Front cover image:
2017 marks the 70th Anniversary of the formation of the USAF. The RAF and USAF continue to train and fight side-by-side. This photograph shows a four ship formation comprising a USAF F-15E Strike Eagle, an F-15C Eagle and a F-22A Raptor led by a RAF Typhoon FGR4 from RAF Coningsby during a Large Force Exercise hosted at RAF Lakenheath, April 2016.
Copyright Jim “Hazy” Haseltine - HIGH-G Productions
I take great pleasure in recommending to you my ten reading list choices for this year. At the heart of my recommendations are two books that focus unerringly on the application of air power: John Andreas Olsen’s *Airpower Applied*, and Karl Mueller’s *Precision and Purpose: Airpower in the Libyan Civil War*. Both books explore important themes about the successful application (and, in some instances, the unsuccessful misapplication) of air power, making them vital reading for air power specialists and those involved in developing policy, but they also illustrate why broader reading is essential too.

Air power does not, by definition, exist in a vacuum – its utility and effectiveness can only be fully appreciated when considered in the international, political and technological contexts in which it operates. Hence, whilst it would have been easy for me to recommend a selection of ten excellent volumes that have recently been written on air and space power specifically, I consider that it is more useful to present a broader range of titles. In order to provide the opportunity to analyse the context in which air and space power is applied, I highly recommend *Understanding Modern Warfare*, edited by Dr David Jordan et al, and *Defense of the West* by Stanley Sloan: together, these two volumes provide a very sound foundation to understand the geopolitical context of our times and the application of the military instrument. In addition to the study of air power and the context in which it is employed, it is equally important to get under the skin of our enemies and those with whom we co-exist in a climate of strategic competition – this is why Fawaz Gerges’ *ISIS: A History* and Mikhail Zygar’s *All the Kremlin’s Men* respectively make such valuable reading.

Our partnerships are vital too, and I am delighted that Brian Laslie’s *The Air Force Way of War* provides us with the opportunity to recognise the 70th Anniversary of the formation of the United States Air Force. I am indebted to Lieutenant General David Deptula, Dean of the US Mitchell Institute for Aerospace Power Studies, for his detailed review of Laslie’s book, which puts into proper perspective the achievements of those far-sighted and determined US airmen who in the 1970s and 1980s grasped the lessons of the Vietnam War and built the solid foundations on which air power became supremely effective during Operation DESERT STORM and ever since. It is, of course, a journey on which the Royal Air Force has been a close companion, on exercise and across the globe on combat operations.

Identifying the lessons of past and current campaigns is an important element in securing our future success, but it is only through effective and innovative leadership that the right lessons can be implemented successfully. General Stanley McChrystal has distilled in his book *Team of Teams* his vast experience of combat leadership into a philosophy which is illuminating for all who hold leadership responsibilities. I commend it, and all the other volumes contained in my reading list, to you: reading them makes us better informed, more self-aware, and better equipped to
meet the vast array of leadership and conceptual challenges that face our Service and country as we look to the future. And, ultimately, the fighting effectiveness of the Royal Air Force will be enhanced through your assimilation of the lessons you draw from your critical analysis of these books. Enjoy your reading.

Sir Stephen Hillier KCB CBE DFC ADC MA RAF
Air Chief Marshal
The Chief of the Air Staff

In the 75th Anniversary year of the formation of the RAF Regiment, the photo opposite captures Airmen of No. 2777 Field Squadron, RAF Regiment, in their Humber light reconnaissance car over a dispersal area at B89/Mill, Holland, March 1945. The aircraft in the dispersal are Hawker Typhoon Mark IBs of No. 257 Squadron RAF.
Copyright Imperial War Museum (CL 2103)
Message from Director Defence Studies (RAF)

For those of you serving in the RAF and Defence more widely, I should like you to know that many of the titles on this and previous years’ reading lists are available for loan from unit libraries and in e-book format at the MOD online library (http://ebookcentral.proquest.com/auth/lib/mod/requestAccount.action) – opening an account is straightforward (it simply requires your personal MOD email address to register), and provides access to a treasure trove of books, all for free. New titles are made available throughout the year, so if you find any gems that you consider are worthy for CAS’ consideration in next year’s list, please get in touch with me at enquiries.dds@da.mod.uk.

For all serving RAF personnel, if your reading inspires you to take your study of Air Power further, may I encourage you to consider applying for a CAS’ Fellowship, details of which can be found on the RAF Centre for Air Power Studies website at www.airpowerstudies.co.uk.

Group Captain Jim Beldon MBE MPhil MA BSc FRAeS RAF
CAS’ Reading List 2017

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The Fix: How Nations Survive and Thrive in a World in Decline

By Jonathan Tepperman

ISBN: 978-1408866535, 292 pages

Reviewed by Squadron Leader Paul Baroni

Jonathan Tepperman is a US journalist, who has written for the New York Times, Wall Street Journal and Washington Post and is currently the managing editor of Foreign Affairs. His recently published book The Fix is positioned as a data-driven exercise in rational optimism set against the backdrop of today's apparently intractable conflicts, global economic decline and the seemingly apocalyptic disintegration of the existing world order. Described by the New York Times as an ‘indispensable handbook’, The Fix is indeed an impressive work which is part practical strategy guide, part management and leadership textbook and part contemporary historical analysis of ten of the world’s most interesting case studies in achieving social, political and economic success through non-traditional approaches.

Spread out over just 292 pages (including references and notes), this is an accessible read which does not have to be read in sequential case study order. The author’s stated aims for his book are to cast the light of analysis on why some states continue to flourish in times of turbulence, how other states may be able to learn valuable ‘exportable’ lessons and what the broader benefits that could be shared are.

Most readers with an interest in politics and world affairs have found themselves, at one point or another, shouting at their television or smartphone screen for politicians and leaders to demonstrate some pragmatism, honesty and original thinking in dealing with the wicked problems they face. In The Fix, Tepperman presents a series of case studies in which those in charge have taken this seemingly elusive approach to resolve some incredible challenges. From dealing with Islamic Fundamentalism in the World’s most populous Muslim state, Indonesia, through to tackling poverty and social welfare in Brazil, each problem is set out in detail by the author, who then proceeds succinctly to distil the key issues before analysing how their leaders overcame their specific challenges. Tepperman’s hands-on research shines through in this book. The interviews with over one hundred heads of state, innovators and reformers reveal some surprising insights and disarmingly honest appraisals, including leaders such as Paul Kagame who, as president of Rwanda since 2000, embarked upon a successful programme of rebuilding a country in which up to one million people had been killed by their neighbours and fellow citizens in the worst example of ethnic cleansing since World War Two. Indeed, it is the richness of these interviews and case studies that is the book’s main appeal, allowing a direct line to the protagonists of the most dramatic events of our time.

Throughout The Fix there are several continuous strands that stand out to the reader. Perhaps the most evident is that of leadership and how the approach and actions of the leader create the conditions for success. In particular, there is a type of pragmatic, adaptive leadership that allows those in power to navigate through their problems
whether that is, for example, in transforming Botswana from one of the poorest countries in the World into an example of best practice in social, political and economic development in Africa, or at a local government level, or in building New York into a self-sufficient security entity in the wake of the 9/11 attacks, or circumnavigating Washington and its federal bureaucracy, inertia and obstructiveness.

