

Review Essay

AIR POWER 21:

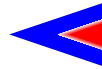
Challenges for the New Century
by Peter W. Gray

Group Captain Peter W. Gray, the Director of Defence Studies in the Royal Air Force, is the editor of *Air Power 21*, where distinguished analysts examine air power challenges for the new century. This review essay will identify the recurring themes, discuss the contributions and provide a brief assessment of the book as a whole.¹

The Icarus Syndrome

In seeking to understand the present state of air power thought, and the related question of where it comes from, there are a number of problems that confound ready explanation. According to Carl Builder, air power theory was a pertinent factor in the establishment of the USAF as an independent military service, but the subsequent abandonment of air power theory in the face of competitive *means*, such as missiles and nuclear devices, and *ends*, such as deterrence and a tactical orientation to warfare, separated the USAF from those commitments that had ensured its creation in the first place.² In the 1950s and 1960s the USAF apparently shifted its focus from the conceptual thinking of winning wars to the business of procuring bigger and faster aircraft on the one hand and merely supporting the ground commander's scheme of manoeuvre on the other.

Those decades produced some of the same problems for the RAF. One hypothesis is that the British adherence to the concepts of deterrence, gradual escalation and flexible response weakened the position of the RAF as a *war-winning* service, and when it chose to abandon combat helicopters following such limited engagements as the Malayan Insurgency it also weakened its position as a *war-fighting* service.³ When the RAF lost its nuclear capability to the Royal Navy's submarine force, because of technological imperatives, it next fell out of the first-team category and found itself in a doctrinal and theoretical void. Although this explanation is too simplistic, the fact is that the military threat was changing rapidly and on a large scale, and both the RAF and the USAF had to keep pace with the changes, but in the process a conceptual understanding of air power was undermined.



Military events in the 1990s have reintroduced the importance of understanding air power in a wider context, but there are dangers in adhering too strongly to formalised concepts, because theory and doctrine can easily become straightjackets. Indeed, faith may lend single-mindedness where doctrine becomes dogma and one situates the appreciation rather than appreciates the situation. Sir Michael Howard's observation on this theme is important:

I am tempted indeed to declare dogmatically that whatever doctrine the armed forces are working on now, they have got it wrong. I am also tempted to declare that it does not matter that they have got it wrong. What does matter is their capacity to get it right quickly when the moment arrives.⁴

Doctrine is a good servant but a bad master, and should be no more than a common basis for change.⁵ It is important to continue the quest for a holistic and comprehensive air power theory, and to formalise a concept for war-fighting doctrine, but it is a long, ambitious and cumbersome process. The prerequisite is to have reasonable insight into the environment in which air power is applied, and therein lies the foundation for flexibility, creativity and improvisation, even though it does not amount to a holistic theory in its own right. One approach to enhancing such understanding is to establish workshops where academia and military experts meet to discuss and write about current and future challenges.

The Director of Defence Studies (RAF) is such an attempt where a series of air power workshops have been held since 1994. The first book deriving from this process, *The Dynamics of Air Power*, discussed the evolving theory and air power's role in peace support operations, and the second publication, *Perspectives on Air Power*, focused on air power in a political, technological and military context.⁶ The latest contribution in the series is *Air Power 21*, where professors Michael Clarke, Tony Mason and Philip Sabin contribute for the third time. