

CAS' Reading List 2013



Foreword

As the Chief of the Air Staff it is incumbent upon me to prioritise our professional and intellectual development as not only practitioners, but, also, as custodians of air power. Recent events in Egypt, Syria and Mali show us clearly that, as we transition from our mission in Afghanistan, a thorough preparedness for contingency operations will be vital if we are to ensure we can meet the security challenges which lie ahead. Key to this will be our ability to think, innovate and respond quickly to emerging crises as well as providing our vital contribution to conflict prevention.

During a not dissimilar period of financial, political and social turbulence in the early 1930s, Winston Churchill noted that - *'Not to have an adequate air force in the present state of the world is to compromise the foundations of national freedom and independence.'* With this in mind, we must ensure that we retain our leading conceptual edge, applying a deeper understanding of how air power can support and shape the strategic priorities and interests that we hold as a nation. We do this collectively as a Service but, also, as individuals by stretching the bounds of our own intellect and, for this reason, I commend the following 10 books to you.

This year's books include two which examine air power strategy with Colin Gray's *Air Power for Strategic Effect* helping the reader to understand air power in its widest, strategic context. The reading list also offers historical analysis of the Royal Air Force's contribution to the air campaign during the Libyan crisis as well as a broader study of the Second World War. Three titles on the leadership and moral components of air power – and conflict more generally – are also included and, finally, three books that each offer an insight into the future operating environment complete the list.

As we look set to continue our work with diverse, international partners in the future, they will routinely look to us to take the lead and provide conceptual direction on air power thinking. It is in our interest to be able to do so effectively and credibly. This selection of books has been carefully put together to provide a resource for developing both breadth and depth of knowledge in our specialist subject, air power.



A handwritten signature in black ink, appearing to be 'A. Pulford', with a long horizontal line underneath it.

Air Chief Marshal Sir Andrew Pulford KCB CBE ADC RAF
Chief of the Air Staff

CAS' Reading List 2013

Contents

Airpower for Strategic Effect	2
Global Air Power	4
The Second World War	7
The RAF's Air War in Libya: New Conflicts in the Era of Austerity	8
The Leadership, Direction and Legitimacy of the RAF Bomber Offensive from Inception to 1945	10
Behavioural Conflict: Why Understanding People and their Motivations Will Prove Decisive in Future Conflict	13
The Art of Action: How Leaders Close the Gaps Between Plans, Actions and Results	15
The Changing Character of War	17
The Upside of Turbulence: Seizing Opportunity in an Uncertain World	19
The Future of Power: And Use in the Twenty-First Century	22
Contents of CAS' Reading List 2009	24
Contents of CAS' Reading List 2010	25
Contents of CAS' Reading List 2011	26
Contents of CAS' Reading List 2012	27

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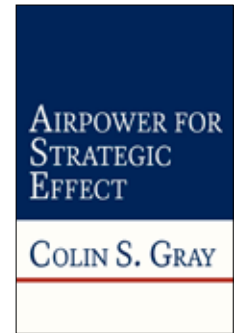
Airpower for Strategic Effect

By Colin Gray

Publisher: Air University Press, 2012

ISBN 978-1780397856, 364 pages

Reviewed by Group Captain Chris Luck RAF



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

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

Gray is adamant that air power 'can be devised and executed competently only by strategically well-educated, air-minded people'. This book aims to educate because 'poor theory does damage in the real world of behavior (sic), as organizations and people are moved to action by ideas'. Divided into three parts, the first section attempts to lead us by the hand on the 'how to think' about theory, strategy and the instrumentality of air power. Central to the whole discussion in this section is the need to nest air power practice within a theory of war and strategy. This is depicted and expanded on in Gray's 'General Theory of Strategy in 21 Dicta'. His message is that air power (and any of the other geographical or functional 'powers') is only strategic (positively or negatively) when assessed against desired political outcomes. The strategist's task is to produce a net positive political outcome. As such, all activity undertaken is tactical in the doing and does not privilege any platform or capability as inherently strategic. Thus, he asserts that talk of strategic air bridges, strategic tankers, strategic ISTAR, etc is confused thinking and likely to do harm. As Gray hammers home, blessing the means with a quality of performance independent of the context, contingency and outcome has damaged air power's cause.

Heretical though it may sound, Gray argues that there is no such thing as strategic air power other than in political outcome terms; strategy is done tactically but developed and actioned in order to maximise political choices in an unknowable and therefore unpredictable future. The consequence of this muddled understanding of what 'strategic' is, is that 'no one truly does strategy'. Gray aims to rectify the cause of this skewed thinking and therefore mitigate future damage to air power's story.

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

The strategic narrative that flows from the historical record allows Gray, in the third section of the book, to distill his 27 air power dicta, in effect to unravel its DNA. This is nested within his theory of strategy from section one and is his handrail for air power thinking. Gray is not ashamed to admit that these are perhaps blindingly obvious and intuitive, but still need stating, as most practitioners believe the 'serious stuff' is 'doing it', not thinking why and how to do it. If no other section of the book is read, this is where the rubber hits the road. His dicta cover the enduring nature of air power; the how-to-think rather than what-to-think and spotlight what is truly important and timeless for those who have to do air strategy. He is clear that although the character of air power is ever changing - threats, technology, equipment, cultural and political mores - its nature is enduring and therefore knowable and by definition heuristic.

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

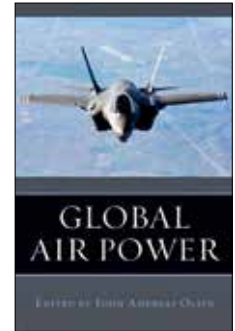
Global Air Power

By John Andreas Olsen

Publisher: Potomac Books Inc, 2011

ISBN 978-1597976800, 432 pages

Reviewed by Group Captain Tim Below



Edited by John Olsen, *Global Air Power* is a collection of 9 essays by pre-eminent authors reviewing the geopolitical and sociological contexts which have shaped the development of air power as an instrument of war. Grouped into 3 sections, individual chapters present insights into how the varied yet often thematically common internal and external factors have interplayed in the evolution of air forces across the globe from the most prominent nations possessing the full spectrum of capabilities to some of the smallest players whose forces have been developed to meet unitary and tightly bounded requirements. Through this volume as a whole, Olsen seeks to illuminate universal trends as well as similarities and differences between the world's air forces of today in order to inform effective thought on the future utility and employment of air power in this, the second century of manned aviation.

Citing their extensive accumulated combat experience, Section 1 reviews the development of the British, American, and Israeli air forces, with Tony Mason opening Olsen's exposition with a canter through 100 years of UK air operations. After presenting a history of the formation of the Royal Air Force, and Lord Trenchard's key role in its creation as an independent entity, Mason reflects on the importance of strategic bombing in shaping the RAF during the Second World War, before reciting an extensive list of UK air operations, including those conducted by other UK Services, since 1945. During his review of the post-Cold War era, he pulls out as his dominant theme the conflicting balance between economic contraction and an expansion in global commitments. Richard Hallion's outstanding review of the history of US air operations easily relates to Olsen's objective. Setting out from the early days of 'pursuit' and 'attack' aviation roles, Hallion reflects on the Cold War years of nuclear mission obsession, before turning to the evolution of the modern environment of space-dependent precision ordnance-enabled air power heralded by the success of Operation Desert Storm in the 1991 Gulf War. Majoring on inter-Service rivalry, budget allocations, and powerful articulation of the air power message, he draws out the importance of the human element, notably demonstrating the (positive and negative) personal contributions of individual Chiefs of Staff and Secretaries of Defence in the Service's development. Clearly articulating the defining rationale at each evolutionary step, Itai Brun charts the development of Israeli Air Force doctrine since the nation's creation. Employed primarily to assure air superiority in support of ground force manoeuvre during the War of Independence, Brun explains how Israel's peculiar security situation in the midst of the Arab world resulted in the subsequent doctrine of pre-emptive offensive air strike. He goes on to highlight how the reactive catastrophe of the Yom Kippur War directly led to the air force re-focusing on the role of territorial air superiority until this philosophy was itself rendered inadequate by the Iraqi scud attacks of the First Gulf War which, in turn, required the adoption of today's offensive/defensive posture.

The second section addresses the Russian, Indian, and Chinese air forces, as 3 examples of Services which have undergone (or in India's case, which need to undergo) significant conceptual change in the last 20 years. In reviewing Russian (née Soviet) air power, Sanu Kainikara majors on 2 axes: the dominance of political ideology in defining [Soviet] military doctrine, and the concept of employment of Soviet air power as a supporting element to land forces. Kainikara asserts that it was only the confluence of the evidence of the First Gulf War and the change in ideology from Soviet to Russian which enabled the Russian military to recognise the dominant role of air power in the technological age. Jasjit Singh provides an informative and concise history of the emergence of the Indian Air Force from colonialism, observing that India's air force of today remains the tactical force which was established by the British. He offers opinions on 2 continuing debates in Indian circles: whether the Indian Air Force should develop into a strategic component of national power, and whether it should be offensively or defensively postured. Reflecting on the individual and potentially combined threats posed by China and Pakistan, he concludes that strategic transformation is imperative, but that despite the cultural readiness of the Indian Air force leadership, realisation of such a change will be dependent on considerably improved resourcing. As presented by Xiaoming Zhang, the development of any healthy or objective air power theories in China was inhibited by the enduring Maoist 'people's war' theory until the wake-up call which was the First Gulf War. However, although China now has both a 30-year strategy and the resources necessary to rejuvenate its air force as a strategic Service, Xiaoming contends that the greatest challenge facing the People's Liberation Army Air Force today is the institutionalisation of a culture which embraces both offensive and defensive capabilities and the organisation and employment of the Service as an independent and strategic force.

In the final section of the book before an afterword by David Deptula, Alan Stephens addresses the air forces of the Asia Pacific region; James Corum covers those of Latin America and Christian Anrig's final chapter reviews the key issues in the air power debate since the First Gulf War. Situating them within the strategic construct of shape-deter-respond, Stephens examines the development of several Asia Pacific nations' air power models in turn. He illustrates how, despite the common factors of vast maritime distances and recovery from wars of national liberation, socio-political evolutionary variances have predominated, resulting in extremes of effects - from the total stifling of air power development in Indonesia to the emergence of Singapore as one of the world's leading air powers. Reviewing the numerous Latin American conflicts of the last 100 years, Corum observes the responsiveness of air power at a micro level, with small, focused air 'forces' being created swiftly in response to specific threats, generally in counterinsurgency and counter-narcotics roles. Anrig's European analysis of the aftermath of the First Gulf War finds that this watershed conflict heralded a new era in strategic air power employment, elevating air forces to being the primary Service in future Western operations while brutally exposing the need for European air forces to modernise.

Having introduced the elucidation of universal trends, similarities, and differences in the development of the world's air forces as his objective, Olsen leaves the reader to deduce them for himself. Four interwoven themes pervade the contributory chapters however. The first is the recurrent idea that institutional culture and ideology, along with the personal influence of strong leadership, has shaped (including in some cases to the detriment of their efficacy) the development of the world's air forces through the twentieth century. The second theme develops the idea of the strategic capacity conferred upon air power by modern technology to be employed as an independent political tool. The third

theme permeating the entirety of Olsen's collection is the worldwide paradigm shift in air power thinking which resulted from the Gulf War in 1991. The final theme is the challenge of resourcing modern air forces. Olsen's Global Air Power provides a balanced and comprehensive insight into historical air power evolutionary trends, and is essential reading for any serious disciple of the subject.

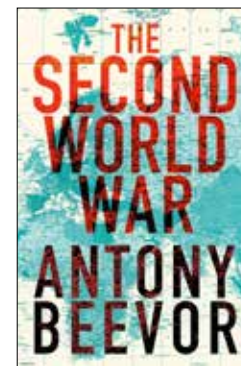
The Second World War

By Antony Beevor

Publisher: Weidenfeld and Nicholson, London, 2012

ISBN 978-0297844976, 880 pages

Reviewed by Group Captain (Ret'd) Ian Shields



Anthony Beevor, one of the country's best known popular historians, has attempted to capture the sweep, complexity and scale of the Second World War in a single 850-page volume and to a large extent succeeds. The great strength of this book is its very scope: by adopting a strict temporal construction and therefore looking at events all around the world in chronological rather than regional order, he demonstrates why the Second World War was a truly global conflict. This enables the reader to understand the inter-connection between events in the Pacific with those of the Mediterranean; between Normandy and the Eastern Front. This grand sweep, moreover, highlights the complexities of the political facet of the War and while it cannot go into any great depth on the relationship between the various leaders or the military operations it does bring together all of the various aspects of the Second World War, highlighting its very range and impact.

But this breadth has also to be a limitation, for to tackle the entire Second World War in a single book must mean that some aspects of the conflict receive scant or no attention and those seeking deeper insights will be frustrated. There are extensive notes, although a bibliography would have been useful for those seeking to follow-up certain aspects. Then there is the issue of balance and here there is a justifiable criticism of Beevor for the book does show distinct biases. First, there is little reference at all to the Air War and the critical analysis of the Combined Bomber Offensive comes across as unbalanced and hackneyed. Likewise, the Naval War, while receiving more attention than the Air War, is arguably under-represented: a quick scan of the extensive Index will reveal an overwhelming bias towards the Land campaigns and in particular Stalingrad – an area Beevor has already studied.

