the drone of overflying aircraft.¹²¹ In fact, by August 1943 people could take comfort in the knowledge that reprisal raids were now considered unlikely. The reasoning went that if Germany still had the capability, then Hitler would have carried out reprisal raids after Hamburg. The fact that he failed to do so lifted the morale of many.¹²²

While the British Government used air raids, publicised through the media, to boost morale, feedback was needed from the public to be sure the policy was effective. This role was



Avro Lancasters of 467 Squadron ready for take-off (RAF Museum)

assigned to the MOI. The MOI had been monitoring the views of the public towards aerial bombardment throughout the war and had found very little sympathy being felt for the German people. A report on an exhibition on German war damage in February 1943 noted a 'general feeling of "grim satisfaction"' and 'amazement at the extent of the damage done'.¹²³

Following Operation GOMORRAH, the weekly report from the MOI again commented on the lack of sympathy for German bomb victims and credited the operation's success for the general feeling of well-being in the country.¹²⁴ That lack of empathy towards German civilians did not change as further details of the devastation were released to the public. In fact, by October there were calls for even heavier bombing to punish Germany, along with criticism that the promised destruction of German cities had not yet been accomplished.¹²⁵

Along with their own intelligence gathering sources, the MOI utilised the resources of the MOS. This private organisation used questionnaires filled in by members of the public and diaries maintained by volunteers to gauge the general morale of the British public. Their monthly report for July 1943 described a generally positive attitude towards the bombing campaign.¹²⁶ However, by August, after Operation GOMORRAH, it was considered that the public now 'preserved a cautious attitude when passing judgement on the value of air raids on Germany, and in assessing the will and power of the German people to continue with the struggle'.¹²⁷ Although their calculated index of morale on the issue of the bombing of Germany and Italy was recorded that month at an encouraging 97%, the MOS did not believe there to be much confidence in the likelihood of a collapse of German morale.¹²⁸ The findings of the MOS differed from those of the MOI on two major issues. Firstly, the value the British public placed on the CBO and secondly, how they, the public, believed it affected morale, both at home and in Germany.

So why was there a difference in the opinions expressed by the MOI and MOS for the same post-Operation GOMORRAH period? One reason was that the MOI was part of, and beholden to, the Government, whereas the MOS was an independent body. Whilst the MOI were responsible for commissioning the MOS in the first place, it was only one of many sources they used to generate reports. They also had their own regional officers gathering information, access to BBC listener surveys and clandestine sources including the postal censors.¹²⁹ Consequently the MOI could garner information from the public surreptitiously, collating opinions people might not have been prepared to express publicly. As the MOS themselves admitted, the information they gathered only showed what people were prepared to say to a stranger. It was not necessarily what they actually thought or did.¹³⁰ It is also possible that the discrepancies between the two reporting bodies might be explained by their differing objectives. Whilst the MOS was tasked with gauging the morale of the public as affected by the war, the MOI was responsible for maintaining that morale. On that point it was answerable to the Government. This perhaps explains their different understandings on what 'wartime morale' actually was. The MOS defined it to be 'the amount of interest people take in the war, how worthwhile they think it is', later amended to include the 'determination to carry on with the utmost energy'.¹³¹ Meanwhile the Home Intelligence Division, despite never laying down

an actual definition, believed it to revolve around the 'state of conduct and behaviour of an individual or a group'.¹³² It was measured on what they did as opposed to what they said or complained about. Hence, private letters, diaries and even conversations would tend to align more with the Government run MOI reports. The personal views they contained were less likely to be expressed publicly, even in questionnaires, and therefore more likely to reflect their true beliefs.

Overall, the evidence supports the view that the success of Operation GOMORRAH had resulted in acclamation from both press and public. In Connelly's opinion, at that stage of the conflict, 'the British people demanded a German bloody nose and supported the bomber as the only weapon likely to deliver it'.¹³³ Therefore in the summer and autumn of 1943, despite some misgivings over the loss of life, the bombing of Hamburg can justifiably claim to have boosted the morale of the majority of the British public.

Conclusion

Whilst the physical success of Operation GOMORRAH is a matter of historical record, the mental trauma visited on the survivors was also considered 'as great, if not so enduring, as that caused by the most destructive earthquakes of past ages'.¹³⁴ However, if wartime morale was considered as the will to work for the war effort, then although German morale was weakened by the CBO, it was definitely not broken. People carried on 'in a fatalistic and apathetic mood', not because of belief in the cause, but as a result of their reliance on the State and their desire to survive.¹³⁵ However, the German leadership were happy to distinguish between morale and conduct. What their people did, and how they worked, were more important than what they said and how they thought. Hence, personal letters and memoirs show survivors lacking determination to work and questioning Germany's very future, whereas official records document the city's economic revival and commendable civilian conduct.¹³⁶ For Germany, conduct was what mattered. Despite evidence of low morale and local outbreaks of dissent against the authorities, there was no major revolt, just a general acceptance of the situation.

That said, the effect of Operation GOMORRAH extended further than might have been expected. The raids showed that fire could be more effective than blast damage, in the right circumstances, in destroying the homes of workers and affecting production through absenteeism. The fires also had the greatest effect on German morale. The number of deaths caused by the firestorm meant that after Hamburg and for the remainder of the war, all of Germany feared the large area fires.¹³⁷ Finally, on 30 April 1945, with the war lost, Speer went to Hamburg to persuade Gauleiter Kaufmann to defend the city against the oncoming Allied forces. He was unsuccessful. The British forces had informed the city authorities that any attempt to defend Hamburg would result in the 'heaviest bombing the city had ever received' and Kaufmann was not prepared to accept that fate for his city.¹³⁸ He might well have had memories of Operation GOMORRAH in mind. Crucially Admiral Dönitz, as head of state, supported Kaufmann's decision, and so prevented further loss of life on both sides.¹³⁹

Although Grayling claimed that the morale of the German people was not broken until the final months of the war when German defeat was inevitable, it could also be argued that the inevitability of defeat was as a result of the bombing and so the threat of further bombardment was, in this case, just too much.¹⁴⁰ Hamburg could not take another Operation GOMORRAH. Perhaps on this occasion the CBO had ultimately destroyed the will of the Government to fight on, albeit only at a local level, in accordance with British military doctrine.¹⁴¹

How the British public perceived Operation GOMORRAH was dependent on how the Government presented it through the media. To that end, the press – who were willing participants in the campaign to reassure the British population – keenly promoted the exploits of Bomber Command with information supplied from the Government. Consequently, the best possible light was put on the hugely successful bombing raids on Hamburg.¹⁴² Such reporting assured the public that Britain was still in the fight and taking the war to Germany. Although Connelly contested the ambiguous nature of the reporting with regards to targeting, the public seemed to worry very little about the ethics of attacking civilians.¹⁴³ They were aware of that aspect of the bombing campaign, but as long as it was not presented to them in any great detail, they did not complain. The Air Ministry was correct in concluding that too much detail would indeed have a negative effect on the morale of the British public. Süß was to later agree, noting that until the end of the war the British public had not seen many pictures depicting the actual destruction of German cities.¹⁴⁴ He argued that if they had, support for air raids might have wavered. To his mind, public morale in Britain would have been damaged through unease at what was being done on their behalf. However, there were plenty of articles in the press describing the damage visited on German cities, including Hamburg.¹⁴⁵ Detailed photographs of Dresden and Cologne were not published until later in the war and promoted as signs of a military victory, rather than of evidence of the horrors inflicted. Publicly, the subject of morale bombing was rarely mentioned.¹⁴⁶ The British public, of course, had experienced bombing for themselves and, as Friedrich pointed out, 'could figure out on their own the connection between burned-out homes and incinerated inhabitants.'¹⁴⁷ Besides, as Süß stated; the silent consensus in Britain was that the war was not just against Nazism; it was against Germany as a whole. So 'if civilians as a result of their work, were in the end no different from soldiers, why was it necessary to offer them special protection?'¹⁴⁸

Interestingly, as with Germany, there is a contradiction between the personal beliefs expressed in diaries and memoirs, and official documents. The difference in how the MOS and MOI reported the state of morale suggests that what people thought privately and what they were prepared to say and do in public could be different. An individual's morale, good or bad, might not necessarily be reflected in how they expressed themselves in public over the conduct of the Air War. But in the end, for the majority of the British public in August 1943, the need to hit back at Germany overrode any qualms about the morality of civilian casualties. Operation GOMORRAH fulfilled that need and consequently was a positive influence on

the morale of the British public. As an example of what could be achieved with regards to targeting morale, both at home and on the enemy, Operation GOMORRAH if measured against realistic parameters was an unqualified success.

Notes

¹ Sir Michael Howard, "Ethics, Deterrence and Strategic Bombing," *The Journal of the Royal Air Force Historical Society* (1994), p.15.

² Ibid. See also Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany, 1939-1945, Vol.IV: Annexes and Appendices* (London: H.M.S.O, 1961b), pp.153-154.

³ For examples see Phillip Meilinger, "Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine before World War II," *The Journal of Military History* 60 (1996), p.265; and E. Warner, "Douhet, Mitchell, Seversky: Theories of Air Warfare," in *Makers of Modern Strategy*, ed. E. M. Earle (Princeton: Princeton University Press, 1944), p.489.

⁴ For this progression of attacking morale in British strategy see *C.D. 22. Operations Manual, Royal Air Force* (1922), pp.57-58; Meilinger, "Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine before World War II", p265; Richard Overy, *The Bombing War: Europe 1939-1945* (London: Allen Lane, 2013b), p.3.

⁵ R. Overy, "World War II: The Bombing of Germany," in *The War in the Air 1914-1994*, ed. A. Stephens (Maxwell Air Force Base, Alabama: Air University Press, 2001), pp.16, 257-258, 263-265; J. Fennell, "In Search of the 'X' Factor: Morale and the Study of Strategy," *Journal of Strategic Studies* 37 (2014), pp.799-828; J. Fennell, "Air Power and Morale in the North African Campaign of the Second World War," *Air Power Review* 15, No 2 (2012), pp.1-15.

⁶ For examples see A. C. Grayling, *Among the Dead Cities* (London: Bloomsbury Publishing, 2006); D. Süss, *Death from the Skies* [Tod aus der Luft], trans. L. Sharp and J. Noakes (Oxford: Oxford University Press, 2011), pp.525-525; Arthur Frank Poore, *Interviewed by Wood, C. (29 Mar 2000)*, IWM, 2000.

⁷ John Kenneth Galbraith, *A Life in our Times: Memoirs* (London: Deutsch, 1981), pp.239-240.

⁸ T. D. Biddle, *Rhetoric and Reality in Air Warfare* (Princeton: Princeton University Press, 2002), p.202; Peter W. Gray, "The Gloves Will have to Come Off: A Reappraisal of the Legitimacy of the RAF Bomber Offensive Against Germany," *RAF Air Power Review* 13, No 3 (Autumn, 2010), p.26.

⁹ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945. Vol.IV: Annexes and Appendices*, pp.153-154.

¹⁰ Grayling, *Among the Dead Cities*, p.106.

¹¹ Overy, "World War II: The Bombing of Germany," pp.107-108.

¹² Ibid. p.107.

¹³ J. Friedrich, *The Fire* [Der Brand], trans. A. Brown (New York: Columbia University Press, 2006); Süss, *Death from the Skies*, p.518.

¹⁴ H. Rumpf, *The Bombing of Germany* [Das War der Bombenkrieg], trans. E. Fitzgerald (London: Frederick Muller Limited, 1963), pp.180-181.

¹⁵ Süss, *Death from the Skies*, p.518.

¹⁶ H. E. Nossack, *The End - Hamburg 1943* [Der Untergang: Hamburg 1943], trans. J. Agee (London: University of Chicago, [1948] 2004); M. Wolff- Mönckeberg, *On the Other Side: To My*

Children - from Germany, 1940-45, ed. R. Evans (London: Pan, 1982).

¹⁷ Süss, *Death from the Skies*. Süss made use of German personal testimonies to provide a contrasting account to established histories.

¹⁸ Overy, *The Bombing War Europe 1939-1945*, pp.16-17.

¹⁹ Robert Mackay, *Half the Battle: Civilian Morale in Britain during the Second World War* (Manchester; New York: Manchester University Press, 2002), p.154.

²⁰ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945. Vol.IV: Annexes and Appendices*, pp.153-154.

²¹ AIR 48/19 "A Detailed Study of the Effects of Area Bombing on Hamburg Germany," The National Archives (TNA), 1945, pp.6,8.

²² M. Middlebrook, *The Battle of Hamburg: Allied Bomber Forces Against a German City in 1943* (London: Allen Lane, 1980), p.324.

²³ AIR 20/7287 "Report by the Police President on the Large Scale Raids on Hamburg in July and August 1943," TNA, 1946; Wolff- Mönckeberg, *On the Other Side: To My Children - from Germany, 1940-45*; Süss, *Death from the Skies*; Friedrich, *The Fire*; Jeremy Noakes, ed., *Nazism, 1919-1945 Vol.4 The German Home Front in World War II* (Exeter: University of Exeter Press, 1998).

²⁴ AIR 48/19 "A Detailed Study of the Effects of Area Bombing on Hamburg Germany," p.1.

²⁵ Ibid.

²⁶ Meilinger, "Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine before World War II", p.265.

²⁷ Peter W. Gray, "The Strategic Leadership and Direction of the Royal Air Force Strategic Air Offensive Against Germany from Inception to 1945" (PhD Diss.), p.284.

²⁸ PREM 3/193/6A, The National Archives, a) Italian Consul report and Joint Intelligence Sub-Committee JIC(43) 367 (final) Probabilities of a German Collapse Oct 43.

²⁹ Overy, *World War II: The Bombing of Germany*, p.136.

³⁰ Howard, "Ethics, Deterrence and Strategic Bombing," pp.12-23 p.17.

³¹ Süss, *Death from the Skies*, pp.395-396.

³² Friedrich, *The Fire* pp.166-167.

³³ Middlebrook, *The Battle of Hamburg: Allied Bomber Forces Against a German City in 1943*, p.172.

³⁴ Ibid. p.147.

³⁵ Ibid. p.172.

³⁶ Ibid. pp.148-149.

³⁷ Süss, *Death from the Skies*, p.75.

³⁸ Ibid. p.77.

³⁹ AIR 20/7287 "Report by the Police President on the Large Scale Raids on Hamburg in July and August 1943," p.71.

⁴⁰ Wolff- Mönckeberg, *On the Other Side: To My Children - from Germany, 1940-45*, pp.79-80.

⁴¹ Noakes, *Nazism, 1919-1945 Vol.4, The German Home Front in World War II*, pp.569-570.

⁴² Rumpf, *The Bombing of Germany*, pp.188-189.

⁴³ Nossack, *The End - Hamburg 1943*, pp.59-60.

⁴⁴ K. Lowe, *Inferno: The Devastation of Hamburg, 1943* (London: Penguin, 2012), pp.301-318.

⁴⁵ Wolff- Mönckeberg, *On the Other Side: To My Children - from Germany, 1940-45*, p.85.

- ⁴⁶ Lowe, *Inferno: The Devastation of Hamburg*, 1943, p.301.
- ⁴⁷ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol.IV: Annexes and Appendices*, p.307 Appendix 29.
- ⁴⁸ Ibid. p.384.
- ⁴⁹ Wolff- Mönckeberg, *On the Other Side: To My Children - from Germany, 1940-45*, pp.69-73.
- ⁵⁰ Ibid. p.79.
- ⁵¹ Nossack, *The End - Hamburg* 1943, pp.31-33.
- ⁵² Middlebrook, *The Battle of Hamburg: Allied Bomber Forces Against a German City in 1943*, p.352; see also Lowe, *Inferno: The Devastation of Hamburg*, 1943, pp.25-30.
- ⁵³ Nossack, *The End - Hamburg* 1943, pp.31-32.
- ⁵⁴ Friedrich, *The Fire*, p.423.
- ⁵⁵ Nossack, *The End - Hamburg* 1943, pp.31-33.
- ⁵⁶ Wolff- Mönckeberg, *On the Other Side: To My Children - from Germany, 1940-45*, p.85.
- ⁵⁷ Nossack, *The End - Hamburg* 1943, p.32.
- ⁵⁸ Albert Speer, *Inside the Third Reich : Memoirs by Albert Speer*; trans. Richard and Clara Winston (London: Weidenfeld & Nicolson, 1970), pp.388-389.
- ⁵⁹ Süß, *Death from the Skies*, pp.78-79; S. Read, *The Killing Skies* (Stroud: Spellmount, 2008), p.151.
- ⁶⁰ Speer, *Inside the Third Reich : Memoirs by Albert Speer*, p.389.
- ⁶¹ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol.IV: Annexes and Appendices*, pp.375-378.
- ⁶² Overy, *World War II: The Bombing of Germany*, p.119; INF 1/292 Pt 2 "Home Morale and Public Opinion 22 Sept 1941." TNA, 1941, p.4.
- ⁶³ AIR/40/1494 "Allied Attacks and German Morale," TNA, 1944, p.5.
- ⁶⁴ Ibid.
- ⁶⁵ Meilinger, "Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine before World War II", p.265; "MORALE IN GLASGOW [File Report 600]" Mass Observation Archive, University of Sussex, March 1941. <http://www.massobservation.amdigital.co.uk/Documents/Details/FileReport-600>; INF 1/292 Pt 2 "Home Morale and Public Opinion 22 Sept 1941".
- ⁶⁶ AIR/40/1494 "Allied Attacks and German Morale," p.4.
- ⁶⁷ Ibid. pp.9-10.
- ⁶⁸ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol.IV: Annexes and Appendices*, pp.375-376.
- ⁶⁹ Grayling, *Among the Dead Cities*, pp.93-95.
- ⁷⁰ Rumpf, *The Bombing of Germany*, pp.182-183.
- ⁷¹ Grayling, *Among the Dead Cities*, pp.93-95.
- ⁷² Noakes, *Nazism, 1919-1945 Vol.4, The German Home Front in World War II*, pp.558-560.
- ⁷³ AIR 20/7287 "Report by the Police President on the Large Scale Raids on Hamburg in July and August 1943," p.71; Wolff- Mönckeberg, *On the Other Side: To My Children - from Germany, 1940-45*, p.79.
- ⁷⁴ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol.IV: Annexes and Appendices*, p.378.
- ⁷⁵ Rumpf, *The Bombing of Germany*, pp.182-183.

- ⁷⁶ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol.IV: Annexes and Appendices*, p.383.
- ⁷⁷ AIR/40/1494 "Allied Attacks and German Morale," p.7.
- ⁷⁸ Rumpf, *The Bombing of Germany*, pp.86-87.
- ⁷⁹ Noakes, *Nazism, 1919-1945 Vol.4, The German Home Front in World War II*, p.565.
- ⁸⁰ Mackay, *Half the Battle: Civilian Morale in Britain during the Second World War*, p.257.
- ⁸¹ Ibid.
- ⁸² AIR/24/258 "Immediate Interpretation Report no. 1640," TNA, 1943a.
- ⁸³ CAB/66/40/16 "War Cabinet Summary of Operations 1 August 1943,"(Cabinet Papers, TNA, 1943b).
- ⁸⁴ Ibid.
- ⁸⁵ CAB/66/40/29 "War Cabinet Summary of Operations 15 August 1943,"(Cabinet papers, TNA, 1943c).
- ⁸⁶ Ibid.
- ⁸⁷ Ibid.
- ⁸⁸ Special Correspondent, "Berlin in Grip of 'Hamburg Panic'," *Daily Mail*, August 7, 1943.
- ⁸⁹ CAB/66/40/29 "War Cabinet Summary of Operations 15 August 1943"; Noakes, *Nazism, 1919-1945 Vol.4, The German Home Front in World War II*, p.558; AIR 20/7287 "Report by the Police President on the Large Scale Raids on Hamburg in July and August 1943," p.71.
- ⁹⁰ Mackay, *Half the Battle: Civilian Morale in Britain during the Second World War*, p.154.
- ⁹¹ Special Correspondent, "Evacuation of Hamburg," *The Times*, August 2, 1943; C. Bednall, "Berlin: 11th-Hour Bit to Save Herself," *Daily Mail*, August 3, 1943.
- ⁹² Ralph Hewins, "Berlin a City of Fear: 'Our Turn Next'," *Daily Mail*, August 2, 1943.
- ⁹³ Ibid.
- ⁹⁴ Süß, *Death from the Skies*, pp. 93-94.
- ⁹⁵ Dr Weininger, "My Night of Terror in Bomb-Battered Hamburg," *The War Illustrated*, 1943, p.190.
- ⁹⁶ M. Connelly, *We can Take it! - Britain and the Memory of the Second World War* (Abingdon: Routledge, 2004), p.257.
- ⁹⁷ Friedrich, *The Fire*, p.81.
- ⁹⁸ For examples see Daily Mail Reporter, "Six Raids Pounded Hamburg into Vast Heap of Rubble," *Daily Mail*, September 20, 1943; and Daily Mail Air Correspondent, "Seven Days of Fire at Hamburg," *Daily Mail*, July 31, 1943.
- ⁹⁹ Süß, *Death from the Skies*, p.95.
- ¹⁰⁰ INF 1/292 "Home Intelligence Weekly Report 19 Aug 1943," TNA, 1943e; Vere Hodgson also noted how the sound of bombers on the way to Hamburg gave her comfort see V. Hodgson, *Few Eggs and no Oranges* (London: Persephone, 1999).
- ¹⁰¹ INF 1/292 "Home Intelligence Weekly Report 19 Aug 1943".
- ¹⁰² INF 1/292 "Home Intelligence Weekly Report 26 Aug 1943," TNA, 1943f.
- ¹⁰³ "The Outlook," *Flight and the Aircraft Engineer*, 5 August, 1943i.
- ¹⁰⁴ "Diarist 5004," Mass Observation Archive, University of Sussex, July 1941-March 1945.
<http://www.massobservation.amdigital.co.uk/Documents/Details/Diarist-5004>.

- ¹⁰⁵ N. Macmillan, "The War in the Air," *The War Illustrated*, 20 August, 1943, p.182.
- ¹⁰⁶ INF 1/292 "Home Intelligence Weekly Report 26 Aug 1943".
- ¹⁰⁷ Mackay, *Half the Battle: Civilian Morale in Britain during the Second World War*, p.154.
- ¹⁰⁸ Commentary from the film "London Can Take It" taken from A. Marwick and W. Simpson, eds., *Primary Sources 2: Interwar and World War II* (Milton Keynes: The Open University, 2001), p.144.
- ¹⁰⁹ Hodgson, *Few Eggs and no Oranges*, p.392.
- ¹¹⁰ Ibid. p.409.
- ¹¹¹ Ibid. p.403.
- ¹¹² Hewins, *Berlin a City of Fear: 'Our Turn Next'*, *Daily Mail*, August 2, 1943.
- ¹¹³ "Diarist 5004," Mass Observation Archive, University of Sussex.
- ¹¹⁴ Hodgson, *Few Eggs and no Oranges*, pp.403-407.
- ¹¹⁵ Ibid. p.392.
- ¹¹⁶ "Diarist 5004," Mass Observation Archive, University of Sussex.
- ¹¹⁷ Ibid.
- ¹¹⁸ Ibid.
- ¹¹⁹ Hodgson, *Few Eggs and no Oranges*, p.414.
- ¹²⁰ Ibid. p.407.
- ¹²¹ Dorothy West, *Interviewed by Butler, S. (2001)* IWM, 2001.
- ¹²² INF 1/292 "Home Intelligence Weekly Report 26 Aug 1943".
- ¹²³ INF 1/293 "Home Intelligence Special Report March 1943," TNA, 1943h.
- ¹²⁴ INF 1/292 "Home Intelligence Weekly Report 5 Aug 1943," TNA, 1943g.
- ¹²⁵ INF 1/292 "Home Intelligence Weekly Report 14 Oct 1943," TNA, 1943d.
- ¹²⁶ "MORALE IN JULY 1943 [File Report 1883]," Mass Observation Archive, University of Sussex, August 1943. <http://www.massobservation.amdigital.co.uk/Documents/Details/FileReport-1883>. p.2.
- ¹²⁷ "MORALE IN AUGUST 1943 [File Report 1915]," Mass Observation Archive, University of Sussex, September 1943. <http://www.massobservation.amdigital.co.uk/Documents/Details/FileReport-1915>. pp.1-2.
- ¹²⁸ Ibid. p.3.
- ¹²⁹ J. Crang and P. Addison, *Listening to Britain* (London: Vintage, 2011), p.xiv.
- ¹³⁰ "US 2 [File Report 27]," Mass Observation Archive, University of Sussex, February 1940. <http://www.massobservation.amdigital.co.uk/Documents/Details/FileReport-27>. p.1.
- ¹³¹ Ibid.; later updated in "MORALE IN GLASGOW [File Report 600]," Mass Observation Archive, University of Sussex.
- ¹³² It was MacKay's opinion that there was no set definition see Mackay, *Half the Battle: Civilian Morale in Britain during the Second World War*, pp.1-2; INF 1/292 Pt 2 "Home Morale and Public Opinion 22 Sept 1941".
- ¹³³ Connelly, *We can Take it! - Britain and the Memory of the Second World War*, p.257.
- ¹³⁴ Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol II: Endeavour* (London: H.M.S.O., 1961a), p.237.
- ¹³⁵ Boog, H. in "Reaping the Whirlwind: Bracknell Paper No 4 A Symposium on the Strategic

Bomber Offensive 1939-1945,"(Bracknell, Royal Air Force Historical Society, 26 March 1993, b), p.28.

¹³⁶ "MORALE IN GLASGOW [File Report 600]"; Friedrich, *The Fire*, p.423; Nossack, *The End - Hamburg 1943*, pp.31-32.

¹³⁷ Webster and Frankland, *The Strategic Air Offensive Against Germany, 1939-1945 Vol.IV: Annexes and Appendices*, p.395.

¹³⁸ Speer, *Inside the Third Reich: Memoirs by Albert Speer*, p.658.

¹³⁹ Ibid.

¹⁴⁰ Grayling, *Among the Dead Cities*, pp.101-103.

¹⁴¹ Meilinger, "Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine before World War II", p.265.

¹⁴² Mackay, *Half the Battle: Civilian Morale in Britain during the Second World War*, p.154.

¹⁴³ Connelly, *We can Take it! - Britain and the Memory of the Second World War*, p.257.

¹⁴⁴ Süß, *Death from the Skies*, p.455.

¹⁴⁵ Weininger, *My Night of Terror in Bomb-Battered Hamburg*, p.190; "Ruins that are Hamburg." *Daily Mail*, August 6, 1943; Hewins, "Berlin a City of Fear: 'Our Turn Next'".

¹⁴⁶ Süß, *Death from the Skies*, p.456.

¹⁴⁷ Friedrich, *The Fire*, p.81.

¹⁴⁸ Süß, *Death from the Skies*, pp.98-99.

Viewpoint

Basil H. Liddell Hart: His Applicability to Modern War

By Colonel (Retd) Phillip Meilinger USAF

Biography: Phillip Meilinger is a retired USAF Colonel; he has served as a command pilot, staff officer and educator. He was a staff officer in the Pentagon during the First Gulf War, taught at the Naval War College and was dean of the School of Advanced Airpower Studies. He holds a PhD from the University of Michigan and has published extensively on air power and military theory, doctrine and operations.

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

*'There are two thousand years of experience to tell us that the only thing harder than getting a new idea into the military mind is to get an old idea out.'*¹

Basil H. Liddell Hart was born in Paris to English parents. He was educated at Cambridge, and when war broke out in 1914 he joined the King's Own Yorkshire Light Infantry Regiment. As a lieutenant he was wounded at Ypres, the Somme, and was gassed at Mametz. In 1924 he was invalided out of the Service in the rank of captain due to his combat injuries. The war experience mentally and intellectually scarred him for life.²

After leaving the Army, Liddell Hart began to write—he needed an income to support his family. At first he focused on tactics and wrote doctrine manuals for the British Army, but he then expanded his horizons and became a historian and military editor for *Encyclopaedia Britannica*, the *London Daily Telegraph* and finally *The Times*. His output was prodigious: he published scores of books and articles. He was also a close advisor to Britain's War Department during the 1930s.

Liddell Hart is perhaps best known for his articulation of a theory of war that he referred to as the 'Indirect Approach'—in essence, the opening of a second front or a strategic flanking movement against a powerful enemy. His emphasis on these types of manoeuvres was deliberately attuned to his desire to limit the risk of British casualties in war.

Liddell Hart had been appalled and repulsed by the 'mausoleums of mud' that he had witnessed in the Great War.³ To his mind, this type of bloody, attritional warfare was the result of a Clausewitzian mind-set gone terribly wrong. The Prussian theorist had declared that war was slaughter, and the generals of the Great War took him at his word. Clausewitz had believed that one should always strike the enemy where he was strongest and that 'blood is the price of victory'.⁴ Liddell Hart referred to Clausewitz as 'the Mahdi of mass and mutual massacre' and instead turned his intellect and his pen to the effort of finding an alternative.⁵

Initially, he considered air power—in particular strategic bombing—as a possible solution to stalemate and the bloody frontal assaults that had characterized the late war. As early as 1923 he was arguing that the next war would be dominated by aircraft and armoured forces working together.⁶ In 1925 he wrote an interesting book entitled *Paris, Or the Future of War*. *Paris* did not refer to the capital of France, but rather the Trojan prince in the *Iliad* who had slain the mighty Achilles by shooting him with an arrow. In other words, rather than take on the world's greatest warrior in hand-to-hand combat, Paris chose to limit his risk in an indirect and long-range approach to attack his opponent. Liddell Hart believed that although Clausewitz had written of three general objects in war—military power, the country itself, and the will of the populace, leaders and forces—he criticized the Prussian for placing 'will' last in his triumvirate rather than first. The listing of military forces as the primary objective in war was to him a massive error.⁷ The result of this mistake was what Liddell Hart referred to as 'mechanical

butchery'.⁸ He blamed the generals, on both sides, for being 'obsessed' with the Prussian theorist. To the infantryman who had survived the carnage of the Somme, this was insanity: 'The strongest will is of little use if it is inside a dead body.'⁹

In *Paris*, Liddell Hart saw strategic bombing as an alternative to a ground battle bloodbath and endless attrition. He had witnessed how relatively few German Zeppelin and bomber attacks had caused panic in some of Britain's major cities, and he imagined such bombing raids as becoming commonplace in any future war:

Imagine for a moment that, of two centralized industrial nations at war, one possesses a superior air force, the other a superior army. Provided that the blow be sufficiently swift and powerful, there is no reason why within a few hours, or at most days from the commencement of hostilities, the nerve system of the country inferior in air power should not be paralyzed.¹⁰

Air power would avoid the bloody trench stalemate of the Great War; it would be a vertical envelopment and second front against an enemy, and it would dramatically lower the cost of war as well as its attendant risk. In a wise but desolate observation, Liddell Hart plaintively asked: 'Of what use is decisive victory if we bleed to death as a result of it?'¹¹

Over the next two decades, Liddell Hart would move away from the strategic air power model, but would still expound the virtues of an indirect approach to limit risk, both tactically and strategically.¹² Tactically, he became a proponent of mechanized warfare—one of his most noted works was a history of the Royal Tank Corps—combined with tactical air operations. In addition, his belief in air power's ability to maintain control of the sky remained strong: 'if it [air power] were driven out of the sky our defence structure would crumble quicker than from any other cause.'¹³

Liddell Hart then searched throughout history for examples where campaigns and battles succeeded or failed depending on whether a direct or indirect approach had been used. In 1929 he wrote *The Decisive Wars of History* where he first laid out this thesis. He continued to refine and update this work (*The British Way in Warfare*, 1933), and the culmination of this effort appeared in 1954 in his book, *Strategy* in which he stated: 'throughout the ages, effective results in war have rarely been attained unless the approach has had such indirectness as to ensure the opponent's unreadiness to meet it. The indirectness has usually been physical, and always psychological.'¹⁴ He reviewed 280 campaigns throughout history and determined that only six times was success achieved as a result of 'a direct strategic approach to the main army of the enemy.'¹⁵ Unfortunately, in his survey of these campaigns he often blurred the distinction between the different levels of war, sometimes hailing an indirect approach as a result of a grand strategic manoeuvre—Wellington in the Peninsula, Gallipoli in 1915; other times it was at the operational level—Thomas Jackson in the Shenandoah Campaign of 1862 and William Sherman's march to the sea in 1865; and still others at the tactical level—

Frederick the Great at Leuthen in 1757, James Wolfe at Quebec in 1759, and Napoleon at Austerlitz, 1805. This willingness to move up and down the ladder of war at will rendered his analysis suspect. Unquestionably, Liddell Hart was disingenuously selective in the campaigns and battles that he surveyed—highlighting some and ignoring others to suit his pre-established thesis.

Yet, the strategy of indirect approach articulated by Liddell Hart held the kernel of very important ideas. For any nation loath to incur heavy casualties or debilitating costs, his indirect approach made sense. To his mind, this was the wise strategy that had been followed by Britain for centuries: 'we endeavoured to limit our military effort to a minimum. By this grand strategy we conserved our strength, while applying what was used where the enemy was weakest.'¹⁶ Elsewhere he wrote: 'It is the function of grand strategy to discover and exploit the Achilles' heel of the enemy nation; to strike not against its strongest bulwark but against its most vulnerable spot.'¹⁷ It was also interesting that he began *Strategy* with a series of quotes from Sun Tzu and others that foreshadowed his own views. The importance of the unexpected in war—at any level—was well known through the centuries. Surprise, however attained, was considered a basic principle of generalship. Liddell Hart simply tried to codify that principle, quantify it, and highlight its importance in modern war; especially he wished to catch the attention of civilian and military leaders in Britain.

Liddell Hart was sickened by the carnage of the Great War, and especially Britain's role in it. In his view, 'limited liability' meant that his country should fight its wars relying heavily on sea power; significant land forces were contemplated only if Continental allies were willing to bear the greatest burden of battle.¹⁸ British history had proven to him the wisdom of this limited liability strategy and indirect approach. He argued that 'The aim of a nation in war is to subdue the enemy's will to resist, with the least possible human and economic loss to itself.'¹⁹ Sending massive armies to the Continent was seldom a good idea.²⁰

To Liddell Hart, the British strategy of 1914 jettisoned this wise traditional policy and contradicted three centuries of history—a history marked by great successes over powerful enemies. He blamed this disastrous shift on Field Marshal Henry Wilson, who before the war had become enamoured with the thoughts of the French soldier (later Marshal), Ferdinand Foch. Wilson tied himself—and more importantly, the British Army—to a major confrontation with Germany on the Continent: 'shallow thought [was] deformed by slavish imitation of Continental fashions.'²¹

Nonetheless, despite this misguided decision, Liddell Hart maintained that Britain was justified in sending an army to France in 1914 due to alliance solidarity. But those forces should have been withdrawn in 1915 and used elsewhere in the traditional British fashion when it became clear the Western Front had stagnated. The horrible British offensives at the Somme and Passchendaele were to him nearly criminal in their stupidity: 'It was heroic, but was it necessary? It was magnificent, but was it war? A supplementary yet separate question is

whether it even benefitted our allies in the long run. Did we, more pertinently, sacrifice our security, our mortgage on the future, for a gesture?’²² Liddell Hart believed that operations in Gallipoli and Salonika—if they had been given more support in London—would have provided far more positive results than four years of trench carnage.²³

Significantly, Liddell Hart’s contemporary and military historian in the first half of the twentieth century was of the same mind. John Frederick Charles Fuller was a career officer in the British army, seeing extensive action in the Great War. He was an early proponent of the tank, and speculated that if the war had continued into 1919 this new mechanical weapon would have had a decisive influence. Following the war, he rose to the rank of major general while continuing to be one of the foremost advocates of mechanized/tank warfare. At the same time, like Liddell Hart, he became a prodigious writer, churning out dozens of books and articles of outstanding quality.²⁴ In one of these books, a collection of essays titled *Watchwords*, he expounded on ideas that sounded much like those of Liddell Hart.

Fuller noted the unique ability of Britain, because it had command of the seas for the previous two centuries, to possess the initiative. Writing during World War II, Fuller argued that Adolf Hitler ‘failed to appreciate the inner meaning of sea power,’ which meant that ‘an island power, so long as it commands the seas, in spite of the number of land battles it may lose, can never fully be deprived of the initiative.’ In strategic terms, this granted an enormous advantage because even though sea superiority may be dormant part of the time, ‘all that is required to awaken it is the establishment of a bridgehead within striking distance of the enemy.’²⁵ He continued on regarding the virtues of sea supremacy, noting that ‘a continental power cannot completely wrest the initiative from an island power except by successful invasion.’²⁶ But of course, British sea control would make an enemy invasion virtually impossible. The ‘Strategy of the Second Front’ as Fuller viewed it, was not a new issue in British history because it had been followed so often in the past. Its purpose was clear: ‘our object was not to engage in the main campaign, but instead to divert and to distract by means of a secondary operation, the aim of which was to compel the enemy to look in two directions and divide his forces.’²⁷ More to the point, such a strategy would limit the risk and expense of the country employing it. Clearly Fuller also believed an ‘indirect approach’ was synonymous with ‘limited liability’. Of great importance, Fuller then noted that control of the air above the seas was becoming essential. Air power’s unique abilities and characteristics meant that it, like sea power before it, would grant the initiative to its user during war.

Liddell Hart and Fuller were not the first to advocate this type of warfare. Around 400 BC a Chinese military writer who has come down to us by the name of Sun Tzu wrote on the theory of war. Sun Tzu’s major argument was that successful generals strove to avoid attacking an enemy head on. Rather, a sense of moderation was necessary; generals should seek to wear out their enemy before attacking, and, indeed, if the enemy could be defeated without battle that was even better. He wrote: ‘All warfare is based on deception. Therefore, when capable,

feign incapacity; when active, inactivity. When near, make it appear that you are far away; when far away, that you are near. Offer the enemy a bait to lure him; feign disorder and strike him. . . . where he is strong, avoid him.'²⁸ More emphatically, he also wrote: 'To capture an enemy's army is better than to destroy it . . . To subdue an enemy without fighting is the acme of skill.'²⁹ This notion—that battle was sometimes unnecessary—was scoffed at by Clausewitz who later wrote: 'Kind-hearted people might of course think there was some ingenious way to disarm or defeat an enemy without too much bloodshed, and might imagine this is the true goal of the art of war. Pleasant as it sounds, it is a fallacy that must be exposed: war is such a dangerous business that the mistakes that come from kindness are the very worst.'³⁰ To Clausewitz, unbridled violence was essential in war.

To Sun Tzu, on the other hand, deception and surprise were the keys to success; attacking a strong enemy behind fortifications was almost never a good option. Instead of hitting the enemy's strength—his fielded army—Sun Tzu advocated that one should hit his weaknesses: 'The enemy must not know where I intend to give battle. For if he does not know where I intend to give battle he must prepare in a great many places. And when he prepares in a great many places, those I have to fight in any one place will be few.'³¹ In this sense, Sun Tzu is often termed the anti-Clausewitz.³² It should never be the strategy of a general to expend lives or treasure. Liddell Hart and Fuller were certainly aware of Sun Tzu—his first translation into English occurred in 1910—but the Chinese strategist did not become widely known in the West until after World War II. At that point, the revolutionary theories of Mao Zedong, who claimed to be a student of Sun Tzu, caused a re-examination of the ancient text. One author, in a method similar to that of Liddell Hart, examined a number of historical campaigns, concluding that those who followed Sun Tzu's dictums regarding the desirability of striking an enemy unexpectedly and indirectly were generally successful, while those who followed a Clausewitzian model of hitting an enemy's strength head-on usually suffered defeat—and did so at great cost.³³

Now the US, UK and other nations have been engaged for fifteen years in debilitating wars in Iraq and Afghanistan. The strategy employed to defeat Al Qaeda, the Taliban, Iraqi forces and now ISIS has consisted largely of a direct approach—tens of thousands of conventional ground troops that occupied territory and sought to engage the enemy in a climactic and bloody battle. That strategy has not worked very well. It's time to reconsider the ideas of Liddell Hart.

After the terrorist attacks of September 11, 2001, the US responded quickly and forcefully by attacking Afghanistan where al Qaeda was being sheltered. Initially, strikes were led by land and sea-based air power while conventional ground forces slowly deployed over the ocean. The combination of air power, often directed by special operations forces (SOF), along with intelligence assets and indigenous ground forces, threw back the Taliban and al Qaeda. On 9 November 2001, the Northern Alliance captured the stronghold of Mazar-e-Sharif, and three days later the capital of Kabul. Twelve days after the fall of Kabul, the first US conventional ground forces arrived in Afghanistan.

The situation in Iraq had been largely stable since Saddam Hussein's surrender in 1991. The decade-long air blockade was successful in keeping him in his cage. Despite nearly 200,000 combat sorties flown, not one aircraft was downed. CENTCOM commander General Anthony Zinni lauded this achievement: 'Containment worked. Look at Saddam—what did he have? He didn't threaten anyone in the region. He was contained. He had a deteriorated military. He wasn't a threat to the region. . . We contained day-to-day, with fewer troops [airmen] than go to work every day at the Pentagon.'³⁴ Zinni was one of the few senior officers to counsel against the invasion.

The attack into Iraq in 2003 was intended to find and destroy weapons of mass destruction, as well as to remove any al Qaeda soldiers found in Iraq. In addition, the George W. Bush administration hoped that with the removal of Hussein, Iraq could be transformed into a democracy. Although a worthy goal, it would prove difficult to accomplish.³⁵

Over the next few years, things began to unravel in Afghanistan and Iraq. Political decisions were made to disband the Iraqi army and police forces, and all Baath Party members were banned from holding public office. When rioting and looting broke out, US troops were ordered to stand aside. Tens of thousands of ground troops attempted to occupy and pacify Iraq, but only served to roil the populace. The humiliating scandal of Abu Gharib struck a heavy blow to US credibility.³⁶ In Afghanistan, President Obama dispatched 34,000 combat troops to the country, but the situation there, as in Iraq, deteriorated.

