

# Air Power and the Contemporary Army

By Gp Capt Chris Luck

The search for political meaning and value in operational and tactical excellence is enduring. Contemporary strategic uncertainty and financial austerity elevates the need for coherent joint thought. 'Indisputable' single-Service views and preferences allied to a sub-optimal grasp of the meaning and purpose of 'power' and 'strategy' exacerbate the difficulty in delivering timely, politically relevant, strategic effect. Today's wars demand innovation in the joint appreciation and application of force; agility, adaptability, rapidity of response, precision and scaleable lethality as well as reach are fundamental qualities at all levels. Air power is today as essential an enabler and multiplier of land power as vice versa (as is sea power). With war unknowable in detail in advance, the trick is to be as structurally and doctrinally right as possible but also poised for rapid change should political need dictate. However, the Services' aspirations for geographical excellence are fundamental in giving scope to political options. This article seeks to debate what it means to deliver 'air power' to the contemporary army in order to wage warfare to achieve policy objectives: it examines inherent tensions; what air power is; what can be expected of it and how it is best delivered.

*We must develop new joint and service operational concepts that are consistent with the enduring uncertainty and complexity of war. Rather than being 'capabilities-based', these concepts ought to be based on real and emerging threats and connected to scenarios that direct military force toward the achievement of policy goals and objectives.*

H.R. McMaster

## Introduction

War is the final auditor of military preparedness and therefore relevance; theory, doctrine, and practice interact in a complex fashion to either validate or excoriate the military establishment. History points to a default to fighting the last war; institutional preferences look forward to a 'proper' martial test, but contemporary wars driven by context tend to upset all. History also tells us that 'tactical and operational excellence is quite meaningless save with respect to their political and strategic contextual significance'.<sup>1</sup> Today's wars demand innovation in the joint application of force. Agility, adaptability, rapidity of response, precision, scaleable lethality, and reach are all fundamental qualities. Air power has evolved to meet these requirements and act as a powerful force multiplier. At the risk of single-service heresy, this is not about 'supported' or 'supporting' arguments, but about effect. However for reasons best summed up by Bernard Brodie, 'the officer who is really objective about his own service as compared with the sister services is not going to rise to high enough estate to make that objectivity of much service to the nation'.<sup>2</sup> Fortunately, today's war fighters are

not so inhibited and are willing to contribute to the joint debate.

This think-piece does not attempt to provide a theory for air power and land power application. It is aimed at analysing what air power is and how it is applied, while reminding the reader that all wars are contextual and contingent, and that all geographically separated military arms have relevance that is equally contextual and contingent. It does not rake over the sterile ground of which service is supported, supporting, or has legitimate claims for independence – that would be waging yesterday's battles, and according to Colin Gray:

*It is foolish to debate whether the RN or the RAF exists primarily to support the Army, or vice versa. In common with war, warfare, peace and crisis, military power is a unity....The five geographically specialised forms of military power (land, sea, air, space, cyber), all support each other, at least they should do so.<sup>3</sup>*

This paper also aims to expose current limitations on joint thinking, describe air power's effect, and establish a way forward for air power's relationship with the contemporary army.

Aspirations for the execution of truly joint action remain plagued by single-service parochialisms, often magnified by officially endorsed myths and deliberate misinterpretations.<sup>4</sup> This is 'just a fact of life and indeed of institutional loyalty and occupational culture'<sup>5</sup> and has had a negative impact on collegiate effort.<sup>6</sup> All too often, the fault lines lie at the senior levels of the services and government, as 'every player in the grandly complex policy-and-strategy-making

process has his own interests... [that] paint strategically unique pictures of reality for their players'.<sup>7</sup> In the U.S., Carl Builder captures this institutional preference when he states that 'despite the logical wrappings of defense planning, there is considerable evidence that the qualities of U.S. military forces are determined more by cultural and institutional preferences for certain kinds of military forces than by the "threat".'<sup>8</sup> Organisations, weapons and systems therefore tend to reflect military institutions, not context and contingency, whereas at the tactical level, the gritty realities of combat and its dire consequences prove to be an effective lubricant for smooth enough interaction and joint effort. This needs to be championed from the top down. Much of the malaise can be laid squarely at the door of two realities: limited finance and a poor appreciation of strategy.