Despite this evident bias, there is much to commend in this book that has, rightly, received some high praise. Its coverage of the war in China, which receives little coverage in Western histories of the Second World War, is excellent and highlights the global and inter-connected dimension of the entire war. Bringing together so many themes and capturing the scale of the conflict and the human misery it created in just 850 pages is an immense achievement. This book deserves a place on your bookshelf exactly because it does cover most aspects of a long and lethal war in a single, well-written and informative book. It is highly unlikely that you will finish this book without having learnt something new; as a summary of the Second World War it is an excellent primer and a good stepping-off point for further reading.

The RAF's Air War in Libya: New Conflicts in the Era of Austerity

By Dave Sloggett

Publisher: Pen and Sword: Barnsley, 2012

ISBN 978-1781590607, 224 pages

Reviewed by Air Commodore Alistair Byford



In 2011, the UK mounted Operation ELLAMY, our contribution to the NATO campaign designed to enforce UN Resolution 1973: to stop the Gaddafi regime from oppressing its own population in the popular uprising that erupted during the 'Arab Spring'. *The RAF's Air War in Libya* is something of a misnomer for Dr Dave Sloggett's account of the campaign, because those expecting a blow-by-blow description of UK air operations at the tactical level will be disappointed. Instead, the author's real purpose is evident in the subtitle, *New Conflicts in the Era of Austerity*. He uses the campaign to examine the outcome of the 2010 Strategic Defence and Security Review (SDSR), and then to assess its significance as a pointer to the future. As we shift our strategic posture from enduring campaigns to unexpected contingencies, he asks 'is Libya a blueprint for future wars'?

Dr Sloggett is well qualified to provide an informed opinion. He has an established pedigree as a commentator on defence and security issues within academia, the private sector and the UK Ministry of Defence. He is widely published in areas such as intelligence and information operations, counter-insurgency and maritime security, and these particular interests are reflected by the specific themes he draws from the Libyan campaign. In particular, he laments the 'sea-blindness' of current strategic thinkers and bemoans the decision to cut the Nimrod MRA4 maritime patrol aircraft capability.

Although the author examines the relationship between policy, strategy and operational outcomes in some depth, he wears his scholarship lightly and writes in a non-academic style that makes the book easily amenable to the general reader. He uses a chronological structure, so it is easy to follow his analysis from the causes of the crisis through each stage of the campaign to its termination with the death of Colonel Gaddafi. However, Dr Sloggett has been forced to use unclassified, secondary source material and open press reporting. This means – as he acknowledges himself – that his data is indicative rather than comprehensive. In addition, the book lacks first-hand accounts from either strategic decision-makers or tactical operators, so there is a certain lack of both colour and authority. Given these constraints, the author does a commendable job in using the information that is available to him to build a convincing picture of the way the campaign unfolded, in terms of the pattern of attacks and numbers of sorties flown against different target sets.

His overall verdict is that the RAF 'responded magnificently, despite the lack of forewarning and the cutbacks imposed by the SDSR'. He substantiates this assertion by demonstrating how the particular attributes of air power – in particular, its flexibility, reach and responsiveness – meant the RAF could still deliver a balance of hard and soft power. He cites some compelling examples, including: the C-130 missions flown to evacuate stranded oil workers in the initial phases

of the campaign; the 3,000 mile Stormshadow attacks conducted by the Tornado force from the UK to meet the political imperative 'to go and do something' and C-17 sorties that shipped money into Benghazi to pay local public sector workers.

Dr Sloggett is, however, right to counsel caution. He notes that although the UK's post-SDSR force structure succeeded as part of a multinational operation with very limited objectives, it does not necessarily provide the baseline to project power in more complex interventions. He also makes the hugely important point that fighting power is not just about numbers or kit, but about people: 'the difficult to express and hard to substantiate inherent flexibility and ingenuity that lies at the heart of the ways that UK armed forces go about fighting wars'. Doctrinally, this is the conceptual component of fighting power and is one area where we must strive to maintain an advantage. As the author observes, for this 'There is no magical Treasury formula. Its contribution, however, is beyond measure'.

Operation ELLAMY may well, as the author contends, point the way to future contingencies beyond Afghanistan. It was a multinational operation where the US took a back seat leaving France and the UK to lead, and it was fought largely by over-the-horizon air and sea capabilities in support of indigenous forces with a very light footprint on the ground. As such, this book is significant as the first published analysis of the campaign. This is both a strength and a weakness, because of the limited source-material available within the published timescale. Consequently, it represents neither an authoritative nor definitive record of the RAF's role in Libya; we will have to wait until the Air Historical Branch's official history provides this. However, it is still well-worth reading as an accessible and credible examination of the value of military force in general, and air power in particular, in a world beyond Afghanistan. As the author notes, 'the Libyan campaign provides a perfect opportunity for mature reflection and debate ahead of the next SDSR'. This is now only 2 years away: we can only wait to see how the impact of the RAF's air war in Libya – where 'the RAF lived up to its mantra of being versatile, flexible and agile' plays out in the political decisions that will be made in 2015 about our future force structure and capabilities.

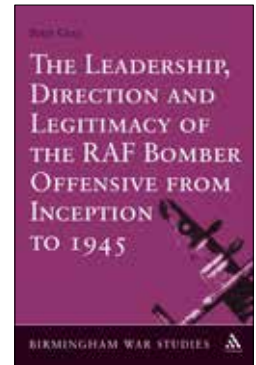
The Leadership, Direction and Legitimacy of the RAF Bomber Offensive from Inception to 1945

By Peter Gray

Publisher: Continuum, 2012

ISBN 978-1441135209, 346 pages

Reviewed by Colonel (Ret'd) Philip Meilinger



Much has been written on the bomber offensive of the Second World War, but Dr Peter Gray takes an unusual approach: he looks at the three factors in his title—leadership, direction and legitimacy—to view the air campaign through a different prism. The result is of great interest.

Gray begins by noting that all human endeavours require leadership and direction that is often underpinned by a moral code. He aims to examine Bomber Command in this light. The aim here is to focus on leadership at the highest level of Bomber Command—between Air Chief Marshal (ACM) Arthur Harris and the Chief of the Air Staff, ACM Charles Portal, between Harris and the Air Ministry, and between Harris and his peers in the RAF, other services, and the Americans. Gray does not cast his gaze downwards; there is virtually nothing here regarding the leadership of Harris *vis a vis* his subordinates.

Rather, leadership is here meant to include Harris's vision of strategic bombing in general and the role of his Bomber Command in achieving its goals in particular. He points to the question, what if the vision of one commander, Harris in this case, is at odds with the vision of his superior, Portal? It is these conflicting visions and their means of implementation that form the core of the book.