By mid-2006 it was clear that Iraq was in chaos and American strategy was failing.³⁷ A new plan was needed to put the situation back on track. General David H. Petraeus was tapped to put things right. Petraeus had just published a new doctrine manual on counterinsurgency that was hailed as an intelligent explanation of why insurgencies began and were sustained, and, more importantly, how to defeat them.

Some extra troops were sent to Iraq, but more important than numbers were strategic and tactical moves: more Iraqi police were added, and warlords were paid off in what became known as 'cash for cooperation'.³⁸ US troops moved out of their bases to mingle more in the villages. Things improved. Fewer Americans died and there were fewer attacks on Iraqi citizens. Even so, one general on the ground later commented that the new doctrine of counterinsurgency resulted in 'not a win, but no longer a descent into chaos. . . . The hope for victory was long gone. Salvage became the order of the day.'³⁹ 'Vietnamization' occurred—the war was increasingly turned over to the Iraqis as Americans withdrew.

Things were little better in Afghanistan where tens of thousands of occupation troops stirred resentment. In 2009 Petraeus moved to Afghanistan to replicate his 'success' in Iraq. Yet, tribal identities and conflicts are even worse in Afghanistan.⁴⁰ Moreover, Washington and CENTCOM seemed not to understand the strong link between al Qaeda, the Taliban and the Pakistani

intelligence bureaucracy. Attempting to close-off the border (a key goal to isolate the rebels) was futile given the stance of the Pakistani government.⁴¹

Thousands of American and allied troops have died along with hundreds of thousands of Iraqi and Afghani civilians. Trillions of dollars have been spent, and the situation continues to deteriorate. Democracy in both countries seems unreachable, and chronic warfare between various factions continues unabated. New ideas are needed.

The emergence of air-delivered precision weapons allows a discrete application of force. Military operations now plan to minimize casualties and collateral damage to civilians. Avoiding risk to our forces is also a factor in the increasing use of unmanned air vehicles. We cannot afford to allow our aircrew members to be captured, tortured and murdered by ISIS.

Besides precision weapons, networked operations and near-instantaneous global communications and intelligence have revolutionized how the US and its allies fight. Planners must focus on strategies that maximize the chances of achieving political success at the least cost in blood and treasure. Commanders must seek forces, strategies, tactics and weapons that will gain advantages at the least risk and cost. An indirect approach in order to limit liability seems to offer a path: the ideas of Basil Liddell Hart are once again of importance.

For example, in Afghanistan SOF troops teamed with the Northern Alliance (backed by ubiquitous ISR assets and Coalition air power) resulted in a rapid and stunning victory. Moreover, the Northern Alliance was always outnumbered by the Taliban—at Mazar-e-Sharif, for example, 5,000 Taliban in defensive positions confronted 2,000 Northern Alliance troops.⁴² But the Northern Alliance had air power behind them, with targets called-in and directed by SOF.

Consider also the opening stages of the Iraq war in 2003. There were thirteen Iraqi divisions positioned in the north to defend against an invasion from Turkey—which never occurred due to Turkish objections. Instead, the Kurds, along with 600 SOF, plus the 173rd Airborne Brigade that was air-dropped into Bashur—without its heavy equipment that had been left in Turkey—took the offensive. On 30 March 2003 the Iraqi 4th Division was destroyed, followed by the 21st Division; the 81st and 38th Divisions fell on 2 April. The entire northern front collapsed on 10 April with the 5th Iraqi Corps surrendering, and Kirkuk fell to Coalition troops. In the words of one observer:

In short, against all pre-war expectations, SOF operations in northern Iraq were fantastically successful. Despite numerous logistical and political obstacles, a small SOF group working with unskilled indigenous allies and highly constrained airpower defeated a significant portion of Iraq's army. Moreover, it did so without suffering a single American death.⁴³

Without suffering a single American death. Indigenous troops were essential for these operations—as they had been in the Balkans when Kosovars benefited from NATO air power. Of importance, these indigenous forces were not considered of high quality prior to hostilities. The Kosovars and the Northern Alliance, for example, were deficient in quantity, quality, training and weapons—they had proven largely unsuccessful in fighting the Serbs or the Taliban previously. Yet, when stiffened with SOF and air power and guided by ubiquitous intelligence assets, they were successful. In Libya, air power teamed with indigenous opposition forces to bring down the long-standing regime of Muammar Gaddafi in 2011—with zero casualties to NATO forces.⁴⁴

The vital interests of the US and UK are seldom at stake; instead, they intervene to punish aggressors or topple particularly inhumane dictators in an attempt to bring peace to troubled regions. In order to achieve success, public support must be maintained, but one of the surest ways to lose this support is to suffer high casualties or, worse, inflict them on the societies we are attempting to help. The goal of limiting cost and casualties is hindered by the introduction of large numbers of conventional ground troops.

As Liddell Hart had suggested, political results can be achieved by the use of an indirect approach that not only can be successful, but also limits cost - it grants a limited liability. Religious, cultural and ethnic differences so endemic in the Middle East can perhaps be bridged by the correct use of military force. In one of his typically astute observations, Liddell Hart wrote: 'To strike by fire alone at the great number of points in the shortest time over the widest area and without ever making contact in the present tactical sense.'⁴⁵ This is the essence of his theories.

But discovering the correct balance and formula for achieving such results requires a very delicate and deft strategy. The combination of air power, SOF, indigenous forces and ISR seems to be a winner.

Notes

¹ Basil H. Liddell Hart, *Thoughts on War* (London: Faber & Faber, 1944), 115.

² The events of his life are recounted in Basil H. Liddell Hart, *The Liddell Hart Memoirs*, 2 vols. (NY: G.P. Putnam's Sons, 1965).

³ Liddell Hart, *Thoughts on War*, 189.

⁴ Basil H. Liddell Hart, *The British Way in Warfare* (NY: Macmillan, 1933), 100.

⁵ Regrettably, the sanguinary theories of Clausewitz re. the necessary bloodiness of war are still with us. Victor Davis Hanson argues in *Carnage and Culture* (NY: Doubleday, 2001) that the Western Way of War has always been one of slaughter: attritional and bloody slugfests that are waged due to Western notions of personal honour. For the quote and Liddell Hart's views on what he saw as the insanity of Clausewitz, see his *The Ghost of Napoleon* (London: Faber & Faber, 1933), 120.

⁶ Liddell Hart, *Memoirs*, I, 138.

⁷ Basil H. Liddell Hart, *Paris, or the Future of War* (London: Kegan Paul, Trench, Tubner, 1925), 11.

⁸ Liddell Hart, *Memoirs*, I, 140.

⁹ Basil H. Liddell Hart, *The Way to Win Wars* (London: Faber & Faber, 1942), 14.

¹⁰ Liddell Hart, *Paris*, 40-41.

¹¹ *Ibid*, 20.

¹² Liddell Hart objected to the imprecision of strategic bombing that offended his sensibilities—he seemed to have no such qualms regarding the indiscriminate nature of artillery barrages, sieges or blockades.

¹³ Basil H. Liddell Hart, *Dynamic Defence* (London: Faber & Faber, 1940), 45. This was written shortly before the Battle of Britain that proved the statement's accuracy.

¹⁴ Basil H. Liddell Hart, *Strategy* (NY: Praeger, 1954), 25.

¹⁵ *Ibid*, 161.

¹⁶ Liddell Hart, *Dynamic Defence*, 44.

¹⁷ Liddell Hart *Thoughts on War*, 152.

¹⁸ Basil H. Liddell Hart, *The Defence of Britain* (London: Faber & Faber, 1939), 44-50.

¹⁹ Liddell Hart, *Thoughts on War*, 42.

²⁰ Liddell Hart appreciated the brilliance of Marlborough and Wellington, but thought such genius was rare.

²¹ Liddell Hart, *Memoirs*, I, 282-83; Basil H. Liddell Hart, *The British Way in Warfare* (NY: Macmillan, 1933), 7.

²² Liddell Hart, *British Way in Warfare*, 15.

²³ Basil H. Liddell Hart, *A History of the World War* (Boston: Little, Brown, 1935), 183.

²⁴ For excellent biographies of Fuller and his influence on military thought, see Brian Holden Reid, *J.F.C. Fuller: Military Thinker* (NY: St. Martin's, 1967); and Anthony John Trythall, "*Boney*" Fuller: *Soldier, Strategist, and Writer, 1878-1966* (New Brunswick, NJ: Rutgers University Press, 1977).

²⁵ Maj Gen J.F.C. Fuller, *Watchwords* (London: Skeffington & Son, 1944), 84-85.

²⁶ *Ibid*, 119.

²⁷ *Ibid*, 121.

²⁸ Sun Tzu, *The Art of War* (trans. and ed. by Samuel B. Griffith) (NY: Oxford University Press, 1963), 66-67. Significantly, the Foreword to this edition was written by Liddell Hart.

²⁹ *Ibid*, 77.

³⁰ Clausewitz, *On War*, 75.

³¹ Sun Tzu, *The Art of War*, 98.

³² Michael I. Handel, *Masters of War: Classical Strategic Thought* (London: Frank Cass, 2nd ed., 1996), *passim*. For the best treatment putting Sun Tzu in an overall Chinese context, see William H. Mott IV and Jae Chang Kim, *The Philosophy of Chinese Military Culture: Shih vs. Li* (NY: Palgrave Macmillan, 2006).

³³ Bevin Alexander, *Sun Tzu at Gettysburg* (NY: Norton, 2011).

³⁴ Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq* (NY: Penguin, 2006), 22.

³⁵ It was not a foolish notion: after the fall of the Soviet Union several of the former provinces became independent and formed democratic governments. In addition of course, Japan became a stalwart democracy after WWII despite no democratic tradition in its long history.

³⁶ Ricks, *Fiasco*, 150-67, 197-200.

³⁷ Thomas E. Ricks, *The Gamble: General David Petraeus and the American Military Adventure in Iraq, 2006-2008* (NY: Penguin, 2009), 36.

³⁸ Ricks, *Gamble*, 202-09. As can be imagined, this was a highly controversial programme that was seen by some as rewarding insurgents who had killed American troops.

³⁹ Lt Gen Daniel P. Bolger, *Why We Lost: A General's Inside Account of the Iraq and Afghanistan Wars* (Boston: Houghton Mifflin, 2014), 255, 257.

⁴⁰ Ibid, Chapter 13.

⁴¹ Carlotta Gall, *The Wrong Enemy: American in Afghanistan, 2001-2014* (Boston: Houghton, Mifflin, Harcourt, 2014). Recall that Osama bin Laden resided comfortably in Pakistan for years, obviously with the government's full knowledge.