There is definitely a feeling that consensus politics, compromise and not being tied to idealist concepts or dogma have been pivotal in resolving the problems highlighted in *The Fix*. Another related strand that Tepperman subtly weaves in is that ‘people matter’ and each leader examined is shown to understand how relationships, personal compromise and magnanimity affect outcomes. When combined with the strand of ‘risk’ and a willingness to make decisions that are sometimes controversial, counterintuitive and break with previous norms, it is easy to see how what holds true for leading countries can be extrapolated to any leadership and management situation, no matter how small. We see organisations today both in the private and public sectors transforming their cultures to one that is people-focused, inclusive, adaptive and willing to take risks – none more so than our own.

Written with sufficient rigour, research and depth to provide robust and valuable insights but without being dry and long-winded, this is an enjoyable read. It does suffer slightly from being written and published prior to the election of Donald Trump, in that some of the context in the introduction has been superseded, but this does not really detract from the underlying value of its thesis. Indeed, if you are not a prolific reader, you may wish to start with Tepperman’s illuminating and precise conclusion which distils the lessons of his research into five key findings over the course of just a few pages. Despite *The Fix* having a stated attempt to “restore hope to the pessimistic”, there is a gritty honesty in Tepperman’s approach. He points out those pre-existing cultural, social and political conditions that are critical factors in his case studies and that often the leaders examined are as likely to be unremarkable as charismatic. But what Tepperman does manage to achieve is to craft a practical strategy guide which fuses leadership, management and historical analysis, which can sit comfortably alongside more theoretical, less-accessible, academic tomes.
Defense of the West is a sweeping overview of Euro-Atlantic relations focused on collective security and thus principally and necessarily on NATO. Stanley Sloan shows us how both (and all) sides have considered the criticality of US engagement and leadership in European affairs, even as they have often had conflicting views as to how this should be made manifest. The book describes NATO’s foundations and purpose; it goes on to assess what it has become, and what it should be. It analyses the challenges NATO has faced, how they shaped NATO and how they may inform NATO’s response to the challenges of the future.

Sloan offers a brilliant introduction for those approaching the topic for the first time, but it is just as valuable to those more intimately acquainted with NATO. Even our most senior and experienced officers would benefit from reading Sloan’s articulate description of how the Alliance has developed, its enduring challenges, and how it has adapted to accommodate and overcome them. Ultimately, Sloan’s analysis is positive, concluding (in alignment with the liberal school on foreign affairs) that NATO as the embodiment of the: “…transatlantic bargain… has a good chance of surviving as the core of the system for defending Western values and interests, and as an important factor in global affairs.” But despite this conclusion and Sloan’s alignment with liberal school thinking, to his credit he remains even-handed in his analysis throughout, giving due weight to realist, neo-conservative and left-wing analyses.

Sloan’s analysis is structured into 3 broad sections, Cold War (1945-1989), Post-Cold War (1990-2016) and an assessment of the contemporary challenges and future prospects for NATO. On NATO’s foundations Sloan is brilliant. He first helps us to understand NATO is a community of values – a unique alliance unlike any that had preceded it. Indeed, he posits that NATO is perhaps the first exception to Palmerston’s well-known maxim that “Nations have no permanent friends or allies, they only have permanent interests”. Yet secondly he acknowledges NATO’s foundations as a coalition of interests: a necessary compromise between competing US needs to minimise the scale of its forces deployed to sustain Western Europe against Soviet and Russian pressure, the continental European need for US military to address threats it could not match alone, and the British desire to balance power in Europe to protect itself while minimising its troop numbers on the continent in order to allow it to operate globally.

The analysis stops in 2016, and thus little is said of President Donald Trump’s vacillating views about NATO’s credibility, effectiveness or utility. But Sloan’s description of the importance of Congress, the Senate and US public opinion of NATO’s development, and their collective frustration from the outset with Europe’s failure to provide what the US saw (and continues to see) as a sufficient military contribution to the Alliance, helps set the current situation in context. Sloan quotes ex-President Hoover from
1950: “the prime obligation for the defense of Western continental Europe rests upon the nations of Europe.” Hoover’s words could equally have come from the current US Administration. There is far less that is revolutionary or new about President Trump’s position than many assume.

There is much on the US’ schizophrenic support for a coherent EU military – on the one hand, it would be a desirable development in that it would help reduce European dependence on the US whilst developing Europe’s ability to contribute useful, balanced, interoperable and well-structured forces to coalition operations. On the other hand, the US is wary of an EU Force because it would risk what Madeleine Albright described as the ‘3Ds’, i.e. that a European force could cause Europe to decouple from NATO, delink from its structures, or discriminate against non-EU nations. Such fears – of Euro isolationism, parallel decision-making, duplication of forces and command structures, anti-Americanism, and exclusion of non-EU partners – persists and informs today’s security discussions too.

Sloan shows how NATO’s mandate has developed – slowly if not haltingly – to include not just attacks on the Alliance but to vaguer, broader threats to their security and, most recently, to cyber attacks. There is far more that is positive here than might be expected by those who, for good reason, see NATO headquarters as being inadequately responsive and bureaucratic. Sloan’s book would build empathy even in the most frustrated of those who have experienced working in NATO structures.

The book is also a corrective to facile and hysterical media narratives. It shows why European Armies and Defence structures have been attractive, even to Britain, at certain times. Why the 2% GDP figure is arbitrary, and largely meaningless, yet still useful. It helps us to understand that NATO has perhaps always been more able to deliver ‘tripwire forces’ with a credible threat of nuclear retaliation than it has been in providing hard deterrence in the form of forces that could defeat a Soviet or, today, a Russian advance. Sloan shows how Article 5 has always been more complex and subtle than a simple demand that all must fight if one is attacked. He picks apart the sympathy Russia seeks to evoke as a ‘humiliated victim’. While not unsympathetic to Russian fears of NATO advancement, it is clear from the facts presented – such as Russia’s admission to the G8 while still too weak to gain membership by merit, and the documenting of multiple attempts at engagement – that Russia’s claims to repeated humiliations owe as much to Putin’s need to shore up his corrupt kleptocracy at home than the reality of NATO’s policies.

If there is a criticism of this excellent book it is that the narrative slows through overly-detailed descriptions of NATO’s more recent past. The analysis here is no less valuable, nor the insights any less sharp, but they are buried more deeply than they need have been. Strong chapter summaries, clearly articulated premises and conclusions, often in the form of bulleted lists, as well as useful questions for discussion at the end of each chapter make this an ideal teaching text for Staff Colleges, a framework for thinking and talking about NATO at all levels, and a useful reference and revision prompt for readers refreshing their understanding of NATO. Stanley Sloan’s book makes an important contribution to our understanding of NATO, and in doing so, can help us chart our way to its future development more coherently.
All the Kremlin’s Men: Inside the Court of Vladimir Putin

By Mikhail Zygar

Publisher: Public Affairs, 2016
ISBN: 978-1610397391, 400 pages

Reviewed by Corporal Stu Edwards – 600 (City of London) Squadron RAuxAF

Mikhail Zygar has been described as “The last journalist in Russia”. In this book, he has pulled back the veil on the internal machinations of the Kremlin and of Russian civil society. This act gives a different and, so far, unique insight into the position of President Vladimir Putin. Zygar has produced a popular best-seller in Russia and a useful resource for anyone trying to understand the deep motivations and modern methods of Russian power. What emerges is an image of a country more fractious and less united than initial appearances reveal, particularly at the top.