The defence budget is too small to meet the complete spectrum of war-fighting and collides with the services' institutional preferences at a time when 'the severest test of government is whether, in times of war, it can integrate a viable grand strategy with available resources, manpower, and the nature and vulnerability of both the enemy and its own vital resources.'<sup>9</sup> Defence spending as a proportion of GDP 'has been on a downward trend since the mid 1950s', leading to doctrinaire and dogmatic positioning for reasons of institutional survival. This can only lead to the death of strategy.<sup>10</sup> Max Hastings is not alone when he declares that 'it should be unacceptable to continue making policy on the hoof, lurching from one budgetary crisis to another'.<sup>11</sup>

But theory and practice are often worlds apart. Recent acrimonious Department of Defense spending debates highlight similar issues for the U.S.. Secretary Gates is struggling to fix a budget that supports the strategic priorities of the president rather than 'simply fattening defense contractors or satisfying institutional choices'.<sup>12</sup>

Consequently, strategy is required to tie the means to the ends. Strategy is the 'creative act of choosing a means, an end, a way to relate a means to an end, or any combination of those three. In the absence of some choice about means, ends, or their relationship, there is no strategy'.<sup>13</sup> But having no strategy is not the same as there being no strategic effect – the actions we do or do not take will still have negative, positive, or neutral effects. To make strategy purposeful, the strategist must take the means available and attempt to construct the bridge between ends and means. Strategy takes on historical proportions if the span cannot reach, despite attempts to innovate; ends or means must change, or strategy will fail. In a sense, strategy is a necessity borne of means poverty, and can only function within a coherent overall theory of war and warfare because concentrating on one aspect, whether geographical or elemental, is to risk the 'tacticisation' of strategy. Contemporary operations are invariably reactive to the context and contingency that arises at any given time. Strategy is likewise contextual and contingent and iterative, not dogmatic. Service doctrine, synthesised from theory and past experience, is the jumping off point for developing strategy. The hope is that it is good enough and adaptive

enough to stand the shock of any novelty that may arise. If not, then doctrine becomes dogma, and the historical record shows it will result in failure as the last war is fought.

The ability to create effective strategy is, however, damaged by the ability of the British to invert 'policy for strategy to deliver' with 'strategy to deliver policy'.<sup>14</sup> Strategy should never become the end. Muddled definitional thinking is at fault, as is the lack of precision with definitional language. A woeful lack of a common understanding of the noun 'strategy' (and its adjective 'strategic') exists, to the point that the noun 'has acquired a universality which has robbed it of meaning, and left it only with banalities'.<sup>15</sup> Government and military literature, and attempts at real-world application, is replete with such 'banalities' and the shaping function that strategy could have bestowed to the actions in pursuit of policy is lost.<sup>16</sup> To labour the point, policy is not strategy and strategy cannot exist without policy or the means to achieve it. Likewise, platforms, munitions or targets are not inherently strategic; the consequences (or effects) of their use, or not, are strategic. To reiterate a well-worn Clausewitzian notion, strategy, the bridging function, aims for a 'sufficiency of military success to enable achievement of whatever it is that policy identifies as the war's political object'.<sup>17</sup> But wars and warfare have a nasty, protean nature. Services which truly 'understand the nature of war expect to have to adapt in real-time to circumstances that could not have been forecast with precision long in advance'.<sup>18</sup> Such adaptation must include air-land jointery.

Montgomery was not the first or the last to applaud the benefit of truly joint air-land integration, but a discussion on air power and the contemporary Army is timely as 'integration across Air/Land seams is a priority'.<sup>19</sup> The reason is obvious: blood and treasure is at stake and there is insufficient of both. The national consensus regarding the nation's war in Afghanistan is volatile and apt to evaporate if progress is not made. Every penny of a perceived miserly defence allocation has to be spent wisely if the maximum effect is to be wrung-out to produce a positive strategic performance. If this is not done - and seen to be done - then accusations, such as Simon Jenkins' that 'brass hats protect their precious toys and politicians lack the guts to bang their heads together', will give sustenance to the belief of incompetence in political and military leadership.<sup>20</sup> The stark reality is that 'the ends must be matched to the means in the short term [as] to do otherwise is to risk frittering away resources on very long odds when there are more critical things to achieve. Conversely, the means must be matched to the ends in the long term when there is time to think and plan'.<sup>21</sup> This is all to the good if the ends or means can be adjusted. If not, innovation in the synergistic use of force is required to produce capability for strategy to use in the joint fight.