⁴² Richard B. Andres, Craig Wills and Thomas E. Griffith, Jr., "Winning with Allies: The Strategic Value of the Afghan Model," *International Security*, 30 (Winter 2005/06), 139.

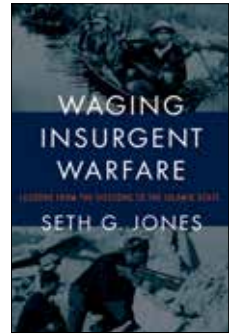
⁴³ Richard Andres, "The Afghan Model in Northern Iraq," *Journal of Strategic Studies*, 29 (June 2006), 412.

⁴⁴ Karl Mueller argues this view strongly in Chapter 13 of his important study: Karl P. Mueller (ed.) *Precision and Purpose: Airpower in the Libyan Civil War* (Santa Monica, CA: RAND Corp., 2015).

⁴⁵ Liddell Hart, *Thoughts on War*, 277.

Book Reviews

Waging Insurgent Warfare: Lessons from the Vietcong to the Islamic State



By Seth G. Jones

Publisher: Oxford University Press, 1 Edition (12 Jan. 2017) (ISBN: 978-0190600860) 352 pages

Reviewed by Dr Vladimir Rauta

Biography: Dr Vladimir Rauta is a Lecturer of International Relations at Staffordshire University. His expertise is in indirect third-party military intervention, or, simply put, proxy wars. His research has focused on unpacking the concept of proxy wars theoretically against a wide empirical research (from Africa to Ukraine).

Insurgencies, writes Seth G. Jones, are “a reality of international politics – and have been for centuries” (p. 4). Given the prevalence of insurgencies as global security challenges in the twenty-first century, the recently published *Waging Insurgent Warfare: Lessons from the Vietcong to the Islamic State* is a welcome addition to an ever-growing body of literature. Caught between the search for overarching theories and the writing of encompassing histories, the study of insurgency is almost as daunting as it is puzzling. Nevertheless, Jones’ analysis stands out for it achieves the rare feat of bridging the long-standing divide concerning research into civil wars; namely academic study versus policymaking. It does so by keeping a clear focus on the topic. Without bypassing the burgeoning theoretical and empirical literature, Jones observes the phenomenon of insurgencies in a simple and elegant manner, from beginning to end, and across its key aspects.

His treatment of the topic can be described as essentially orthodox. Jones does not challenge current understanding of insurgencies, but rather critically expands it. Take, for example, his definition of an insurgency: “a political and military campaign by a nonstate group (or groups) to overthrow a regime or secede from a country” (p. 7). This is consistent with decades of scholarship. However, Jones manages to add value in two ways. First, by understanding that

discussions of counterinsurgencies need debate on insurgencies. In this way, Jones invites the reader, academic or not, to begin by thinking of the problem, with its puzzles and riddles, and only afterwards allows for considerations regarding possible solutions. Second, he presents insurgency as a complex phenomenon *determined by* and *reactive to* various processes *belonging or associated to* political violence. For this study, these are strategies, tactics, structure, propaganda, and outside support.

These five core determinants are each treated with clarity and rigour. In discussing them, the book performs well both in terms of its analytical depth, and empirical breadth. What enables this is a mix-methods approach which links quantitative rigour with qualitative detail. Purely on methodological grounds, the book gets the best of both worlds. Remarkably effective are the many anecdotal stories that frame each issue. As the case studies are developed from chapter to chapter, Jones builds a comprehensive picture of a very complex universe of insurgencies where each is unique and follows its own iterations. The many narratives strengthen this, and effectively present insurgencies as genuine, real-life events of significant importance and with grave consequences for security, be it national, regional, or international. For Jones, insurgency is not an abstract event; presenting its realities is the book's greatest accomplishment.

Jones' aims are to demonstrate the political utility and directionality of all the five determinants. In the analysis, two stand out as opening more questions than providing answers. This, however, is not a fault of the book, but rather of the puzzling nature of both concepts: strategy and outside support. The former is discussed as a choice between three options: guerrilla, conventional, and punishment. Jones does an exceptional job at detailing each by focusing on their diverging political aims. In doing so, he reminds the audience that conflating insurgency with guerrilla warfare is fallacious to say the least. However, the argument could have presented punishment more clearly, for it actually behaves as a coercive tool that spans both guerrilla and conventional strategic contexts. Thus, it can also be understood as subordinate to either strategy – guerrilla and conventional. The latter point, outside support, could have also benefited from a closer delineation of its two forms: direct and indirect. This is crucial, for the modality of channelling support produces different outcomes: direct (combat) support informs the presence of military intervention, while indirect support merges into proxy war.

Nevertheless, the book is very informative, both theoretically and empirically. Jones demonstrates how great power support to insurgents is both common and effective. He reiterates that, most often, guerrilla warfare is the go-to choice of strategy for rebels against their target governments. He emphasises the critical role organisational structures play, while also carefully detailing the implications behind the uses of various tactics from ambushes to suicide missions. Most importantly, Jones brings insurgency to the twenty-first century by linking it to social media outlets and to globalisation, more widely. As the book notes in its final chapter on counterinsurgency, it is critical to understand insurgency as evolving and keeping up not just with its immediate environment, but with the global one, regardless of

how remote and geographically isolated it might be. *Waging Insurgent Warfare: Lessons from the Vietcong to the Islamic State* is, therefore, a *tour de force* on insurgency which benefits both academic and policy debates.

Book Reviews

Apache Over Libya



By Will Laidlaw

Publisher: Pen & Sword Aviation (5 April 2016) (ISBN: 978-1473867628), 200 pages

Reviewed by Dr Christina Goulter

Biography: Dr Christina Goulter is a Senior Lecturer in the Defence Studies Department at King's College London, based at the UK Joint Services Command and Staff College. Between 1994 and 1997, she was Associate Visiting Professor of Strategy at the US Naval War College, Newport, Rhode Island. Her research interests include air power, intelligence and counter-insurgency warfare.

Between March and October 2011, a coalition of NATO and partner states conducted a campaign against Gaddafi's regime in Libya. The coalition succeeded in preventing a wholesale massacre in Benghazi and the crushing of a rebellion against Gaddafi's rule. The principal element of the intervention was air power, but various national Special Forces and naval components were also involved. However, it has been held up as a unique example of an aerial intervention strategy, not least because it was done in concert with indigenous ground forces. Air power had been used in a coercive strategic role in the Vietnam war, Kosovo, Bosnia and Afghanistan in 2001, to name just a few examples, but what made the Libyan campaign different was external air power being used in support of local rebel forces. Therefore, it is legitimate to call this a victory *through*, rather than purely *by*, air power.

A handful of studies have emerged since 2011, dealing with air power's role in the Libyan civil war, but almost all of these focus on the fast jet and other fixed wing contributions. This is why Will Laidlaw's book is a vital contribution to our understanding of the campaign. The author is an Army Air Corps pilot by background, and his unit was embarked on HMS *Ocean* during the campaign. Laidlaw takes the reader through a brief history of 656 Squadron, and his own key

role in developing an Apache maritime capability in the months prior to the Libyan campaign. This is one of the most interesting aspects of the book, and the author is very frank about the issues surrounding the Apache's employment. The inability to fold fully the helicopter's blades limited the number of Apaches which could be embarked on HMS *Ocean* to five. However, the author's reference to how the 'soldiers had to get used to the confines of the ship', how 'old procedures had to be re-learned, new ones had to be developed' somewhat underplays the difficulties encountered during the workup period, including the fact that it took months, as opposed to the days implied in the media (p.16). Also, because of the risks involved, the Apaches required a disproportionately large amount of Intelligence, Surveillance and Reconnaissance (ISR) support to ensure their safety and the accuracy of their attacks (given the overriding Responsibility to Protect remit which governed the conduct of the campaign), and the Apache missions had to be given fast jet cover. The latter fact seems to have caused the author consternation: 'jets had to hold our hands, whatever that meant' (p.168).

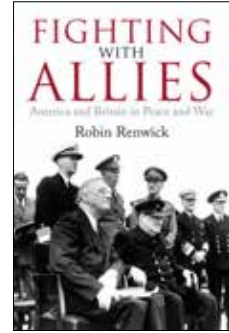
Laidlaw explains that the chief purpose of the Apache deployment was to have a cognitive impact on the pro-regime forces (p.37). Five Apaches were not going to do vast damage to the regime, but because of the helicopter's fearsome reputation, even a small number were going to have a coercive effect on Gaddafi's forces and the regime. Indeed, pro-Gaddafi forces posted sizeable rewards for the first successful shooting down of an Apache. The regime had cause to be concerned. From the time of their first operational sorties on 3 June 2011, the helicopter crews made short work of their targets: regime 'technicals', tanks, artillery, AAA sites and radar installations, and such attacks complemented those undertaken by French *Tigre* attack helicopters from their assault ship *Tonnerre*. The UK ROEs mean that the Apaches did not have the freedom of manoeuvre that the French *Tigre* crews enjoyed, and one of the reasons the Apache sortie total was comparatively small is because most of the 'no-go' decisions were due to uncertainties over collateral damage risk. The author is quite right to criticise those who have made unfavourable comparisons between the Apache operations in Libya and the level of French sortie generation or UK Apache operations in Afghanistan. As Laidlaw emphasises (p.166), Libya was an unprecedented campaign, and the Apache crews had less than a week's notice before becoming operational with new Tactics, Techniques and Procedures. By the end of the campaign, 656 Squadron had performed 48 combat sorties, attacking 116 targets under the cover of darkness. As the UK military representative to NATO, Air Marshal Sir Christopher Harper, commented: 'this was jointery at its best' (MOD, 'Libya: Operations Updates', 2011).

Among the many strengths of this work is the exposure of cultural differences between the Army and air force aviators. For example, he refers to the way in which operational intelligence and information from the Combined Air Operations Centre was couched in 'jet lingo' (p.55) and how he and his compatriots had to get to grips with airspace coordination. The author makes many insightful comments which need to be taken on board by defence, and one of his most important observations relates to how the 'lessons process' is treated. He made the point that very few people were interested in his post-op report briefs, with scarcely a handful of people turning up to listen (p.168). Sadly, his experience is not unusual. Some readers may

find the conversational 'boy's own' style of writing intrusive and jingoistic, and the author might have been better to treat the subject in a more scholarly style. It is an important subject, and the tone needed to reflect the same. The criticism of the other Services may also seem a little pointed. However, the book captures the bravery and dedication of the Apache crews in the Libyan campaign, and that was the main intent of this work.