These fractures in themselves explain how the publication of such a book is even possible. There is a flourishing opposition to the Putin regime, but, as Zygar points out, the Russian system of power has replaced politics as we know them in the West. Instead there is now something more akin to ongoing political theatre that is played out in the media and increasingly on social media.

Zygar has special insight into this as he was the founding editor-in-chief of Russia’s only independent TV news channel, “Dozhd” or “Rain”. In his time on the station, it became extremely popular owing to its coverage of disputes, demonstrations and Russia’s growing internal opposition. Both Zygar and the station have suffered for this, he has been beaten by unknown assailants and Dozhd has been denied advertising revenue and cable outlets. It is now reliant on crowd-funding to survive.

All the Kremlin’s Men is based on seven years of contact and interviews with the key players at the top of Russian Society. The book is well researched and is firmly aimed at a lay audience. It is both gossipy and pulls no punches, but the scale of the book and its structure make the work more than a casual read. The author writes in vignette chapters that do not necessarily follow on from one another in a linear fashion. The index becomes essential for cross-referencing the 100 or more politicians, businessmen and journalists whose inter-relationships are exposed.

What is unveiled is a complicated and shifting network of allegiances and influence. In stripping this huge web-like network bare, Zygar produces a view that is radically different from either popular Western demonization or Russian nationalist perspectives. We see instead a government where the President is not as important as he might seem at first.

Rather than a master strategist, Vladimir Putin emerges as a shifty opportunist and tactician. He is reliant on his court to keep him where he is and they in turn rely on him as a guarantor of their personal wealth and position in his court. This reciprocity emerges throughout, everyone at the top seems to have something that everyone else needs at one time or another. The most important things are wealth and access to the centre of government.
Zygar shows us that when the power structures of the old Soviet Union collapsed, wealth and influence fell into the hands of those that happened to be prominent or well-placed in government and industry. Their obsession has become holding onto this privilege. While in the tradition of Western democracy, we are used to political power resting on legitimacy drawn from the electorate and the law, in Russia we see instead power resting on legitimacy, wealth and the ability to pressure others or to gain access to those that can do so for you.

This emerges clearly when the author deals with specific extended episodes. For instance, when looking at events in Georgia in 2008, he draws out the ever-growing paranoia at the top which becomes convinced that the Western governments are trying to subvert or change the internal dynamics of the Russian system. The episode shows that, in this case, with the then Prime Minister Putin, power and influence is attached to the individual and not the office. We are repeatedly given examples of people who, when dismissed, are more powerful than their replacements and sometimes they are more powerful when they are out of government than when they were in it.

Sometimes those pushed out of the inner-circle find themselves directed into the opposition movements. Here they often remain linked to the centre of government and function like a double agent. The author reveals how the principal characters have relied on managing and infiltrating aspects of the Russian opposition to allow stage-managed theatrics which in turn justify clampdowns or policy-shifts. A sub-theme is the emergence of social media and TV as a means to self-legitimise and to play out political games of one-upmanship.

All of this comes together in the author’s account of the planning and annexation of Ukraine. Here is revealed the one great lesson from this book, that there is no master plan or chief strategist. The book’s complexity mirrors the complexity of motivations and methods at the centre. The policy of the Russian government, if we are to follow Zygar’s logic, is reactionary, short-term and chiefly designed to keep those in power where they are. However, quite where this leads or exactly what either the West or the Russian opposition are to do about it, is not touched on.

In conclusion, *All the Kremlin’s Men* has a unique perspective, approach and central premise. These are all things that recommend it. Mikhail Zygar deserves to be read for his courage and independence, and for producing such a pragmatic and insightful study.
The seemingly uncontrolled brutality of the terrorist group known as the Islamic State of Iraq and Syria (ISIS) is a reality that has become familiar over the past few years. It is something that has challenged western normative views and confounded attempts to defeat it. Currently, the bulk of the Royal Air Force’s operational effort is invested in defeating this threat, not to mention the weight of effort from the United States Air Force (USAF) and other coalition air forces. The time is, therefore, very ripe for a definitive work explaining where ISIS came from, what makes it tick, where it fits in the Jihadist spectrum, and what the future holds for one of the gravest challenges to the status quo in the Middle East since Sykes and Picot drew their borders a century ago. This is what this book sets out to do, and to a large extent, it succeeds.

Fawaz Gerges is well placed to unpick the densely complicated structure of Salafi-Jihadism. Hailing from the Lebanon, he grew up under the shadow of that nation’s protracted civil war. As Professor of International Relations at the London School of Economics (LSE) and Political Science, and holder of the Emirates Professorship in Contemporary Middle East Studies, he has spent many years studying Islamic extremist terrorism and has many published works in this subject area, notably The Far Enemy (2005), Journey of the Jihadist (2006) and The Rise and Fall of Al Qaeda (2011). His latest work sets out to situate ISIS in the broad arena of Islamic fundamentalist terrorism and examine the organisation in detail.

The book follows a logical structure, setting out the origins of Salafi-Jihadism and a history of the terrorist organisations which have grown from this ideology, resulting in Al Qaeda Central and ISIS. Gerges makes a compelling argument that the long experience of authoritarian governments in the Arab world, the rift between Sunni and Shia Islam, the failure of state structures in the wake of the western intervention in Iraq in 2003 and the Arab Spring have all aligned to allow the rise of these extremist groups. It covers in detail the personalities involved in the rise of Salafi Jihadism, along with the many groups that have grown and withered over the years. At times, this array is bewildering, and the book would benefit from a diagram showing how these groups and personalities are related – a Salafi-Jihadist family tree. This would be particularly relevant as Gerges shows that the success and failure of different Jihadist groups is often leadership-personality driven; he observes that the demise of Osama bin-Laden in 2011 led to a significant reduction in the influence of Al Qaeda in the Salafi-Jihadist world.

Gerges has drawn on a great variety of sources, and his knowledge of this area is encyclopedic. However, at times, the book reads like a collection of stand-alone essays rather than a coherent set of chapters, with some unnecessary repetition of arguments.

Nevertheless, the book explains well how Salafi-Jihadism has developed and why ISIS, with its extremes of violence
and uncompromising message, has succeeded in attracting young Muslim recruits from near and far, and has, to an extent, replaced Al Qaeda as the leading brand in Salafi-Jihadist terrorism. Indeed, Gerges illustrates that both these organisations, and their related groups today, are merely the latest in a long line of Salafi-Jihadist groups. What makes ISIS different is its level of brutality and complete refusal to accept any disagreement with its own twisted vision of Islam. Furthermore, ISIS (and its forerunners in Iraq) has shown an equal willingness to attack Shia Muslims as western targets. This characteristic has caused a rupture with Al Qaeda, which believes in general that other Muslims should not be targeted.

Gerges states that the growth of these groups has been fuelled as much by the broken political system in the Arab world as by religion. To prevent the continuation of the Salafi-Jihadist struggle against the Near Enemy (the Shia and corrupt Arab ruling elites) and the Far Enemy (the USA and the West) will require a wholesale change in the way Arab regimes are run. It will, fundamentally, require a “separation of Mosque and State” (p.292).

ISIS: A History provides the reader with a valuable and timely insight into where ISIS came from, and why it has enjoyed a measure of success and attracted the numbers of disaffected young Muslims that it has. The author also develops a cogent argument as to the likely development of ISIS in particular and Salafi-Jihadism in general.

Gerges observes that ISIS (as it exists) will eventually self-destruct. Its extreme brutality, uncompromising yet barren philosophy and eagerness for war mean that it has made too many enemies and has made it a major target for Western military action. But, as he states, ISIS is the latest manifestation of a well-entrenched movement. “Regardless of what happens to ISIS, the ideology is here to stay” (p.291). Notwithstanding some minor errors and a tone that occasionally distracts, this book will be valuable to scholars who wish to strengthen their understanding of the development of Salafi-Jihadism in the Middle-East and beyond.
Understanding Modern Warfare

By David Jordan, James D Kiras, David J Lonsdale, Ian Speller, Christopher Tuck and C Dale Walton

Publisher: Cambridge University Press; 2nd edition, 2016
ISBN 978-1107592759, 450 pages

Reviewed by Mr Sebastian Cox

War is among the most complex of human activities, combining as it does the need for political understanding, psychological awareness both of self and the opponent, military skill and judgement, harmonisation and exploitation of technology, and the harnessing of the more basic human attributes of willpower and aggression to the exercise and application of power through violence, or the threat of violence. The introduction to this excellent work sets out the authors’ intent as being to provide the reader “in a single volume of manageable proportions, a thorough grounding in the critical issues, ideas, concepts and vocabulary necessary to develop and articulate an understanding of the concept of war in its various forms and in its different operating environments.” In general it succeeds admirably, and we might note in passing the reference to “vocabulary”, for one of the great merits of the book is that it sets out to use language that is accessible to those without specialist knowledge.

Understanding Modern Warfare is a collaboration between a number of Anglo-American scholars and is divided into sections addressing: Strategy; Land Warfare; Naval Warfare; Air and Space Warfare; Irregular Warfare; Weapons of Mass Destruction; and a Conclusion focused on the future of War. The greatest weakness of what is otherwise an admirable primer is the absence of a section devoted to cyber, (with a mere one and half pages sandwiched into Strategy), and the relative paucity of references to it elsewhere in the book, although the Conclusion does contain some further discussion on cyber and developments in Artificial Intelligence and their likely impact. The section on Strategy looks at the major theorists of war from Sun Tzu through Clausewitz, with the latter rightly given prominence, not least for the importance of his famous dictum regarding war and politics and his conceptualisation of “centres of gravity” - still central to much modern military theory. This section rightly also highlights the difficulty of keeping theory grounded in reality and quotes Clausewitz regarding theory’s purpose being “to demonstrate what war is in practice, not what its ideal nature ought to be”. Among other issues covered in the Strategy section are deterrence, targeted killing, and strategic ethics, as well as levels of war and more esoteric concepts such as Luttwak’s “paradoxical logic”.

In the environmental sections, some familiar aspects and characteristics of each environment are set out, such as: decisiveness and permanence for land warfare; access, mobility, lift and poise for maritime power; and rapidity, flexibility, reach and impermanence for air. Each also includes a brief historical survey laying out the major technological advances and their impact on warfare. These are valuable for students approaching the subject for the first time, or for those junior personnel familiar with their own environment and doctrine but more at sea, perhaps, with those of the others. The land chapters include a consideration of the development of firepower.
and tactics over the last century. There is a slight tendency to descend into the tactical “weeds”: this reviewer is not convinced that a diagram illustrating the exact position of every rifleman, NCO and officer in a 1914 German infantry company really contributes much to our overall level of understanding. There is, however, a useful discussion of the differing theories and doctrines which have flourished in the post-DESERT STORM era, from Revolutions in Military Affairs, effects-based warfare, systems of systems, to hybrid warfare et al.

The maritime chapters contain concise consideration of leading naval theorists, including Mahan, Corbett, Wegener and Castex, which illustrate how the key elements and concepts of maritime power and strategy such as sea control, decisive battle, guerre de course, sea denial and distant and close blockade, and the fleet-in-being have been argued over and how much they still remain relevant. The author of the maritime section, Dr Ian Speller, concludes, surely correctly, that “the key concepts of naval strategy…were established over a hundred years ago … but they continue to have an impact on thought and practice today.” Projecting forward, the discussion covers the current focus on anti-access and area denial by China and the US Navy, highlighting the Americans’ renewed interest in “cross-domain synergies” and suggests that the “challenges can only be met if navies co-operate effectively with joint forces, and particularly with land-based air forces”.

One of the most valuable and interesting sections is that on irregular warfare which contains a notably concise exposition on the subject of insurgency and counter-insurgency covering the gamut from the American Revolution, through T E Lawrence, and Soviet partisan warfare to the anti-Colonial struggles in Ireland, Palestine and the Marxist inspired post-war era in Asia and Africa. Governance is so often the fundamental key alongside effective military action – whether it is an attempt to introduce good governance or an attempt on the part of the insurgent to replace the existing government, whether in fact good or bad, though the latter makes an easier target than the former, but ethnicity and tribe also frequently complicate the issue. The difficulty of disentangling the complexities of a society and COIN...
campaign which is often not that of the COIN forces is perfectly illustrated by the impossible complexity of a graphic produced in the International Stabilisation Force HQ known with good reason as the Spaghetti Chart. Interestingly, the author fails to point out that the Chart is marked as being prepared by the PA Consulting Group, an international management consultancy company!

Overall, though there are some weaknesses, *Understanding Modern Warfare* is a clear, concise and very helpful guide to the complexities of the subject in a globalised and increasingly fractured international polity. By and large, it achieves its stated aim of making a complex and difficult subject understandable for the non-specialist or inexperienced military student.
John Andreas Olsen’s work has appeared in CAS’ Reading List no fewer than four times since 2010, indicating his prominence as one of the foremost current air power thinkers. In *Airpower Applied* – a sequel to *Airpower Reborn*, which featured in the 2015 list – he follows the same model by collecting and editing essays by a number of leading air power theorists grouped around a central theme, in this case the lessons revealed by historical analysis of the application of air power in operational practice. The contributors include luminaries such as Richard Hallion, Ben Lambeth and John Warden, whose work will be familiar to any serious student of air power. In addition, David Deptula, a senior air power practitioner and now academic, and Eliot T Cohen, the eminent strategic thinker, contribute the foreword and afterword respectively, which in itself indicates this compilation represents important scholarship which deserves to be taken seriously as a significant addition to the canon of air power literature.

*Airpower Applied* assesses US, NATO, and Israeli combat experience from World War II and the Israeli War of Independence to the most recent operations against the so-called Islamic State in Iraq and Hamas in the Gaza Strip. The book aims “to use the historical record to give political decision makers, members of all military services, and general readers a broad understanding of what airpower can achieve as a tool for national policy and international statecraft.” This ambitious objective is attempted through a critical examination of twenty-nine case studies in which the USA, either alone or in various coalitions, and Israel took part.

These examples have been selected to showcase the impact of air power in very different historical contexts and reflect the different perspectives (and sometimes prejudices) of the authors as they track the emergence of air power as a major strategic element during the course of World War II, chart its dominant contribution throughout the Cold War period and herald its coming of age in the ‘second aerospace century.’ Rather than simply providing a history of different air power campaigns (although the chapters are interesting and relevant in their own right in this respect), Olsen charges his contributors to draw out enduring lessons and offer insights with contemporary relevance. Although this approach is potentially fraught with danger, or at least the perils of misapplication - lessons drawn from very specific contexts may, or often may not be more broadly applicable – this compilation is successful in convincingly reinforcing key and universal principles for the effective application of air power, and some common themes emerge. In particular, all of the contributions offer a perspective on the political purpose, strategic meaning, and military importance of air power as applied to their example; a refreshing direction of travel when airmen and airwomen can sometimes (and with some justice) be accused of concentrating on technical excellence and tactical delivery at the expense of a proper
focus on the unique attributes which air power offers more broadly as a ‘continuation of politics by other means’. The case studies, without exception, all offer compelling evidence of the significance of connecting the application of air power to overall national objectives. This should be absolutely fundamental, but it is surprising how often politicians and air commanders alike fail to achieve this, and it is a truism that even the most robust and capable air weapon can never be more effective than the strategy and policy it is intended to deliver.

_Airpower Applied_ may, perhaps, be criticised for its narrow focus, because the choice of case studies overwhelmingly focuses on the US and Israel (although some insight is offered into the air wars of the North Atlantic Treaty Organization (NATO) through analysis of Operations DENY FLIGHT, DELIBERATE FORCE, ALLIED FORCE, and UNIFIED PROTECTOR). Although Olsen justifies this by asserting “the United States and Israel are in a league of their own when it comes to applying airpower”, it would be illuminating, and the common themes and lessons identified more compelling, with more comprehensive coverage of different approaches. It would be fascinating, for example, to compare the USSR’s application of air power in Afghanistan, with the very different capabilities, rules of engagement, doctrine and training employed by the US in the same theatre. However, the concentration on US and Israeli air campaigns probably reflects pragmatic difficulties in engaging contributors who can provide a non-western (and particularly non-US) perspective at the same high standards of scholarship as the rest of the volume rather than real editorial preference; and the contrast between US and Israeli approaches at least give a useful insight into how the air forces of two vastly mismatched countries have performed, learned and adapted in a range of conflicts with very different contexts and where the stakes involved were also very different.

Nevertheless, _Airpower Applied_ is highly recommended. The chosen format means the historical examples can be digested in bite-sized chunks by the more casual reader, as they stand up in their own right, or digested as part of a more coherent whole. The views offered by the eminent contributors are engaging and sometimes provocative, but always interesting and often entertaining. Most importantly, the vast canvas they paint on, in terms of the span of conflicts, yields valuable lessons, and this is important when the only certainty about the next application of air power is that it will not be the same as the last. As David Deptula notes:

“The vast majority of active-duty airmen have only taken part in operations at the low-intensity end of the spectrum of conflict. Without ever having experienced the challenges posed by more demanding conflict environments, national leaders—both military and political—may become increasingly inclined to accept this most recent combat experience as normal.”

Clearly, the current challenging geo-political context means this condition cannot be guaranteed to continue, and for most of our personnel, without recent direct experience of the application of air power in high intensity conflict, only history can provide a guide. Within this context, and within the limits it sets itself, _Airpower Applied_ makes a more than useful contribution to helping us to develop our understanding of how air power can be used effectively across the entire spectrum of conflict.
Karl Mueller has edited the first comprehensive text examining the aerial intervention in Libya from the multinational perspective and, in so doing, has provided a rich seam of knowledge from which practitioners can learn and upon which academics can build. His edited volume has drawn together internationally renowned academics to examine the air campaign over Libya in 2011 and identify lessons that will help the US Air Force, its allies and partners for future operations. Written on behalf of the RAND Corporation, it is aimed at those charged with decision-making in the fields of policy and strategy. Its appeal, however, is far wider, ranging from those involved in the tactical application of air power to those leading strategic force design; but, arguably, its sweet spot is the operational level where many of the lessons intersect. Whilst written principally for an American audience, it has much to offer the international community.

The hypothesis under test is whether the intervention in Libya could be a harbinger for future conflicts. Rather than build a single thread or argument, Mueller takes a different approach to answering the question. First, the book analyses the strategic and political context in 2011, before examining the campaign through ten different international lenses. Each provides a unique perspective on the campaign that keeps the reader engaged throughout. Inevitably, with twelve academics analysing the same subject, there is a degree of overlap and repetition – most obviously in the two US chapters in their discussion about command and control – which, whilst a minor distraction, does not detract from the substance of the analysis in each chapter. Indeed, the different approaches taken by each author retain the reader’s interest and add both colour and national context to the subject matter. In particular, the chapter describing the Libyan experience is illuminating, providing an engaging insight into those fighting in-country to repel, and eventually to overthrow, Muammar Qadaffi’s forces.

Multiple authors also bring a breadth of perspective and surety in the analysis. Primary source references are used extensively, with considerable emphasis placed on seeking out testimony from those directly involved in the conflict. This gives the reader confidence in the numerous facts, figures and timelines of events that are included. This provides a gold mine for follow-on researchers and also adds a vivid reality, further increasing the sense of immersion for the reader.

The lessons drawn from this kaleidoscopic analysis are extensive with each of the eleven chapters adding significantly to the learning. Mueller’s headline conclusion appears sound: “that no other war will be exactly like Libya, but every reason exists to expect that there will be crises and conflicts in coming years that we will be better prepared to deal with wisely if we understand and remember what happened in the aerial intervention in Libya in 2011” (p.392). Moreover, Mueller’s final chapter
entitled ‘Victory Through (not by) Air Power’ highlights the accomplishments of the air campaign and draws lessons from across the military and political domains. He describes the first, and arguably the most important, accomplishment of air power being to prevent Qaddafi’s forces from putting down the rebellion in Benghazi with “no mercy and no pity” (p.70). His examination of the psychological effect of air power both in terms of emboldening the rebels and demotivating the Regime forces and their mercenaries is well placed and harks back to Trenchard’s claim that ‘The moral effect of bombing stands undoubtedly to the material effect in a proportion of 20 to 1.’ These key mechanisms made possible what Mueller describes as a Libyan Victory, which is a contested conclusion given the current situation in Libya, and this reviewer would recommend reading an article in Air Power Review Vol 17 No 3 by Squadron Leader Tim Fawdry-Jeffries, which explores the concept of victory in more detail. Mueller goes on to highlight the low cost of the intervention – both in (non-Libyan) blood and treasure – and the importance of imparting knowledge of military strategy to civilian leaders, especially given the close political attention (and personal equity) of the national leaders involved. Lessons on force enablers, precision weapons and capability gaps abound; political primacy with the inevitable constraints and uncertain end states are captured, as is the importance of integrating partners into an Alliance construct.

Finally, and as if an anodyne to the demands of a busy commander, Mueller identifies some rather general precepts: the likelihood of aerial interventions with multiple contributing nations will increase; gathering and analysing intelligence, surveillance and reconnaissance products is a bottleneck in a complex and ambiguous battle-space; sharing of intelligence amongst allies is vital to enhance coalition effectiveness (or as Lieutenant-General Bouchard the NATO Commander described it, “need to share” not “need to know”); minimising friendly losses will continue to be a priority in aerial interventions, but is unlikely to be as easy as it was in Libya; small-warhead weapons such as Brimstone proved their worth and are a natural priority for future conflicts in populated areas; military-to-military contacts built in peacetime are a valuable commodity during times of crisis; and cooperation with indigenous forces is all-important to amplify the effects of aerial intervention.