One chapter is devoted to the intellectual foundation of strategic bombing as it evolved in the RAF and there is also a fine chapter on the organizational roots of Bomber Command. As for legitimacy, Gray quotes senior officials in the Air Ministry and the CAS himself to the effect that indiscriminate bombing—of the kind proposed by the Italian air theorist Giulio Douhet—was inappropriate and illegal. The RAF operations manual (AP 1300) of February 1940 stated that the civilian populace was not, as such, a legitimate target. Area bombing was rejected: 'all air bombardment aims to hit a particular target' and in every case 'the bombing crew must be given an exact target and it must be impressed upon them that it is their task to hit and cause material damage to that target.' There was not just a moral aspect to this stance. Gray notes that expediency was also a determining factor. President Franklin Roosevelt made a speech in September 1939 as war broke out over Poland that called upon all belligerents to refrain from the indiscriminate bombing of civilian areas. The British were keen to remain in the good graces of the US and so were quite willing to second the President's plea. The French thought similarly. The result was a decision not to 'take the gloves off' first: as long as the *Luftwaffe* refrained from bombing British cities, the RAF would desist in striking the cities of the *Reich*.

The war would bend and twist these beliefs, sometimes beyond recognition. When the *Luftwaffe* did begin bombing British cities as a matter of course, the people reacted—as they had in the First World War —by demanding retaliation against German cities. Winston Churchill was of a similar mind and Portal agreed with him. It is important to recall, given later condemnations, that Harris did not take over Bomber Command until *after* his civilian and military superiors had already determined that area bombing of German cities would be the focus of the strategic bombing offensive. The job of Harris was to carry out this city-busting strategy. This he did with remarkable determination, if not downright stubbornness.

The core of the book centres on how Arthur Harris reacted when confronted by dissent from his superiors and peers. Precision bombing (granted, a relative term) was increasingly possible as pathfinders and electronic bombing aids like Gee, Oboe and radar became widely used. Although Churchill and the RAF made some effort at convincing the Americans to adopt an area-bombing strategy, the Army Air Forces would have none of it. Predictably, Harris strenuously rejected alternative targeting strategies as ‘panacea mongering.’ Gray concludes that either Harris did not listen to these alternatives, did not understand them, or simply did not care. He clung adamantly to an area bombing strategy throughout the war. Specific examples of when this became a serious issue were the Transportation Plan executed before the OVERLORD invasion, and the oil campaign proposed afterwards. The Allied Supreme Commander for the invasion, General Dwight Eisenhower, had clear objectives demanding the implementation of the Transportation Plan that would isolate the beachhead area and prevent the arrival of German reinforcements. The oil campaign several months later was designed to destroy the German refining and production structure; planners believed this destruction would have a cascading and catastrophic effect throughout the German war economy. Harris rejected such thinking, arguing long and vociferously against wasting his command on such targets de jour but ultimately agreed to follow orders. Gray’s coverage of these debates is excellent. By the end, it is apparent that Harris was often stubborn to the point of foolishness, and that Portal was a veritable saint in putting up with his cantankerous subordinate throughout the war. Gray concludes that this was a sign of inspired and patient leadership on the part of Portal and not simple weakness.

As for getting along with one’s peers, Harris had trouble—as did many others— with ACM Trafford Leigh-Mallory. The latter was a hero during the Battle of Britain and by early 1944 had risen in rank to be named commander of the Allied Expeditionary Air Force for the invasion. It soon developed that this was not an auspicious choice. Few RAF officers were close to Leigh-Mallory, who was seen as nearly as irascible and contrary as was Harris. The leadership tension reached a head in the run up to OVERLAND where Eisenhower averted a leadership crisis by deftly appointing the highly respected ACM Arthur Tedder as his deputy - Leigh-Mallory was effectively cut off at the knees.

One aspect that Gray never seriously addresses is the issue of effects. Yes, Harris had a crystal clear vision of what he wanted his command to achieve and was resolute in his direction towards that vision – but was it decisive in destroying the Nazi will or capability to carry on the war? These are crucial questions, but there is no real insight given as to how Harris answered them. Rather, we are told that he believed the destruction of 40 to 50 per cent of the principal German cities would have a devastating effect on the economy. What lead him to believe this? The ‘blue books’ are famous for revealing how Harris measured such destruction: these were large books containing detailed photographs of major German cities that were overlaid with acetate sheets. Following each raid, staffers would dutifully colour them in with a

blue pencil to show how many city blocks had been converted into rubble the night before. Was that really the extent of Harris's analysis? Is destruction synonymous with effectiveness? It would seem the blunt instrument of Bomber Command was supported by an equally blunt measuring stick.

Overall, this is an excellent work that approaches a vitally important topic that is significant to RAF history. Moreover, Gray does this with an unusual approach, focusing on the senior leadership, specifically as it was exercised at the grand strategic level. Despite certain reservations the reader is left with a desire for more on a subject that continues to fascinate and inform.

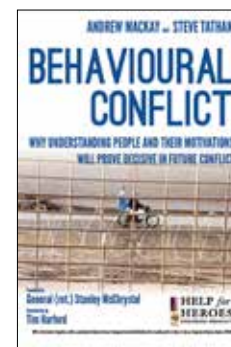
Behavioural Conflict: Why Understanding People and their Motivations Will Prove Decisive in Future Conflict

By Andrew MacKay and Steve Tatham

Publisher: Military Studies Press, 2011

ISBN 978-1780394688, 240 pages

Reviewed by Wing Commander Fin Monahan



Having amassed nearly fifty years collective service in HM Forces, the authors of *Behavioural Conflict* have served in a wide variety of operational theatres. In this book they express reservations, borne out of those experiences, about the 'West's ability to cope in the face of increasingly complex problems and ever more agile actors'; they then go on to provide their ideas for ensuring that the British Military is prepared for the future.

Major General (Ret'd) Andrew Mackay was an officer in the British Army for 29 years and commanded 52 Brigade in Afghanistan having previously served in Northern Ireland, Bosnia, Kosovo, Iraq and Lebanon. Commander Steve Tatham, currently serving in the Royal Navy, saw operational service in Sierra Leone, Iraq and Afghanistan; he also holds a PhD in International Relations and is widely published. Frequent reference to their combined personal experiences brings this work military credibility and provides a very British perspective to the subject matter. Meanwhile, the book achieves intellectual stature given the authors' strong academic credentials supplemented by a chapter written by Dr Lee Rowland, senior scientist at the Behavioural Dynamics Institute. With a forward written by General Stanley McChrystal, former Commander ISAF, and an introduction by the journalist and economist Tim Harford, this book is strongly endorsed.

The conversational writing style in no way undermines their astute questioning of military paradigms and makes this a very engaging book which should prove particularly appealing to military personnel, especially those who have encountered some of the dilemmas, frustrations and situations arising out of recent conflicts. Leavened by a smattering of military humour, analysis is strong throughout and searching questions are posed about the best way to conduct future conflict.