Book Reviews

Fighting with Allies: America and Britain in Peace and War



By Robin Renwick

Publisher: Biteback Publishing (1 Nov. 2016) (ISBN: 978-1849549790) 560 pages

Reviewed by Group Captain Mark Smith

Biography: Group Captain Mark Smith OBE MA MPhil RAF currently serves as the Deputy Assistant Chief of Staff Intelligence Assessments at the United Kingdom's Permanent Joint Headquarters. Over the past 25 years he has served on numerous operations alongside soldiers, sailors and airmen from the United States military in Europe, the Middle East and Asia, most recently in the Combined Joint Operations Centre - Jordan.

Fighting with Allies is a recent update to a book that Lord Robin Renwick, a former British Ambassador to the United States, first wrote in the mid-1990s. Using a mix of first-hand experience and historical and contemporary third-party sources, Lord Renwick explores the extraordinary relationship between the United States and the United Kingdom. The refresh to his original work, no doubt prompted by recent events, comes at a fitting time as followers of both domestic and international politics grapple with the electoral shocks that have transpired in both the United States and the United Kingdom: namely, the election of President Donald Trump and Brexit. Set against this backdrop, *Fighting with Allies* is dedicated to understanding the roller-coaster ride of history of the Anglo-American alliance, exploring the profound changes (in both context and circumstance) which have affected the relationship between the United States and the United Kingdom over the past 200 years. Overall it is an enjoyable book that takes the reader on a logical and sequential review of this much discussed relationship.

Opening with the burning of the White House by Rear Admiral Sir George Cockburn and his marines in 1814, an act that was unlikely to encourage an enduring relationship, the book rapidly skips forwards one hundred years to the start of the First World War and the reluctant

change in the United States' foreign policy from isolationism at first through neutrality and ultimately to unenthusiastic intervention.

The next twelve chapters of the book are dedicated to the period of the Second World War, a time when the bedrock of the relationship was moulded and cast. Whilst the author describes the historical context, it is fitting that the majority of this section of the book describes in detail the relationship between Sir Winston Churchill and Franklin D Roosevelt. Indeed, during his famous 1946 oration at Fulton, Missouri, which became known as the 'Iron Curtain' speech, it was Churchill who first used the phrase 'the Special Relationship' to describe the growing friendship and mutual understanding that had developed between the United States and the United Kingdom during the Second World War and was being solidified as the Cold War freeze commenced. The presence of Churchill's bust in the White House Oval Office is perhaps an indicator of the influence that Churchill, and his spirit, continues to have on the alliance.

It is through the examination of these personal relationships between the political leaders of the United States and the United Kingdom that Lord Renwick ensures a captivating and enjoyable read. The relationship is brought to life with personal details, such as when Churchill spent Christmas with Roosevelt in the White House and Churchill emerged from his bathroom wearing nothing at all. Upon seeing the naked Prime Minister Roosevelt retreated with Churchill supposedly retorting "No, no, Mr President, the Prime Minister of Great Britain has nothing to hide from the President of the United States!" (p.46). The relationships between Macmillan and Kennedy, Thatcher and Reagan, and Bush and Blair are examined with equal thoroughness, insight and humour.

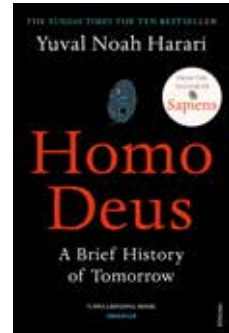
Using the accounts of these personal relationships as a balustrade to guide the reader through the wider diplomatic relationship between the two allies, Lord Renwick concentrates his account around the periods of war and conflict, of which there have been many. Victory in both World Wars, Korea, the first and second Gulf Wars, the defeat of communism, the 'freeing' of Eastern Europe, the Balkans, Afghanistan, Libya and latterly the fight against Daesh and wider Islamic extremism. As a revered diplomat, Lord Renwick is also well placed to examine the contribution that the Anglo-American alliance has made to the post-war international order through the establishment of the United Nations, the North Atlantic Treaty Organisation, the International Monetary Fund and the World Bank.

Lord Renwick's book highlights not only the durability and extraordinary achievements that have marked the relationship over the past eight decades, but also the fierce disagreements and the profound changes that the relationship has undergone. He concludes that the most important of which has been the increasing disparity of power. Brexit will no doubt change the nature of the relationship, as will the election of President Donald Trump and a throwback to 'America First' and a return to neo-isolationist and protectionist policies. However, despite this, Lord Renwick asserts that the relationship will remain close. Trump will count on Britain's continued military support for the campaign against Islamic State. Whilst Brexit will impose

significant costs for Britain in terms of trade with Europe, it creates the opportunity to negotiate a free trade agreement with the United States. Renwick also identifies the importance of learning the lessons from the interventions in Iraq and Afghanistan, but concludes that the relationship remains as important as ever to Britain. The especially close relationship between Britain and the US is based not on sentiment, or on history, but on common interests. For that reason it will continue under Donald Trump, as it has under every US President since the Second World War. In the words of Winston Churchill: "there is only one thing worse than fighting with allies – and that is having to fight without them."

Book Reviews

Homo Deus: A Brief History of Tomorrow



By Yuval Noah Harari

Publisher: Harvill Secker; 1 Edition (8 Sept. 2016) (ISBN: 978-1910701881) 448 pages

Reviewed by Flight Lieutenant Lee Ashcroft

Biography: Currently employed at Headquarters Air Command, Flight Lieutenant Lee Ashcroft MA MSc BSc (Econ) RAF commissioned as a logistics officer in 2006, specialising in Air Movements. He was an MOD Fujitsu Logistics essay prize winner in 2014 and completed his Air Power in the Modern World MA as a CAS' Fellow in 2017 with King's College London.

In the sequel to his critically acclaimed best-seller, *Sapiens: A Brief History of Humankind*, Yuval Noah Harari's latest offering *Homo Deus* moves the reader on from explaining how we got to where we are, to where humankind is likely to head in the future. Harari's key strength is his ability to simplify complex theory in order to make it digestible by the general reader; his epistemological approach addresses the main theories of Liberalism, Humanism and the new school of 'Dataism' in a succinct manner. He illustrates the various concepts covered in his book by writing in a kind of parable form, which succeeds in producing a contextualized narrative that achieves its academic aim without being self-consciously academic in tone. His approach is reminiscent of that used by Anthony Beevor in *Stalingrad* which presented history in a non-academic and easy-to-read fashion, yet nevertheless delivered a triumphant academic analysis. Harari has achieved the same effect. Brought to life through the rich narrative of sumptuous, secondary source anecdotal material, it allows the reader to luxuriate in the examples used, while also making it interesting enough to skim-read without the need to wrestle with theoretical concepts that are difficult to grasp. By doing so, the book progresses at a pace and tempo that keeps the reader absorbed throughout. Owing to its unerring focus on humankind and the nature of the human condition, this would not normally be the sort of book that one would

expect to see reviewed in *Air Power Review*. Indeed, I would also consider it slightly *off piste* for enthusiastic military scholars seeking a traditional political narrative that provides grounding on the frictions of international politics existing in today's multi-dimensional conflicts. But this volume should not be ignored: in fact it has significant relevance to RAF personnel and academics, delivering as it does an insight into the future operating context and how the world is changing, including the effect of cyber on humanity.

Harari attempts to contextualise the fragile world in which humans live. He addresses fundamental questions with two clear aims: 'Where do we go from here?'; and 'How does the world deal with the existential and epochal threat of death and destruction caused by humankind?'. Possibly considered a prequel to the genre of recent books on 'Cybertech' conflict, such as Singer's *Wired for War* and *Ghost Fleet*, Harari deftly explores how human dominance over animals and inter-subjective influences (money, economics and policies, etc.) has driven the changing nature of modern society in war. In addressing these questions – and tackling such an existential challenge, the book is divided into 3 parts.

The first section reconciles the religious school of thought that believes in the influence of subjectivism, against the scientific view concentrating on the power of quantitative analysis and natural selection. Justifying his musings by the Roman philosopher Epicurus, he frames the new human agenda into a narrative both of individual free will, and the concept of spiritual superiority over animals existing from the agricultural revolution. In tackling such an ethereal subject, Harari makes sense of our own interpretation of history that relies on subjective experiences of animals with humankind over the millennia. He argues that humans' dominance over animals was important to the notion of human existence as well as improving the progression of knowledge that led to subsequent social revolutions and emerging central political power.

Having evolved to exercise a measure of control over the environment and other creatures, the second part of the book argues that humankind is at a tipping point of networked intelligences with a far greater capacity for reason than our own. In parts, like the first chapter, the reader is bombarded with examples, although his juxtaposition of the well-organised Pharaohs in Egypt with the slightly specious assertion of the myth-building paradigm surrounding Elvis Presley is questionable (p.186). Despite this, the paradoxical struggle between science and religion continues over the centuries. Harari believes the interpretation of truth does eventually give way to humanist value-based emotions in the twentieth century. This, he argued, brought modernism and new threats in the pursuit of power because of national wealth and economic power, thus creating survival struggles and zero-sum games – such as "Chekhov's Law" and the "smoking gun" analogy.

This seems credible. In such an environment, Harari considers an intellectual humanist schism emerging over the objective political authority (advocated by Rousseau and Nietzsche) that moves from the emotive importance of war in liberal democracy to individual values-based

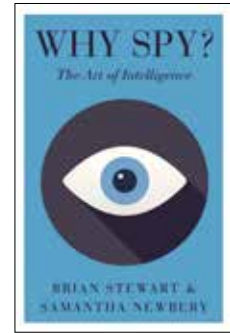
humanist economics. This meant a shift of focus onto the individual as a commercial entity and whether they added value to society. He identified the cause to be that twenty-first century 'feelings' are now no longer the best ways of thinking, and that superior algorithms utilising greater computing and database power (such as Google) are being developed to determine usefulness of humans for the future. He reasons that the fundamental principles of modern liberalism and free-will which underpin democratic values of society have become flawed, arguing that individual consciousness, values and decision-making have been superseded by technology-based algorithms.

The result in the book's third section is the argument that humankind is heading towards a transition to a post-humanist state run by robots and controlled through nanotechnology. Harari contends that the Homo Sapiens species would disappear in the foreseeable future either because it had appropriated such mind-making powers as to become unrecognisable, or because it had destroyed itself through environmental catastrophe. He deems liberal beliefs of individualism will fade away into a "Dataism revolution", a universal faith in the power of algorithms (including bio-technology). His utopian view would reverse the humanist revolution and egalitarianism of the last century, bringing a strictly functional approach to humanity. By equating the human experience with data patterns, Datism would undermine humankind's primary source of authority established by the widespread liberalism of the eighteenth century. In other words, Harari foresees that humans will eventually be sidelined as a by-product of their self-generated quest for data exploitation. While unable to predict a timeline on this seismic event, Harari argues it will happen over a few decades. However, his argument in this chapter, whilst logical, is just guesswork and not supported by any empirical data, thus stymying the impact of his argument.