If we are to make progress in jointery, then the arcane argument of who is supporting or supported must be discarded. The distinction has little strategic merit if the characterisation of strategy is one of instrumentality. However, the environments within which conflict takes place are different in nature,

with distinctive characteristics that 'make the application of military force in each of the environments a specialised process'.<sup>22</sup> If the title of this essay is altered to 'Land Power and the Contemporary Air Force,' or even 'Contemporary Air Power and Land Power', then the true question crystallises: what is the appropriate force structure and balance, between geographical dimensions, to wage warfare to achieve policy objectives in today's resource constrained environment? So what can be expected of air power in the contemporary fight? To answer the question, we must first define what air power is.

Power is by dictionary definition the 'possibility of imposing one's will upon the behaviour of other persons'. Hannah Arendt adds the equally persuasive thought that power 'is never the property of an individual; it belongs to a group and remains in existence only so long as the group keeps together'.<sup>23</sup> This is not to be confused with strength, which is inherent in an object or person. Power is about having the choice to act favourably through organisational unity; disunity reduces choices to act and diminishes power.<sup>24</sup> For example, an enemy fighting 'amongst the people' will constrain the military options of a first-world nation, as public opinion abhors collateral loss – power is diminished, despite strength remaining. Military forces are instruments, the means to impose our will, an expression of power. The sub-domains of military power must seek unity in purpose and performance to provide political masters with organisationally coherent choices – not to achieve parity or precedence as an end. Military power, threatened

or used, is aimed at the 'possibility of imposing one's will', and 'should be intended to increase options, not eliminate them'.<sup>25</sup> The military instruments available to achieve this are land, sea, air, space, and cyber power. The order of precedence is one of historical precedence rather than a hierarchy of utility - it is the context that determines the utility, and therefore the strategic relevance of any of the services. Therefore 'service doctrine that is not in harmony with government policy is likely...to fail; government policy made in isolation of service capabilities tends to do the same'.<sup>26</sup> In practice, individual service contributions 'will not be equal and will vary dependent on the context of the operation'.<sup>27</sup> Air power therefore represents the ability to achieve organisationally coherent and politically useful effect through the medium of the air.<sup>28</sup> It is not a service, or a platform, or a weapon.<sup>29</sup>

As discussed, to be relevant and useful, power must be contextually and contingently orientated. However, context and contingency is often omitted in planning, sometimes to the extent that an enemy may even fail to appear in the calculus. Context can be divided into seven categories: political, social-cultural, economic, technological, military-strategic, geographical, and historical. Each category interacts to produce an overall environment that is complex. Mix this with the enemy's own contextual soup and the demands on strategists become obvious. The inter-war years for Great Britain were a classic example of interplay of context that led to initial strategic failure with the onset of war with Germany.<sup>30</sup> The context for current warfare is more of counter-insurgency

and state-building that 'require population security, security-sector reform, reconstruction and economic development, building governmental capacity, and establishing the rule of law'.<sup>31</sup> Aggravating factors, such as ungoverned space, increasing climate degradation and overpopulation add to the complexity of possible futures. What is certain is that the traditional defence of the national boundary against quantifiable enemies is the least likely option. This context requires forces that can react with little warning time. In the likely event of inadequate preparatory time, forces-in-being will have to be deployed with current doctrine and equipment. Only judicious selection of structures and equipments that give robust performance and capability adaptation in producing the desired effects will mitigate the challenges - but they will not eliminate them.

With foreseen and unforeseen threats likely to be at some range from the national boundary, rapid power projection will be an absolute theatre entry standard for any vanguard force. This is likely to be kinetic air, but closely followed by air lifted ground troops. The challenge will be in balancing the force components between rapidity of entry, and the weight and efficacy of the deployed capability. Air power is - and will remain - vital to any such rapid vanguard capability. It will therefore need to have inherent qualities of persistence and endurance, as well as the ability for significant heavy lift. Situational awareness to support UK defence missions prior and during actions will continue to demand significant information flows. The aim must be to retain an asymmetric

information edge over adversaries. This will increasingly require more persistence of observational capabilities. Space and developing high-altitude platforms will continue to provide the capability and potential (including the technical leveraging of the electromagnetic spectrum and increasing bandwidth) needed to maintain the informational and surveillance edge required. But freedom to leverage the overhead flank is not free.