Mackay and Tatham contend that conflict has outpaced the evolution of Western militaries and that, despite immense military strength and political power, they seem 'curiously ill prepared to deal with the manner in which the enemy has sought to fight its battles'. The authors attribute this to changes in global society that have, in turn, increased the complexity of conflict. Against a backdrop of climate change, an increasingly networked society, political instability, radicalisation and population growth, they foresee that this complexity can only continue to be exacerbated and that the ability to influence behaviour will become 'the defining characteristic of resolving armed disputes'.

A chapter entitled 'What military operations can learn from mushy peas, soap and budget airlines' uses interesting examples to highlight the importance of understanding behaviour in conflict. The fact that there is a need to understand

complexity and unpredictability is a particularly resonant theme throughout the book and the authors propose methods for the British military to prepare for future conflict. Indeed, General McChrystal goes as far as declaring that Mackay and Tatham 'offer concrete recommendations for implementing robust theories'. They believe that the British Military could be better prepared at relatively low cost by extending HM Forces' educational programmes, encouraging more public debate, professionalising information related roles and improving military research programmes.

Although the title generically refers to future conflict, there is an underlying assumption that future conflict will revolve around 'wars amongst the people' and the majority of the book concentrates on counterinsurgency with little discussion concerning the role behavioural conflict will play in state-on-state or other forms of conflict. Given increasing tensions, particularly on the Korean peninsula and in the Middle East, combined with pressures on global natural resources, other forms of warfare remain a possibility and readers should, perhaps, consider the authors' solutions with this in mind. Regrettably, and reflecting the background of the authors, the book lacks an aviator's perspective to provide comment on how air power currently contributes to the behavioural dimension of conflict or, indeed, the role it should play in future.

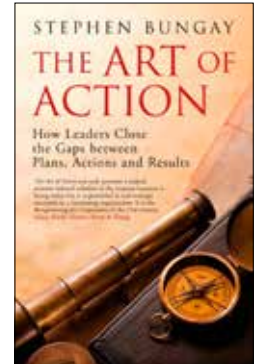
Nevertheless, the book has many strengths, most notably that having drawn on frank and open discussion about the changing nature of conflict from the practitioners' perspective, the authors have articulated academically robust solutions to the problems they perceive. The quality of the analysis and the stimulating solutions they offer are testament to the value of military academic study and constructive 'loyal dissent'. A thought provoking work, this provides a valuable contribution in the debate about the path HM Forces should take in dealing with future conflict. It is written from a very British perspective and in such an engaging style that it should appeal to a broad military readership.

The Art of Action: How Leaders Close the Gaps Between Plans, Actions and Results

By Stephen Bungay

Publisher: Nicholas Brealey Publishing, 2010
ISBN 978-1857885590, 304 pages

Reviewed by Air Commodore Neville Parton



Over the last decade or so there has also been a steadily growing trend in a two-way traffic: the selling of business approaches to the military, and the selling of certain aspects of the military to business. It would be very easy to simply look at the title of *The Art of Action*, read the dust-jacket description and assume that this was another in that genre – however, that would be a mistake. Stephen Bungay's name is one that should be familiar to Air Power Review readers, as the author of the Battle of Britain tour de force *The Most Dangerous Enemy*, and the follow-on *Alamein*, and this book contains exactly the same qualities of great scholarship, detailed analysis, rigorous logic and insightful conclusions that have marked out his previous work. Bungay himself has an extremely broad background; initially as an academic, but then a business consultant, business director, military historian and lecturer.

Fundamentally the book offers an analysis of a range of common problems within the business world and then suggests a particular approach to dealing with them. However, Bungay's unusual background gives him a unique perspective which in turn provides the reader with a closely-linked set of historical examples, detailed analysis and contemporary examples from the business world. Much of what is said is not hugely original, as the author states himself. After all, the concepts are built largely on a construct developed within the Prussian and then German armies over a 150 year period – but the way in which it is explained, and made relevant to the world that we now live in, is remarkable. The author's clear mastery of the differing worlds that he refers to is evident throughout, and the way in which significant tenets are extracted from history and then applied to the world of business strategy and delivery make it a genuinely compelling read.

The key insight is the drawing of a very clear analogy between the business of war, and the business of, well, business, and thus drawing out that the most important factor in both are those aspects which make up what Clausewitz referred to as friction. Bungay identifies from this the idea of three particular gaps: the knowledge gap (which is the difference between what we would like to know and what we actually know), the alignment gap (the difference between what we want people to do and what they actually do) and finally the effects gap (the difference between what we expect our actions to achieve and what they actually achieve). The impact of these gaps is typically seen in organisations as more and more centralised control, greater use of detailed metrics and eventually paralysis by indecision.

Having identified the problem and cause by considering the environment of war, elements of a solution are found from the same source, this time by considering the approach of Helmuth von Moltke who identified the solution as being able to give a high degree of autonomy to individuals but at the same time also to get high alignment between their actions,

resulting in what we now know as mission command. This approach deals with the three gap problem by closing each in turn: addressing the knowledge gap by limiting the direction given to defining and expressing only the essential intent, doing the same for the alignment gap by allowing each level to define what it has to do to achieve that intent, and finally for the effects gap by giving individuals the freedom to adjust their actions to deliver that intent. The overall approach is termed as 'business opportunism' by Bungay, who sees it as a theory that is very different from the scientific and engineering approaches that have been prevalent in management literature in recent years.

Particular consideration is given to the role of strategy, which is seen as fundamentally important as providing the 'aim' towards which the main effort will be deployed and against which all levels of a business can measure whether they are contributing or not. Although Bungay does not use the term, the concept of the 'strategic corporal' is quite clearly in his mind here. As is the concept of starting with a statement of intent which boils down the strategy to its fundamentals, and then briefing this down at each level to cover the higher intent two levels up, the tasks that this means for the organisation concerned and the main effort and freedoms and constraints will be familiar to most military readers.

The concept of 'commanding', and its importance is also explored, and a number of recent examples drawn from the author's recent experiences are used to illustrate the results obtained from applying this approach in the real world. The fact that commanders tend to use simple orders to guide actions is noted, with Napoleon's 'march towards the sound of the guns' given as a case in point, and the main tenets of the book are summed up in what Bungay terms GBOs (Glimpse of the Blindingly Obvious).

This book can be read either in a linear fashion or dipped into after reading the introduction to identify specific points that may be relevant to a particular issue. It is not written for the academic (although there is enough signposting of sources and evidence to satisfy those who might wish to look further) it is fundamentally written for those who are involved with the practice of leading organisations. Furthermore, the overall approach is most definitely stimulating to the mind, as it not only has a great deal to say about the way in which most large enterprises could be better led, but at the same time provides a good introduction to the military history that resulted in the doctrine that we now best know as mission command.