The main take-aways for today’s airmen are the need to remain flexible – especially in constructing and executing the command and control arrangements – for air power to be ready (for anything) and the need to exercise with allies and partners because such up-front investment will pay dividends in the crucible of operations.

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Available free on-line:
http://www.rand.org/pubs/research_reports/RR676.html
The air war in Vietnam (1965 to 1973) witnessed the loss of over 1,700 United States Air Force (USAF) aircraft. During 1968, fighter aircraft losses were occurring at a rate of a fighter squadron a month. There were many reasons, but the overarching cause was that the pilots were not properly trained for the conflict and the military leadership at the time was hampered by parochial notions of force employment between the US military services that resulted in a less than optimal application of air power.

The determination not to repeat the catastrophe of the Vietnam air war led to a variety of outcomes that included: new aircraft design; new tactics; improved procedures; flying personnel management; and innovations in training. It is the innovation in combat training that is the focus of this book, and Mr Laslie does an excellent job at recounting the people, processes, and paradigms that changed as a result of the lessons of the Vietnam conflict and the impact they had on the leadership of the USAF. He recounts the exploits of the key leaders of the day who created Exercise RED FLAG, the recurring combat training exercise that was initiated in the mid-1970s, and still exists today.

Laslie presents a cogent and accurate rendition of the people, rationale, and conditions that inculcated realistic combat training as a fundamental element of the successes of the application of air power in the conflicts of the last quarter of the twentieth century. He traces the evolution of the concern over the misapplication of airpower in the Vietnam conflict witnessed by the men who flew and the men who led at senior levels, and how they initiated, supported and nurtured a new regime of training into the USAF. Sweeney, Sumner, Momyer, Creech, Dixon, Suter and others made the training enterprise that came to be known as RED FLAG a reality. However, the revolution in training that Laslie so well describes involved much more than the RED FLAG exercise and its subsequent spin-offs. He addresses the contribution to the training revolution of the establishment of “designated operational capability”, or DOC statements to: prioritization of aircrew training events; the implementation of a building-block approach to combat training; the establishment of a professional group of “aggressors” to train threat tactics and capabilities as well as emulate them in flying; and the maturation of the Fighter Weapons School as the epitome of advanced tactics development where graduates return to their squadrons and pass on the knowledge and experiences they acquired at Weapons School.

Unfortunately, after accurately describing the rationale for, and the implementation of, RED FLAG and the other initiatives that matured combat training in the USAF, the book devolves into a set of chapters that can be described as “mildly schizophrenic”. On one page we are told how
the F-15 “first appeared in the late 1960s, which means that it had been designed and approved for development well before Vietnam demonstrated the need for an air superiority fighter...” Then three pages later we are told, “when the war in Vietnam claimed one squadron per month, the air force circulated a request for proposals for the next generation air-to-air fighter. By then, the Air Force was aware that the F-4 was not the advanced fighter it had been billed as...” We are then exposed to a convoluted discussion of the terms “strategic” and “tactical” as they once applied to aircraft and later used in describing air campaigns; and then used in ways the author previously eschewed before finally adopting them. For example, he states that, “The air war over Iraq and Kuwait was actually a tactical air war that caused strategic-level effects.” He then goes on to say, “Everything about air power in the way it was traditionally conceived was overturned during DESERT STORM.” No it was not. DESERT STORM was actually the first time in history that technology caught up with air power theory, and demonstrated conclusively that the early air power theorists were correct -- air power can be used to achieve strategic outcomes. Fortunately, Laslie arrives at the proper conclusions regarding these terms as they apply to air power, but how he gets there does not reflect historical reality.

In the second half of his book, many of Laslie’s assertions regarding air power perspectives in the build up to the 1991 Gulf War do not reflect what actually took place. Heart Of The Storm – The Genesis Of The Air Campaign Against Iraq, published by Air University Press gives a much clearer picture of what really happened in the DESERT STORM planning effort. Additionally, first person interviews held in the DESERT STORM Collection at Maxwell Air Force Base in Alabama show that when Tactical Air Command leadership was asked for their ideas on the use of air power after Saddam Hussein’s invasion of Kuwait that their response was, “We have to wait until we see the Army’s ground scheme of maneuver, then we’ll put together an air plan to support them.” Laslie’s statement that, “[the DESERT STORM] revolutionary plan was one already accepted by those in the tactical community as the way they had been training for war for more than a decade,” is misleading. The plan was not at all, “accepted by those in the tactical community,” and in fact was fundamentally different from that which the leadership of the “tactical community” had presented as their input to the planning process. However, Laslie is correct in concluding that the “training for war for more than a decade” was fundamental to the success of the plan.

By the early 1990s the USAF had evolved in a way where the term “strategic” meant nuclear, and few Air Force leaders understood that “strategic” effects could be achieved by non-nuclear or “conventional” application of force. Indeed, when I wrote a summary of the DESERT STORM air campaign that was distributed to senior Air Force leaders after that war and described a category of force application as “strategic attack,” one of the generals from the Tactical Air Command community who was to later rise to the position of commander of Air Combat Command wrote on the briefing charts, “What is strategic attack?”

Laslie tries to make a case that the underlying air campaign plan that was so successful in DESERT STORM—and truly a turning point in the conduct of modern warfare—was a result of the training regime that was instilled in the 1970s. While it was an element of that success, it was more the result of a fundamental paradigm shift in the application of airpower enabled by advances in technology. Airpower technology had finally caught up with airpower theory. Contrary to Laslie’s articulated disdain for technology throughout the book, it was advances in technology—specifically stealth and precision—that enabled a new concept of operations, an effects-based approach to
achieving mission objectives that yielded the dramatic successes of Operation DESERT STORM.

Despite the concerns highlighted above, The Air Force Way Of War is a valuable read. It accurately reflects the evolution of the importance of realistic training for air combat that occurred as a result of the disastrous policies of the air war over Vietnam; and it highlights the need for continued scholastic work on the evolution and use of the terms “tactical,” “operational” and “strategic.”
In the opinion of Dr Johnson-Freese, humankind’s use of outer space is at a ‘tipping point’, implicitly between great opportunities and great dangers. In this short book, she sets out her reasons why she holds this to be so, what might be the consequences, and what steps should be taken (primarily by the United States) to ensure that the right choices are made.

Dr Johnson-Freese has been a member of the faculty of the United States Naval War College at Newport, Rhode Island for 15 years; prior appointments included time at the Air War College and at the Asia Pacific Center for Security Studies in Honolulu. She has a long publishing pedigree in titles relating to space security, perhaps most notably for *Space as a Strategic Asset* (Columbia University Press, 2007) and *Heavenly Ambitions: America’s Quest to Dominate Space* (University of Pennsylvania Press, 2012). In this latest addition to her portfolio she revisits a recurring concern: that the United States is pursuing its strategic goals through an inappropriate focus on the use of the military lever of power and a neglect of the complementary diplomatic and economic levers. Plainly delivered with an eye to influence over the incoming administration following the 2016 elections, this pithy volume is written from an American viewpoint and with an American audience of security and space professionals in mind, but it repays study by a wider readership, and assumes very little in prior understanding of the issues at hand.