Control of the Air is essential for the success of the joint battle. That this requirement has all but faded into the planning background is evidence of both the current asymmetric advantage enjoyed by the UK (albeit enhanced by the US) and the complacency with which it is viewed. The sheer technological dependency, complexity, and limited shelf life of air platforms and their capabilities means that control of the air can be rapidly and asymmetrically (i.e. not necessarily contested in the air alone) lost. Indeed some have gone as far as to declare that 'air power as a combat power projection element is the repository of technology-driven capabilities more than any other military force projection capability'.<sup>32</sup> As such, even apparently ineffective adversaries can rapidly constrain the advantage provided by air power. Technology and the expertise to leverage such technology cannot be replaced by any sheer will to overcome the odds stacked against a force. The challenge will be to ensure that the fragility of the air advantage, bequeathed by control of the air, is assured through constant investment in the technology and supporting infrastructure that defines air power. On the plus side,



this superiority has 'resulted in the uninhibited development of other air power competencies that have become invaluable contributions to the success of joint campaigns'.<sup>33</sup>

Air power enables ground forces to be more effective while mitigating the worst dangers they may face by allowing them to move faster, lighter, to maintain awareness, and employ accurate firepower against the enemy. If fully integrated, ground forces can devote fewer resources to specific missions while maintaining acceptable levels of risk. Air power finds, fixes, and finishes massed forces, which deprives any adversary of the ability to mass. This corraling effect needs careful integration with land power if the full potential to asymmetrically affect the enemy is to be realised. Air power also fields other vital non-kinetic positive effects. Intelligence, surveillance, and reconnaissance missions are today's meta-enablers. A characteristic of today's operations is an insatiable demand for intelligence, with the above-ground perspective critical to leveraging operational success. Other missions such as airlifting troops; evacuating the wounded; and providing fire support for engaged ground forces have tended to be taken for granted or undervalued outside aviation communities, but now this view is rapidly changing - all are considered vital.<sup>34</sup> The war in Afghanistan clearly demonstrates the effectiveness and innovative effect of air power in support of Special Forces (SF); a precursor to the lighter army's modus operandi.

This 'new' way of carrying the fight to the enemy at the tactical level, epitomised by the image of the SF

soldier on horseback in 2001, exploits the third dimension to produce an innovative and lethal combination for the joint application of force to produce tremendous and innovative strategic effect. From pattern of life, to over-watch, to strike, air and aviation is fundamental to today's counterinsurgency fight. As the contemporary army morphs more towards the image of SF agility, air power's enabling effect will be entrenched to generate a truly synergistic, Siamese twin-like dependency. The key to harnessing the plethora of effects that modern air power can bring to the joint fight is at first an acceptance that 'the reality is that land, maritime and air forces will combine in all future operations'. Narrowly perceived areas of responsibility, through geographically demarked channels, constrain perceptions and invariably reduce synergistic effect to the detriment of military strategy.

The classic example of synergistic effect between air and land power, where precedence depended on the shaping required, was that between General MacArthur, USA, and General Kenney, USAAF, in the Far East during World War Two.<sup>35</sup> The conflict was studded with exceptional innovation of air power use in leveraging military combat effect. In the West, Montgomery, when commanding the Eighth Army in Africa in pursuit of Rommel, stated 'that Army plus air...has to be so knitted that the two together form one entity', and his chief airman added to the communitarian message by stating that 'there has been as much air co-operation by the army as army co-operation by the air, and the natural result is that we have now

passed beyond that stage into a unit or team which automatically helps the other'.<sup>36</sup> The message has not been altogether lost, as the Future Land Operational Concept captures the sentiment in the statement that:

*Land forces will continue to depend on the integration of air and aviation capabilities...to deliver potent operational effect. It is likely that Land forces will place an increasing importance on such platforms [air and aviation capabilities], particularly in stability operations where threat levels and force dispersion necessitates Land forces reliance on air and aviation assets to provide precision strike capability.*<sup>37</sup>

In short, air power provides control of the air; rapid mobility and lift; intelligence and situational awareness; and attack.<sup>38</sup> Air power effects can reduce the weight of today's army by providing overwhelming scale of fires. It can increase an army's mobility, agility, rapidity, and potential to deliver disorientating novelty against an enemy. Air power's reach, rapidity, and flexibility are qualities to be harnessed and leveraged in the joint fight; in fact the 'scalability in weight of effort that can be used to achieve Effects gives air power exceptional flexibility'.<sup>39</sup> The context and the contingency should determine the application mix of forces, not an industrial concept limited by geographical channelling.