This is, at its heart, a book about the use of mission command in everyday life. Those who have been exposed to mission command, either theoretically or practically, may consider that they already know enough about the subject to employ it to good effect, and certainly do not need to be told how to apply it by a management consultant. But Bungay is much more than that and so is his book. Bungay offers genuine insights into the application of mission command in the day-to-day business of life, and does so in a manner that makes the reader think 'could I do that'? Who should read this book? Anyone, I would suggest, who has come up against the very real problem of having to deliver and experiencing the gaps that are so logically identified. This is not a book which promises that if followed it will turn your life and career around, but it does provide a huge amount to think about, packaged in a manner which is inherently understandable to those in the military.

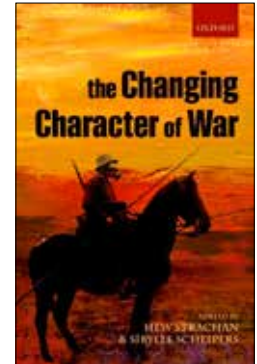
The Changing Character of War

By Hew Strachan and Sibylle Scheipers

Publisher: Oxford University Press, 2011

ISBN 978-0199596737, 576 pages

Reviewed by Dr David Jordan



In the aftermath of the Al-Qaeda attacks against the United States on 11 September 2001 a new consensus gained traction - that war and conflict had, somehow, been changed forever and that the way in which nations, particularly those in the West needed to re-evaluate their approach to war-fighting. Small wars, it seemed, were the way forward. The populations of the nations in which conflicts were taking place were at the heart of everything. 'Boots on the ground' became a mantra, with high-cost, high-technology being dismissed as of little utility in this sort of fight. Visions of a future of people-centric warfare abounded, the concept of state-on-state warfare being regarded as passé at best, while the notion that there had been a fundamental shift in the character of war gained traction. Some commentators even began to suggest that the nature of war itself might have changed.

The latter observers were fairly swiftly – and decisively – put in their place by the likes of Professor Colin S Gray, who robustly took apart arguments of this sort. Yet the idea that the character of war had changed profoundly was not so readily dismissed. The Leverhulme-funded Changing Character of War programme at Oxford University pursued this area with rigour between 2003 and 2009, under the leadership of Hew (now Sir Hew) Strachan. This book is one of the products of the programme. Perhaps inevitably, the book covers a great many areas. There are 27 chapters, plus an introduction and a conclusion, covering everything from changes in warfare in previous eras, though to consideration of strategy and strategic culture in the present day. Marshalling a disparate array of subject matter – albeit with a clear conceptual thread linking each – is no small achievement on the part of the editors. It also makes any attempt at a pithy review something of a challenge.

Although all the chapters are worthy of consideration, perhaps the chapters most likely to provide an entrance to the book for air power practitioners are those by Thomas Hippler and PW Singer, covering the development of Giulio Douhet's thought and the rise of robotics in warfare respectively. These chime with thought-provoking chapters about non-combatants in part four (of five) of the book, looking at non-combatants and the challenges faced by military practitioners in attempting to distinguish between combatant and civilians, and the way in which non-combatants have been treated in recent wars.

Singer, as might be expected from one of the leading figures in the discussion of robotic warfare, offers many interesting and pithy insights about the ways in which unmanned systems have changed war and the prospects for the future. He notes that humans often assume that technology is superior, and are reluctant to over-ride systems (citing the

Vincennes incident in 1989 and the instances of blue-on-blue engagements by Patriot missile batteries during the 2003 Gulf War). Singer also highlights the challenges presented by the prevalence of clips on YouTube of engagements by remotely-operated systems (although he could equally point to cockpit footage of everything from AH-64 Apaches to AC-130s), and wonders whether the ultimate outcome of this detached and potentially desensitised view of warfare may create a scenario where 'the lure of easy pre-emptive action' will lead to politicians regarding the decision to go to war with the same degree of seriousness as they might in making policy choices about road tolls. The chapter points to many of the key debates about robotics and levels of autonomy, and is a useful introduction; the caveat here is that there is a danger that time-constrained media commentators might be tempted to leave their reading here, rather than engaging with the array of issues that Singer highlights.

Hippler's commentary on Douhet is also of much value. He brings out in stark clarity the fact that we have a rather one-dimensional view of the most-frequently referenced air power theorist. Perhaps the most eye-catching observation is the fact that the man who is so often-cited as a ruthless proponent of bombing civilians did so as part of a much wider (and grander) theory about ensuring peace through international organisations that possessed true coercive muscle. Hippler notes that this made several assumptions about democracy and the will of the electorate that do not always readily translate to the real world, and one can easily infer that Douhet did not give due consideration to how one handled states that did not buy into the concept of democracy.

As a final snapshot, Hew Strachan's chapter on strategy in the 21st Century is well-worth more than one reading. He notes that strategic thinking has not responded to the changes in international affairs since the early 1990s and the demise of the Soviet Union, but his theme – and one which resonates throughout the book – is that much of the championing of the arrival of post-Cold War, post-9/11 challenges as being something new was based upon a failure to understand context. Strachan and his fellow authors demonstrate that many of the challenges, while not exact facsimiles of earlier times, are not especially new if they are taken in their proper historical contexts, rather than being singled out as exemplars when they are interesting exceptions rather than the rule.

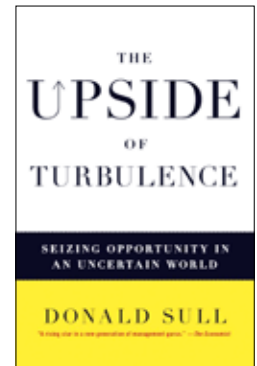
Thus although *The Changing Character of War* can sometimes be a little challenging to engage with because of the sheer scope of its coverage, it is not unfair to suggest that its short chapters offer much for military practitioners to ponder, particularly in terms of understanding that context and a broader view matter, rather than being seduced into taking decisions upon the basis of partial evidence or incidents that stand out - as the book demonstrates, not taking the broader view leads to the revisiting of areas and the discovery that hard-won lessons have been hard-won before – but simply ignored. Some might have dismissed Clausewitz as irrelevant, but as *The Changing Character of War* subtly illustrates, the 'fog' and friction is still there: the pity being that it is all too often self-generated by muddle headed thinking.

The Upside of Turbulence: Seizing Opportunity in an Uncertain World

By Donald Sull

Publisher: Collins Business, 2009
ISBN 978-0061771156, 320 pages

Reviewed by Dr Richard Hallion



Generally speaking, 'how to' management books have only a slightly better reputation amongst readers than do 'I'm ok, you're ok' life-style ones. Characteristically trendy, jargon-laden, and simplistic, they typically promise far more than they deliver, both in intellectual content and applicability to real-world challenges and situations, leaving their readers with a lingering sense of 'so what' after that last page has been turned and the cover closed. Their relevancy half-life is roughly the timespan between their initial publication, and when the next one appears, and so they litter remainder shelves in second-hand bookstores, far less useful than most cook-books. Thus, readers opening this book for the first time may be forgiven some healthy scepticism as to its value, and certainly for its suitability for inclusion on the prestigious *CAS Reading List for 2013*. Any such misgivings will be quickly allayed, as this is an excellent and most useful work, one that will be of value to RAF personnel of all ranks and their civilian equivalents, and one that definitely has enduring value.