The book’s core thesis is that the long period of dominance enjoyed by the United States in the exploitation of space has conditioned it to regard any attempts by other nations to catch-up, or to copy its capabilities, as a threat meriting a military response. If pursued to its logical conclusion, this could lead to the overt militarization of space and an arms race that would benefit no-one. This idea is developed in a logical and measured way, with particular attention being focused on relating the argument to policy statements, evidence placed in the public domain and to analogous arguments elsewhere. It argues that what the United States needs is space stability rather than space dominance, particularly given the wide and growing dependence of the American economy on capability delivered from and through space. A particular strength is the demonstration that several aspects of these arguments draw on classical strategic concerns and debates, and that current solutions might thus be found by re-examining past lessons.

The book opens with a review of the recent past. The Obama administration recognised that national assets in space face a variety of threats, and through multiple policy and strategy statements, they delivered the foundations for a space strategy rooted in cross-departmental stability. Recently, however, a focus on military options for delivery of this laudable goal became apparent. Two worrying consequences arising from this are the environmental dangers of military action generating space debris, and of a conflict between two space-faring powers escalating...
uncontrollably on the ground. ‘Space Control’ is a uniquely military concept; in the context of the space environment, ‘environmental management’ (stewardship) is a good thing, but ‘environmental control’ (domination) is both costly and futile.

The popular description of the space environment as ‘congested, contested and competitive’ also hides various assumptions that should be unpacked. Competition underpinned much early space activity, but the context allowed this to yield scientific progress, at least as a by-product. A more relevant analysis of current competition is, however, in the context of (Cold War) Game Theory; countering the narrative of space as a zero-sum game will require the breaking of the argument that space weaponization is inevitable. Thucydides might also yield insights: Johnson-Freese draws on recent analysis by Graham Allison comparing the United States and China to Athens and Sparta. Although Allison thankfully concludes that war between them is not inevitable, Johnson-Freese warns that the publicly released summaries of recent Schriever (space) wargames conducted in the United States highlight the difficulties of controlling escalation of any conflict in space. In the same way that ‘congested, contested and competitive’ trips off the tongue, its military corollary of ‘deterring, defending and defeating’ may have been chosen for alliteration, rather than for promoting stability. The past again has lessons to offer, but Cold War deterrence theory had the advantage that civil and military uses of nuclear power, although related, were clearly distinguishable. The dual-use nature of much space capability will challenge analysts to apply the correct lessons; what is needed is deterrence of misconduct, rather than of production or possession of a given system.

Outside the military arena, emphasis is moving from space exploration to space exploitation, and commercial entities now employ capabilities that just a few years ago were the preserve of governments alone. Any analysis of national positions must recognise this development and associated emerging activities such as space tourism and asteroid mining, which are undertaken largely by a community of space ‘risk-takers’.

So what prescriptions does the author draw from all this? Principally, that the relationship between the United States and China needs particularly careful handling. Whatever antipathy exists between the two nations and their political systems, cooperation in space could be a powerful stabilizing influence. The United States is already ‘entangled’ in space due to its growing economic reliance on it; careful mutual entanglement of the United States and China, such that both would have much more to lose than to gain from any conflict, would be an undoubted achievement. For similar reasons, many scholars consider the Sino-US economic entanglement to be a peace-positive relationship, so an extension to the space environment might also yield benefits in this regard.

Despite the large amount of common sense enshrined in the book, it is not beyond criticism. Chapter Five is, in essence, a wide-ranging critique of the US ‘military-industrial complex’. Although it looks specifically at Missile Defence systems as a case study, it essentially opens a separate debate, probably of much greater interest to American readers than others, and sits awkwardly in the text. Additionally, the remark in Chapter One that “…in war games conducted by the military, nuclear weapons are treated as just another warfighting weapon” (p.19) seems both naïve and alarming. These are slight criticisms, however. Overall, it is rooted in the belief that the United States must adjust to the rest of the world seeking to exploit space capability and must not see such activity as a challenge to its security. Its underlying purpose as a challenge to the new United States administration means
that it may become dated, but as a snapshot of the perceived ‘tipping point’, it repays close attention by anyone seeking an understanding of space security challenges.
Team of Teams: New Rules of Engagement for a Complex World

By Stanley McChrystal, David Silverman, Tantum Collins, Chris Fussell

Publisher: Portfolio Penguin, 2015
ISBN: 978-0241250839, 304 pages

Reviewed by Group Captain John Jupp OBE

Team of Teams demonstrates that leadership and organisational structure – a key function of leadership – need to be suitable for the circumstances and time that the organisation is working in. Outdated leadership and structure can be devastating. General Stanley McChrystal will be known to many as the leader of US Special Forces in Iraq in the aftermath of the 2003 war and later as the General in charge of the International Security and Assistance Force in Afghanistan. He published his memoirs of his military career under the title My Share of the Task. General McChrystal is currently a senior fellow at Yale University’s Jackson Institute for Global Affairs and co-founded a leadership consultancy firm.

General McChrystal, in Team of Teams, first sets out the modern need for the maximum amount of decentralisation. He shows that the traditional hierarchical, pyramidal and stove-piped organisation that was American Special Forces was just too slow to deal with Al Qaeda in Iraq in 2003 – his main working example. He goes on to show both the great success and the limitations of the scientific approach to management derived from Taylorism and Fayol’s Wheel. Despite its dominance of organisational life from the latter part of the nineteenth century through the entire twentieth century, the so called efficiency craze has its limits when it meets speed and complexity. Complex here is a technical term going beyond complicated, which can be predicted, to something which has so many interactions that their exponential spread or decline cannot be worked out, much in the sense of chaos theory. The ubiquity of the scientific approach is such that most people cannot think beyond it, yet it is not just the military that are failing to cope with the demands of modern circumstances.

To enable modern organisations to deal with complexity, and the speed of change we now face, General McChrystal exhorts us to move from the ‘robust’ to the ‘resilient’ organisation. He wants organisations to become both capable (which his Special Forces always were) and adaptable, and to be a learning organisation. They should move from ‘command and control’ (here used as a euphemism for micromanagement) to resembling a team where interdependency and high levels of trust are endemic. Whole organisations should espouse the principles of Crew Resource Management rather than top down direction. This would allow simultaneous activity to solve complex, unexpected problems at speed. General McChrystal acknowledges that we know how to create small teams where this is true but that scaling it up to large organisations is more problematic.

The scientific approach’s drive for efficiency creates hierarchy and stove-pipes and restricts information flow. It gives life to the principle of need-to-know and espouses that workers don’t and management do. Workers are trained to do as management tell them, creating robust organisations working in blinkered silos. Where all workers understand the whole, information is given to all and
everyone is educated, the unexpected can be dealt with swiftly. This is the resilient organisation. Every brain can immediately tackle an emergent problem. But there is a cost: efficiency in the silos is reduced. However, General McChrystal makes his point: when they started to improve performance in the American Special Forces organisation in 2003 by doubling down on efficiency, they almost doubled their speed. When they changed leadership and organisational design, decentralising decision making, they improved it by a factor of 17! And this is not an isolated example; others are given from all walks of life, such as that of a call centre. General McChrystal came to the conclusion that modern, almost instantaneous, communications did not speed up decision making but slowed it down as more and more decisions were sucked up to an ever higher level.

Decentralising decision-making requires both physical and cultural change. Physical barriers to sharing information have to be removed – the way offices are designed, the way information is stored, the processes people use and so forth. The cultural change is harder. Trust has to be built between high performing teams that usually compete. Habits of sharing not concealing information have to be learnt, and the benefits of that experienced. An understanding of the purpose of the whole organisation generated, rather than just the goals of one’s own team. The price of this is much greater potential for massive information loss but the benefits far outweigh it. Of course it is hard to engender new ways of working, but much harder still is getting old dogs to unlearn old tricks.

General McChrystal concludes that our paradigm of leadership needs to change. We usually have an incarnation of the concept of leadership as the hero that instantly understands every situation and is able to tell his followers exactly what to do. This is akin to Professor Keith Grint’s concept of Crisis Problems and Command (see Air

Force Leadership: Beyond Command). General McChrystal says we need to move to the idea of the leader being the gardener who nurtures and grows her people, sets the culture of the organisation and understands the whole and its processes, constantly pruning for better growth. Her example is never more important.

What General McChrystal is advocating in this book is not new, as he acknowledges. Decentralisation of decision making can be found in writings about leadership from Lao Tzu to the Romans, from Nelson to von Moltke. It is as inherent in what Dowding did as it is in McChrystal’s story. Yet what General McChrystal has done is to incontrovertibly demonstrate that decision making still has to be devolved down as far as possible even though senior military leaders can have an unprecedented, detailed, real-time view of the battlefield. You could say this is the Auftragsaktik of the information age. Just as the French thought that the Germans were fighting with a secret weapon at the first Battle of Sedan in 1870, so Al Qaeda in Iraq could not understand how the Americans could operate so quickly. Team of Teams should be required reading for anyone leading, or leading in, a large organisation; by extension, every officer in the Royal Air Force, commissioned or not, should read it.
Contents of CAS’ Reading List 2016

**Red Team: How to Succeed by Thinking like the Enemy**
By Micah Zenko  
Publisher: The Perseus Book Group

**Black Box Thinking: Marginal Gains and the Secrets of High Performance**
By Matthew Syed  
Publisher: John Murray Publishers Ltd

**The New Tsar: The Rise and Reign of Vladimir Putin**
By Steve Lee Myers  
Publisher: Simon & Schuster

**Air Warfare: History, Theory and Practice**
By Air Commodore (Retd) Dr Peter Gray  
Publisher: Bloomsbury Publishing plc

**The Mediterranean Air War – Airpower and Allied Victory in World War II**
By Robert S Ehlers  
Publisher: University Press of Kansas

**Jail Busters: The Secret Story of MI6, the French Resistance and Operation Jericho**
By Robert Lyman  
Publisher: Quercus Publishing

**The Direction of War: Contemporary Strategy in Historical Perspective**
By Sir Hew Strachan  
Publisher: Cambridge University Press

**Blood Year: Islamic State and the Failures of the War on Terror**
By David Kilcullen  
Publisher: C Hurst & Co

**Binary Bullets: The Ethics of Cyberwarfare**
By Fritz Allhoff, Adam Henschke & Bradley Jay Stawser  
Publisher: Oxford University Press

**Ghost Fleet**
By P W Singer & August Cole  
Publisher: Houghton Mifflin Harcourt
Contents of CAS’ Reading List 2015

Thinking Fast and Slow
By Daniel Kahneman
Publisher: Penguin

Wind in the Wires
By Duncan Grinnell-Milne
Publisher: Grub Street

Why We Lost - A General’s Inside Account of the Iraq and Afghanistan Wars
By Daniel Bolger
Publisher: Eamon Dolan/Houghton Mifflin Harcourt

The Unseen War: Allied Air Power and the Takedown of Saddam Hussein
By Benjamin S. Lambeth
Publisher: Naval Institute Press

High Command: British Military Leadership in the Iraq and Afghanistan Wars
By Major General (Retd) Christopher L Elliott
Publisher: C. Hurst & Co

World Order: Reflections on the Character of Nations and the Course of History
By Henry Kissinger
Publisher: Allen Lane

Airpower Reborn: The Strategic Concepts of John Warden and John Boyd
By Colonel John Andreas Olsen
Publisher: Naval Institute Press

Strategy and Defence Planning: Meeting the Challenge of Uncertainty
By Colin S. Gray
Publisher: OUP Oxford

Cybersecurity and Cyberwar: What Everyone Needs to Know
By P.W. Singer and Allan Friedman
Publisher: Oxford University Press

It’s Only Rocket Science: An Introduction in Plain English
By Lucy Rogers
Publisher: Springer-Verlag New York Inc
Contents of CAS’ Reading List 2014

**Boyd: The Fighter Pilot who Changed the Art of War**  
By Robert Coram  
Publisher: Back Bay Books

**Air Commanders**  
By John Andreas Olsen  
Publisher: Potomac Books Inc

**British Generals in Blair’s Wars**  
By Jonathan Bailey, Richard Iron and Hew Strachan  
Publisher: Ashgate Publishing Limited

**The Sleepwalkers: How Europe Went to War in 1914**  
By Christopher Clark  
Publisher: Penguin

**The Bombing War: Europe 1939-45**  
By Richard Overy  
Publisher: Allen Lane

**Conflict After the Cold War: Arguments and Causes of War and Peace**  
By Professor Richard Betts  
Publisher: Pearson

**European Air Power: Challenges and Opportunities**  
Edited and with an introduction by John Andreas Olsen  
Publisher: Potomac Books

**Strategy: A History**  
By Sir Lawrence Freedman  
Publisher: Oxford University Press

**Out of the Mountains: The Coming Age of the Urban Guerrilla**  
By David Kilcullen  
Publisher: Hirst and Company

**A Fierce Domain: Conflict in Cyberspace, 1986 to 2012**  
By Jason Healey  
Publisher: Cyber Conflict Studies Association
Contents of CAS’ Reading List 2013

Airpower for Strategic Effect
By Colin Gray
Publisher: Air University Press

Global Air Power
By John Andreas Olsen
Publisher: Potomac Books Inc

The Second World War
By Antony Beevor
Publisher: Weidenfeld and Nicholson

The RAF’s Air War in Libya: New Conflicts in the Era of Austerity
By Dave Sloggett
Publisher: Pen and Sword

The Leadership, Direction and Legitimacy of the RAF Bomber Offensive from Inception to 1945
By Peter Gray
Publisher: Continuum

Behavioural Conflict: Why Understanding People and their Motivations Will Prove Decisive in Future Conflict
By Andrew MacKay and Steve Tatham
Publisher: Military Studies Press

The Art of Action: How Leaders Close the Gaps between Plans, Actions and Results
By Stephen Bungay
Publisher: Nicholas Brealey Publishing

The Changing Character of War
By Hew Strachan and Sibylle Scheipers
Publisher: Oxford University Press

The Upside of Turbulence: Seizing Opportunity in an Uncertain World
By Donald Sull
Publisher: Collins Business

The Future of Power: And Use in the Twenty-First Century
By Joseph Nye
Publisher: Public Affairs
The views expressed by the reviewers in this list are theirs and theirs alone. Inclusion of a particular book within the reading list should not be taken to mean that the Royal Air Force or the Ministry of Defence endorses the contents. Manuscripts with challenging and even contrarian views will be included in order to stimulate thinking, discussion and debate.
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