However, air power is about decision on land: 'all military power is land power'.<sup>40</sup> We wage war from the air and the sea in order to produce a political effect on land. Air power is an enabler of land and sea power, but any combination and attribution

is equally true; hence arguments that the Royal Navy won the Battle of Britain, rather than the RAF, have a germ of truth, but suffer identical parochialism. What is true is that air power is inherently joint, as its broadest definition is inherently synonymous with *all* military power.<sup>41</sup> But, 'at all levels of conflict and in all ways, air power is an element no military force dares ignore. For intelligence, logistics, and tactical support, it is an imperative no modern force can do without'.<sup>42</sup> Simply put, air power is a vital force multiplier: it makes forces much more effective.<sup>43</sup> The RAF simply must provide it in sufficient quantity and quality for today's army, to meet the demands of today's fight.<sup>44</sup>

The RAF's stated number one strategic priority is clear: to 'support current operations'.<sup>45</sup> However harsh criticisms are levied on its efforts, such as on legacy platforms continuing to 'embarrass and humiliate' air force commanders as Typhoons and Tornados fail to take their place in the thin blue line, due to inappropriate or inadequate equipments for the current fight.<sup>46</sup> As stated above, institutional preference and inertia of all the services, limited resources, and unclear governmental policy and understanding of strategy hinder change. This - coupled with the rapid technological pace of change invalidating equipments and doctrine - means that the RAF is hard pressed to maintain balance in its military-strategic policy. The reality that today's synergistic support to the army requires ISR and lift as priorities, with no lessening of investment in the reach, speed, and scalability of air power lethal effects,



leaves resource shortfalls that strategy cannot bridge. The mantra that 'we have too many fast jets, insufficient transport aircraft and helicopter lift' does not account for the need to guarantee the asymmetric advantage accrued to the army by dominance of the air, without which the contemporary army would struggle to achieve its effects at reasonable cost in blood.<sup>47</sup> A glance at a typical air and aviation package in support of a mission in Afghanistan today would show that all elements are needed.

The argument that the 'overhead' of having an independent air force is an unnecessary excess is fallacious. The airman's perspective is essential if the detail of the air environment is to be properly understood and leveraged. The Smuts' review of 1917, which led to the formation of the RAF, first and foremost identified the need for a specialist air staff and force in order to coordinate, develop, and effectively and efficiently employ the air instrument to deliver strategic effect - i.e., to deliver policy goals.<sup>48</sup> Nothing has changed and air force air power has continued to deliver exponentially to the point that no contemporary army would choose to wage war without it. Today's army air-power shopping basket includes: guaranteed control of the air; rapid heavy lift; battlespace mobility; 24-hour, unblinking ISR; and scalable, precise, and persistent lethal fires. All of these need to be delivered at global distances, at speed, and at short notice. In addition, the army requires an embedded air perspective from air specialists, at all HQ levels, who understand strategy and air force capability - this function is vital.

The broad basket approach is utopian

in today's financial climate, but no less necessary. Army and air force - and not forgetting navy - senior leadership need to bridge the gulf between ends and means. Capability development requires the unique perspective that each geographical service provides, but military effect requires a joint mindset at the highest levels that accepts that parity of budget, size, or programmes does not lead to maximising that military effect. Non-linear synergy (2+2=5) only comes from a mutual belief that military power flows from political utility, and acceptance that individual services' relevance will necessarily ebb and flow with context. But only so much can be squeezed out of a pint pot. Ultimately, policy that refuses to be informed by the strategy bridging function is no policy at all, and is likely to fail, despite best efforts. The education of government policy-makers is a greater challenge.