Author Donald Sull is a professor of strategy and faculty director of executive education at the London Business School who blends a background in the international finance and business world with rigorous academic training and research, including possession of an AB, MBA, and Ph.D from Harvard University, where he also taught, as an assistant professor of business administration. Sull, in a word, relishes turbulence, together with the uncertainty it provokes, believing that it is a 'fundamental feature' of modern enterprise, has risks but also 'an upside,' and that individuals 'can take practical steps to seize the upside of turbulence.'

As such, the danger of pessimism is grave. Reflecting his business background, Sull reviews a series of largely American companies and industrial enterprises that failed to adjust to turbulent times. His is a disturbing list, numbering giants among the American steel, automobile, and high-technology (software, telecom, etc.) industries. All those he discusses were once industry leaders, but when they failed to adjust, their fall was swift and generally pitiless. At root, he finds, is an 'insidious dynamic':

'To succeed, managers must commit to a specific mental map of the world, and reinforce it with processes, resources, external relationships, and a culture that support their worldview. With time and success, these commitments harden. When markets shift—and in a turbulent world market always shift—managers find themselves ensnared in a web of commitments that they themselves have woven. They respond to turbulence by accelerating activities that worked in the past, a dynamic I termed active inertia.'

Having identified the challenge, Sull sets forth to analyse and define ways in which managers (and leaders in general) can cope with turbulence and exploit it for their benefit, i.e., create value for their enterprises.

Turbulence, Sull posits, is driven by dynamism, complexity, and competition, which, together ‘amplify [future] volatility’. Anticipating future transformations is rendered more acute by the rapid pace of globalization, which has generated (based on findings of a 2008 study by the World Bank that he cites) a nearly eight-fold reduction over the last century in the time it takes to transfer (‘diffuse,’ in his term) a technological breakthrough across the globe. While, like many management strategists, Sull stresses innovation he is critical of how enthusiasts ‘have stretched the term [innovation] so widely that it can cover anything new or good,’ effectively broadening it so much as to rob it of appropriate meaning.

Sull finds that, generally, organizations exist in an environment of constant threat and opportunity, where the positive (opportunity) and negative (threat) vary at relatively stable frequency and magnitude, punctuated only rarely by what he perceives as ‘sudden death threats’ and ‘golden opportunities’. Humans, Sull asserts, suffer from a ‘map paradox,’ in that they form a mental map leading them to make assumptions and to hold expectations that the dynamic reality of the constantly changing world confounds.

When frustrated by turbulent conditions, organizations often slip into an almost paralytic behaviour pattern—Sull’s ‘active inertia’—characterized by repetition of previous practices that once worked, as leaders fail to adjust to the changing market confronting them. Sull believes that this corporate ossification can be accelerated by certain behaviours he identifies (somewhat humorously) as constituting ‘warning signs of active inertia’. These include the ‘cover curse’ (having a CEO on the cover of a major periodical); the ‘Guru jinx’ (one’s company is singled out as among the best); and the ‘Edifice complex’ (having an ostentatious, monumental corporate headquarters).

Sull recommends strategic agility as the best means of confronting the challenges posed by turbulent times and circumstances, but recognizes that ‘Building organizational agility often requires a sharp break from past practices’. To bolster his argument, he draws heavily on the thinking of U.S. Air Force ‘Fighter Mafia’ icon Colonel John Boyd, citing his work on agility metrics and—unsurprisingly—his formulation of the now-ubiquitous OODA [Observe, Orient, Decide, Act] loop. From this, he posits his own four-phase ‘agility loop’: developing a common, shared situational map (‘make sense’); agreeing on priorities to guide action and investment (‘make choices’); ensuring promises, deliverables, and commitments are fulfilled (‘make it happen’); and evaluating experience against assumptions and revising accordingly (‘make revisions’).

But agility by itself is not enough. Sull believes that in addition to being agile, corporations must be able to weather often lingering crises and difficulties. As an example, he points to the *Wehrmacht* which, despite being supremely agile, nevertheless lost because (in part) it lacked the resilient strengths of the Allied coalition arrayed against it.

Sull’s book shares many of the attributes of other popular leadership works, but unlike most—to its great strength—it is rooted in rigorous thought and wide-ranging supportive data and analysis. Meticulously documented, it offers its readers a blend of insights and references underpinned by the author’s clear mastery and expertise.

The book is not without some flaws, fortunately none so serious as to mar its value. Sull occasionally injects himself into the text, sometimes jarring the reader's concentration. He repeats uncritically the popularly held—if largely inaccurate—conventional wisdom that John Boyd reshaped American fighter aviation, and his discussion of MiG-vs. Sabre in Korea will strike the knowledgeable as simplistic. Surprisingly, aside from a passing reference to Embraer and to Fairchild-Dornier, aerospace is absent, including the great and enduring struggle for market share and dominance between Boeing and Airbus.

But overall, this is a masterful work, and this reviewer found much in it that recalled various experiences over the past four decades, not least of which have been the changes within America's aerospace enterprise over the last four decades. Times indeed do change, and turbulence does indeed characterize the world we live and function within. It is good, then, to have this book as a most useful introduction and guide as we collectively slouch our way towards the future, whatever it may prove to be.

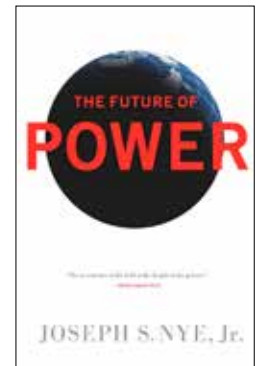
The Future of Power: And Use in the Twenty-First Century

By Joseph Nye

Publisher: Public Affairs, 2011

ISBN 978-1610390699, 320 pages

Reviewed by Group Captain Clive Blount



Joseph Nye is America's foremost exponent of the effects of power on international affairs and, in this book, he draws together much of his previous work into one enjoyable volume.

Extremely readable, and accessible to all from theoretical scholar to military planner, *The Future of Power*, provides a comprehensive analysis of the concept of power, its various forms, and its application in deriving policy and strategy.