Homo Deus succeeds in making complex theory readable to the layman. Harari brings panache to each argument through sound analysis and credible anecdotal examples. This approach could have provided more qualitative reasoning giving greater meaning to the cultural constructions that he uses throughout the book. Moreover, acknowledging the importance of didactic Marxist history to the debate, Harari rejects subjective reasoning and the unreliability of historical outcomes, preferring instead the sanguine arguments of the "technological bonanza" of fact that will make humans obsolete in the future. Consequently, in making it more readable to the general public, he has simplified the narrative; predictable examples such as "Google and Microsoft" are leant on as the panacea to many of humanity's social problems. These assumptions seem louché and lack depth while also diluting the impact of his theoretical rigour. These are just minor points and, overall, his aims are well argued and well balanced, making this a highly recommended read.

Book Reviews

Why Spy? The Art of Intelligence



By Brian Stewart & Samantha Newbery

Publisher: C Hurst & Co Publishers Ltd (11 Jun. 2015) (ISBN-10: 1849045135) 288 pages

Reviewed by Flight Lieutenant Mark Kennedy

Biography: Flight Lieutenant Mark Kennedy is an RAF Intelligence Officer whose professional experience has been accumulated in the Joint, Coalition and NATO Alliance domains in the UK and on deployments. He is currently undertaking an MA through the University of Salford.

Brian Stewart's 70 years of direct involvement in intelligence as a military officer and subsequently a civil servant, combined with the academic authority of Dr Samantha Newbery, provides valid, real-world insight into how and why a nation engages in espionage. As a lecturer in Contemporary Intelligence Studies at the University of Salford specialising in the intersection between policy-making and ethics, Dr Newbery is ideally placed to have provided the direction and guidance to the development of Stewart's writing. *Why Spy?* is not only an ideal primer for budding intelligence staff, but it should also be digested by policymakers, current intelligence staff and those generally interested in the field of intelligence studies. Only by knowing how and why nations spy can we then understand how political masters are informed and make decisions.

Stewart's lifetime of experience ranged from studying at Oxford prior to attaining his Commission with the Black Watch and subsequently seeing action in Northwest Europe and Malaya. It was during Stewart's time in the Far East as a Colonial Officer that he saw the importance of local-level engagement in developing an intelligence picture. His recollections from his time on the ground highlight the importance, and subsequent success, of a whole of government approach – military, police and branches of government – when fighting insurgency, especially during the Malayan Emergency. Similar insights have been put forward by the former Australian officer and counterinsurgency expert, David Kilcullen, and the same

concepts appeared in the British Army's COIN Field Manual, this time under the guise of a 'unity of effort' approach.

Owing to his tenure some years later as Secretary for the Joint Intelligence Committee (JIC) and Cabinet Office, Stewart is able to provide an understated birds-eye view of intelligence bureaucracy uses, misuses and failures that appear still commonplace today. Stewart articulates how the JIC narrative, developed from the work of such a small committee, can significantly influence government and its decisions on conflict, as well as subsequent foreign policy actions.

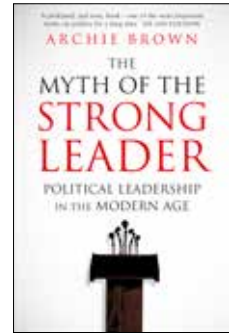
The fallacy matter of 'intelligence failure' is regularly visited within the book, to highlight how any error or misjudgement is passed off as a failure of intelligence. Whilst it is politically expedient for policymakers to lay blame on the intelligence community, it is perhaps a matter of politicians' over-reliance on limited intelligence that is the point of failure. Stewart aptly calls intelligence the "profession that provides a conveniently silent scapegoat when there is failure, but cannot be publicly congratulated on success."

This book is written in a style that enables understanding by political outsiders with an interest in national security matters, not just career intelligence professionals. Broken into four parts, the book starts with historical examples of Stewart's exposure to and the importance of intelligence during his time on the ground in the Far East. Part 2 discusses the machinery and methodology of how the art of Intelligence is conducted, with descriptions and insights into the types of intelligence collection such as SIGINT, HUMINT and the unofficial CABINT (the use of taxi drivers as a vital source of information and intelligence in restricted areas such as war and conflict zones). Part 3 discusses cases of intelligence in practice such as Pearl Harbor, The Bay of Pigs and Iraq's WMD, or lack thereof. Finally, Part 4 concludes with an insight into the more clandestine activities such as deception operations, assassinations and the destabilising of governments – activities that rarely reach the media but, when they do, attract a great level of attention.

Stewart's balanced style offers a fascinating account of why intelligence is critical, despite the political risks and potential loss of life. He successfully manages to articulate that intelligence work is an art rather than a collection of processes and procedures that can accurately indicate the future. As Vice Admiral Sir Louis Le Bailly, Stewart's friend and former colleague, reminds us, it is our task to "tell those who would not listen all the things they did not wish to know", a timeless reminder of the difficulty faced by intelligence professionals.

Book Reviews

The Myth of the Strong Leader: Political Leadership in the Modern Age



By Archie Brown

Publisher: Vintage (16 April 2015) (ISBN: 978-0099554851) 480 pages

Reviewed by Group Captain Sean O'Connor

Biography: Group Captain O'Connor commissioned into the Fighter Control Branch and has served on Nos 8 and 23 Squadrons, undertaken MOD, PJHQ and NATO tours as well as numerous out-of-area deployments. Awarded a CAS Fellowship, he completed his Masters in Philosophy Degree in International Relations at Cambridge and is currently the Deputy Commandant of the RAF College Cranwell.

"What the three 'great dictators' of the inter-war era of the twentieth century had in common was that their most serious foreign policy misjudgements were a result of succumbing to their own myths." (pp.295-6).

This quote from the book assessing the foreign policy illusions of 'strong leaders', is a salutary lesson for all in leadership positions. That said, this book is as much about how the world works as it is about the tenets of leadership. It exposes the freedoms and constraints of leaders as the agents of change, concluding that those that amass the most personal power are apt to make the largest errors of judgment resulting in commensurate degrees of disaster.

In this detailed and extremely well-researched work on political leadership worldwide since the beginning of the twentieth century, Brown sets out to disprove the widely held belief that 'strong leaders' who are able to dominate their political colleagues achieve the greatest results. He adeptly uses 50 years' of study to pull together a comprehensive range of historical examples of notable leaders, their successes and failures. Brown concentrates on British and American formative political leaders and uses a wide range of other examples across a variety

of alternative political systems. Russia and China figure prominently, but the analysis also casts wider to examine relevant evidence from Germany, France, South Africa, Turkey and North Korea, as well as useful examples from the Middle East and South America. The book is a comprehensive, but broad, political science comparative-historical text, yet it is written in a compelling and easily accessible style.

Although there is nothing new in the political record examined, it is Brown's use of the assumed strength of individual leaders within the context of their own political systems as the prime framework for analysis that brings real and tangible relevance to this study. Brown's argument develops in three main stages. Firstly, he sets out the multifaceted political context of the International System within which individual leaders must operate, focusing on the inadequacy of the 'strong' versus 'weak' dichotomy often used to delineate success or failure. Brown then moves on to examine the nature of change delivered by political leaders, assessing those that succeed in redefining what is thought to be politically possible. In doing so he explores tiers of change along the spectrum of transformational to revolutionary and includes a detailed analysis of the variance within totalitarian and authoritarian regimes. In the concluding section, Brown draws on many of the foreign policy failures of claimed 'strong leaders' to offer a view as to what kind of leadership attributes are required for a political leader to be considered successful.

The author's well-structured analysis produces a genuinely persuasive argument that, in contemporary democracies, those leaders that leverage the talents of experts and consider a divergent range of views are far from being weak as they are the most likely to be successful. Brown reminds us that leaders may create bold visions for change but it is rarely delivered by them. Instead, leaders rely on a capable and empowered executive to ensure that positive change is not only delivered but also endures beyond the leader's usually limited tenure. Moreover, by stating that "obedience to authority figures can allow 'toxic leaders' in many professions...to survive in office when they should be driven from it" (p.50), he convincingly allows one to conclude that effective leadership relies on sanctioned critique.

Bill Gates described this text as 'an important read' and chose it as his recommended book of 2016 for very good reason. It stands in its own right as a detailed exploration of the role of individual leaders in creating a climate and culture that supports constructive and meaningful change. Indeed, all who read this book will be both wiser and better informed; not only of the nature of political governance but also of the art of leadership in general. Brown's study, therefore, is a must for any in a senior leadership role who seek a genuine 360° perspective on their leadership style. It is equally useful to those starting out on their leadership journey as it reinforces the position that success comes from informed decision making where the leader engenders collective responsibility and the shared ownership of change.

The Myth of the Strong Leader is a natural sequel to AP7001 *Leadership in the RAF*. It supports RAF Leadership Doctrine by framing potential leadership dilemmas in a political context, elaborating on why 'leadership does not depend on power' and aiding a better understanding

of what it is to be a 'politically and globally astute' leader. In presenting well-chosen, real-world examples, Brown brings political context to the notions of transactional, 'positional power' and the more transformative 'personal power', thereby reinforcing the AP7001 concept of a 'continuum of leadership behaviour'. Moreover, in the broader International Relations setting, one can usefully extract the lessons from this persuasive study to cast forward and critique the various political narratives being played out in the current Turkish, Russian, French and North Korean spheres of influence, as well as postulate on the likely limits of what President Trump may be able to achieve at home and abroad. Although the book was written in the 'pre-BREXIT' era there is much to signpost caution when reviewing national (and nationalist) rhetoric currently being conveyed across the European Union.

Archie Brown is a political scientist and historian who has worked extensively in the UK, America and Russia, having access to political leaders, their executives and advisors. He is Emeritus Professor of Politics for Oxford University, a Fellow of the British Academy and was elected Foreign Honorary Member of the American Academy of Arts and Sciences in 2003. He has written and edited over twenty books and published numerous articles. These have covered, *inter alia*, Soviet and Communist politics, the end of the Cold War, British politics, post-Soviet Russian politics as well as the wider fields of political leadership and culture.

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

ISSN: 1463-6298

Produced by Air Media Centre, HQ Air Command. 2859_17AJ
© UK MOD Crown Copyright, 2017

Sponsor telephone number: 01793 314848
Sponsor Role email address: enquiries.dds@da.mod.uk

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