Air power is today as essential an enabler and multiplier of land power as vice versa. Doctrinaire and dogmatic arguments that artificially divide the two confuse military effect required for achieving policy goals with environmental expertise as an end in itself. The aim should be to integrate and synchronise from the outset. Insufficient air power, both kinetic and non-kinetic, exists to meet demand, although the current greater need is for more ISR, lift and mobility, and fires. There is no discounting the need to control the air, at least at a time and space of our choosing. Strategy must never become the end, but strategy cannot alone overcome unreasonable policy demands or insufficient means. Today's army requires a quality and quantity of air power as never before to compensate

for the need for greater speed, range, lift, attack, less organic heavy fires, and critical ISR dependency, to meet the unpredictability of future threats. The RAF is the expert of choice to provide the synergistic effect required, but it will need to leverage some resources away from traditional, institutionally preferred, platforms. However, air and aviation assets will remain a limited resource and therefore a rationed one. The contemporary army will need to better understand and integrate air power in its holistic approach to war fighting if 'all military power' is indeed 'land power.'

## Notes

<sup>1</sup> Colin S. Gray, *Recognising and Understanding Revolutionary Change in Warfare: The Sovereignty of Context*, Carlisle, PA: Strategic Studies Institute, US Army War College, February 2006, 13.

<sup>2</sup> Bernard Brodie, *War and Politics*, New York: Macmillan, 1973, 483.

<sup>3</sup> Colin S. Gray, "Britain's National Security: Compulsion and Discretion." *RUSI Journal* December 2008 Vol. 153 No. 6 pp 12-18, 16.

<sup>4</sup> See *Creating the Myth of Air Control* in James S. Corum and Wray R. Johnson's *Airpower in Small Wars: Fighting Insurgents and terrorists*, University Press of Kansas, 2003, 62-66, and Tami Davis Biddle's *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas about Strategic Bombing, 1914-1945*, Princeton, NJ: Princeton University Press, 2002.

<sup>5</sup> Gray, *Fallacies*, 67.

<sup>6</sup> The recent exchanges in the papers as to the viability and purpose of the RAF is evidence, although the logic is often flawed – one particular

argument for foreclosure of the RAF was based on its size in numbers of personnel, conveniently forgetting that the RN is smaller.

<sup>7</sup> Colin S. Gray, *Understanding Airpower: Bonfire of the Fallacies*, Strategic Studies Quarterly, Winter 2008, pp43-82, 46.

<sup>8</sup> Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis*, Baltimore and London: The Johns Hopkins University Press, 1989, pp6-7.

<sup>9</sup> Robin Higham and Stephen J. Harris, eds., *Why Air Forces Fail: The Anatomy of Defeat*, Lexington, KY: University Press of Kentucky, 2006, 3.

<sup>10</sup> Malcolm Chalmers, "A Force for Influence? Making British Defence Effective", *RUSI Journal* December 2008 Vol. 153 No. 6 pp 20-27, 26.

<sup>11</sup> Max Hastings, "Sleep Walking Towards the Precipice: The Crisis in British Defence Policy." *RUSI Journal* December 2008 Vol. 153 No. 6 pp 32-35, 32.

<sup>12</sup> *The Stars and Stripes*, Mideast edition, 5 April 2009; "DOD Shuffles Funding" 2.

<sup>13</sup> Builder, *Masks of War*, 50.

<sup>14</sup> Hew Strachan, *The Lost Meaning of Strategy*, *Survival* vol. 7 no. 3 Autumn 2005 pp 33-54, 33-34, 37.

<sup>15</sup> Strachan, *Meaning of Strategy*, 34.

<sup>16</sup> Strachan, *Meaning of Strategy*, 46.

<sup>17</sup> Gray, *Defining Victory*, 12.

<sup>18</sup> Gray, *Defining Victory*, 21.

<sup>19</sup> "Future Land Operational Concept," Swindon: Developments, Concepts and Doctrine Centre, October 2008, Pt1-4.

<sup>20</sup> See Simon Jenkins' 'Lovely new aircraft carrier, sir, but we're fighting in the desert', *The Sunday Times* (of London), February 24, 2008.