In a previous paper Nye defines power as '...the ability to effect the outcomes you want and, if necessary, to change the behavior (sic) of others to make it happen'. In this book, he examines this concept in more detail eventually leading towards his idea of 'smart power' as a policy tool. The book is arranged in three parts. In the first – 'Types of Power', Nye examines what power is in global affairs and examines power as a relational phenomenon; essentially, how does power influence the actions of others? He introduces three aspects or 'faces'. The first face, the 'public face' is the use of threat or reward to influence behaviour; the second or 'hidden face' is the use of power to control the agenda and to limit an adversary's choices; the third, 'invisible', face is the use of power to create or shape an adversary's beliefs, perceptions and preferences... probably without his awareness. Nye then concludes this section with a discussion of military, economic and Nye's version of 'soft', power; a fascinating analysis which goes far beyond the usual perceptions of 'hard' and 'soft'. In the second part of the book, Nye addresses power shifts, and attempts to apply his previous analysis to the diffusion of power, cyberpower and the much discussed question as to whether America is in decline. For an informed military audience, or those less interested in American foreign policy, this is the least compelling section, but is certainly worth some investment of time. The final section addresses how an understanding of relational power can inform policy- and strategy-making. Nye introduces the concept of 'Smart Power' as a foreign policy tool and, with particular reference to the United States, discusses the use of all sources of national power in an integrated strategy to further national aims. Whilst of particular interest to International Relations scholars concerned with the structure of the international system and America's 'post hegemonic decline', this chapter explains clearly how power can be wielded and manipulated in intelligent ways far beyond traditional 'carrot and stick' relationships. It is profound and provocative and is essential reading for anyone interested in strategic thought.

The Future of Power is a seminal text and has the potential to change the way one thinks about strategy. Grasping the concepts Nye espouses will open a door to a much clearer view of the role of power in the international system; it is essential reading for makers of strategy and operational planners. Nye's pronouncements obviously have traction at high levels. During her Senate confirmation hearings, former US Secretary of State Clinton championed what she called 'smart

power', describing it as the 'full range of tools at our disposal - diplomatic, economic, military, political, legal, and cultural - picking the right tool, or combination of tools, for each situation'. She then quoted the ancient Roman poet Terence who declared that 'in every endeavor, the seemly course for wise men is to try persuasion first.'

Contents of CAS' Reading List 2009

Constant Vigilance

By Nigel Warwick

Publisher: Pen and Sword Aviation

Understanding Modern Warfare

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

Publisher: Cambridge University Press

Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam

By John A Nagl

Publisher: Chicago University Press

Air Power in Small Wars

By James S Corum & Wray R Johnson

Publisher: University Press of Kansas

Learning Large Lessons: The Evolving Roles of Ground Power and Air Power in the Post-Cold War Era

By David E. Johnson

Publisher: RAND

Dreams from My Father: A Story of Race and Inheritance

By Barack Obama

Publisher: Cannongate Books

Tell Me How This Ends: General David Petraeus and the Search for a Way Out of Iraq

By Linda Robinson

Publisher: Public Affairs

Swords and Ploughshares

By Paddy Ashdown

Publisher: Weidenfeld & Nicolson

Nemesis: The Battle for Japan, 1944-45

By Max Hastings

Publisher: Harper Perennia

The Past as Prologue : The Importance of History to the Military Profession

Edited by Williamson Murray and Richard Hart Sinnreich

Publisher: Cambridge University Press

Contents of CAS' Reading List 2010

A History of Air Warfare

By Olsen (ed)
Publisher: Potomac Books Inc

Sky Wars: A History of Military Aerospace Power

By David Gates
Publisher: Cambridge: Reaktion

The Making of Strategy: Rulers, States and War

By James S Corum & Wray R Johnson
Publisher: Cambridge University Press

Immediate Response

By Mark Hammond
Publisher: Michael Joseph, London

The Battle of Britain

By Richard Overy
Publisher: Penguin

War Since 1990

By Jeremy Black
Publisher: Social Affairs Unit

The Return of History and the End of Dreams

By Robert Kagan
Publisher: April 29, 2008

The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One

By David Kilcullen
Publisher: C Hurst & Co Publishers Ltd, London

The International Politics of Space

By Michael Sheenan
Publisher: Routledge

Inside Cyber Warfare: Mapping the Cyber Underworld

By Jeffrey Carr
Publisher: O'Reilly

Contents of CAS' Reading List 2011

Strategy in the Contemporary World: An Introduction to Strategic Studies

By John Baylis, James Wirtz & Colin S. Gray (Eds)

Publisher: Oxford University Press

Cyber War: The Next Threat to National Security and What To Do About It

By Richard Clarke & Robert Knake

Publisher: ECCO Press

Just War: The Just War Tradition: Ethics in Modern Warfare

By Charles Guthrie & Michael Quinlan

Publisher: Bloomsbury, London

The Secret State: Preparing for the Worst 1945-2010

By Peter Hennessy

Publisher: Penguin Books, London

The Battle of Britain: Five Months that Changed History, May - October 1940

By James Holland

Publisher: Bantam Press

7 Deadly Scenarios: A Military Futurist Explores War in the 21st Century

By Andrew Krepinevich

Publisher: Bantam Press

Military Orientalism: Eastern War Through Western Eyes

By Patrick Porter

Publisher: Hurst & Company, London

Thinking about Nuclear Weapons

By Michael Quinlan

Publisher: Oxford University Press

Descent into Chaos

By Ahmed Rashid

Publisher: Penguin

Wired for War: The Robotics Revolution and Conflict in the 21st Century

By P W Singer

Publisher: Penguin

Contents of CAS' Reading List 2012

Afghanistan: How the West Lost its Way

By Tim Bird and Alex Marshall
Publisher: Yale University Press

A Question of Security: The British Defence Review in an Age of Austerity

By Michael Codner and Michael Clarke (Eds)
Publisher: I B Taurus

The Arab Spring: Rebellion, Revolution and a New World Order

By Toby Manhire
Publisher: Guardian Books

Conceptualising Modern Warfare

By Karl Erik Haug & Ole Jørgen Maaø
Publisher: Hurst & Company

War over the Trenches: Air Power and the Western Front Campaigns 1916-1918

By E R Hooton
Publisher: Midland Publishing

Losing Small Wars: British Military Failure in Iraq and Afghanistan

By Frank Ledwidge
Publisher: Yale University Press

Can Intervention Work? Amnesty International Global Ethics Series

By Rory Stewart and Gerald Knaus
Publisher: W W Norton and Co

Ethics, Law and Military Operations

By David Whetham
Publisher: Palgrave Macmillan

British Naval Aviation: The First 100 Years

By Tim Benbow
Publisher: Ashgate

Inside Steve's Brain: Business Lessons from Steve Jobs, The man who saved Apple

By Leander Kahney
Publisher: Atlantic Books

Arnhem Myth and Reality: Airborne Warfare, Air Power and the Failure of Operation Market Garden

By Sebastian Ritchie
Publisher: Robert Hale

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.

Notes

Notes

The Royal Air Force Centre for Air Power Studies
www.airpowerstudies.co.uk