<sup>21</sup> Robin Higham and Stephen J. Harris, eds., *Why Air Forces Fail: The*

- Anatomy of Defeat*, Lexington, KY: University Press of Kentucky, 2006, 349.
- <sup>22</sup> Sanu Kainikara, *A Fresh Look at Air Power Doctrine*, Tuggeranong ACT: Air Power Development Centre, 2008, 18.
- <sup>23</sup> Hannah Arendt, *On Violence*, San Diego, New York, London, Harcourt Brace & Company, 1970, 22
- <sup>24</sup> Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age*, London & New York: Frank Cass, 2005, 42.
- <sup>25</sup> Dolman, *Pure Strategy*, 9.
- <sup>26</sup> Robin Higham and Stephen J. Harris, eds., *Why Air Forces Fail: The Anatomy of Defeat*, Lexington, KY: University Press of Kentucky, 2006, 348.
- <sup>27</sup> Kainikara, *A Fresh Look*, 47.
- <sup>28</sup> The official definition of air power is “the ability to project power from the air in order to influence the behaviour of people or the course of events” (Joint Doctrine Note 2/08, *Integrated Air-Land Operations in Contemporary Warfare*, dated August 2008, The Development, Concepts, and Doctrine Centre, Ministry of Defence, Shrivenham, 2-1).
- <sup>29</sup> Gray, *Fallacies*, 55.
- <sup>30</sup> Correlli Barnett, *The Collapse of British Power*, Stroud: Alan Sutton Publishing Ltd, 1993, xi.
- <sup>31</sup> HR McMaster – Learning from Contemporary Conflicts to Prepare for Future War, p1
- <sup>32</sup> Kainikara, *A Fresh Look*, 42.
- <sup>33</sup> Kainikara, *A Fresh Look*, 54.
- <sup>34</sup> Alan J. Vick, Adam Grissom, William Rosenau, Beth Grill, Karl P. Mueller, *Air Power in the New Counterinsurgency Era*, Santa Monica, CA: RAND Corporation, 2006, 111.
- <sup>35</sup> See The Genius of George Kenney by Herman S. Wolk in *Air Force Magazine* April 2002 and *Airpower in the Pacific; A Case Study in Innovation* by Thomas E. Griffith, JR in *Joint Force Quarterly* Autumn 2000.
- <sup>36</sup> Guedalla, *Middle East*, 207-209.
- <sup>37</sup> *Future Land Operational Concept*, pt2-11.
- <sup>38</sup> Air Cdre Paul Colley, Soldiers are from Mars and Airmen are from Venus: Does Airpower do what it says on the tin?, *Air Power Review*, Vol. 9, No. 2, Summer 2008, 102-118, 107. For air power roles see also Joint Doctrine Note 2/08, 2-1.
- <sup>39</sup> *Future Air and Space Operational Concept*, No1 AIDU, RAF Northolt: Directorate of Air Staff, 19.
- <sup>40</sup> Gray, *Fallacies*, 59.
- <sup>41</sup> Jeremy Stocker, “There is no such thing as Air Power,” *Air Power Review*, Vol. 8, No. 1, Spring 2005, pp10-20, 16.
- <sup>42</sup> James L. Stokesbury, *A Short History of Air Power*, London: Hale, 1986, 290.
- <sup>43</sup> Corum and Johnson, *Airpower in Small Wars*, 435.
- <sup>44</sup> ‘Today’s fight’ is defined in this context as being for the next 10-20 years. This of course leaves us hostage to strategic shock if the context changes unexpectedly. The better, but unaffordable, solution is always to have balanced and as broad as possible effects capabilities.
- <sup>45</sup> *RAF Strategy – Strategic Priorities*, <http://www.raf.mod.uk/role/strategic.cfm>
- <sup>46</sup> Thomas Harding, Defence Correspondent, *The Daily Telegraph*, Monday, February 23, 2009, ‘Tornados’ Afghan mission delayed by concrete farce.’ P14.
- <sup>47</sup> Hastings, *Sleep Walking*, 34.
- <sup>48</sup> See Christopher J. Luck, “The Smuts Report: Interpreting and Misinterpreting the Promise of Airpower,” Maxwell AFB, Alabama: The School of Advanced Air and Space Studies, April 2007.



## **This article has been republished online with Open Access.**

Ministry of Defence © Crown Copyright 2023. The full printed text of this article is licensed under the Open Government Licence v3.0. To view this licence, visit <https://www.nationalarchives.gov.uk/doc/open-government-licence/>. Where we have identified any third-party copyright information or otherwise reserved rights, you will need to obtain permission from the copyright holders concerned. For all other imagery and graphics in this article, or for any other enquires regarding this publication, please contact: Director of Defence Studies (RAF), Cormorant Building (Room 119), Shrivenham, Swindon, Wiltshire SN6 8LA.

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

**OGL**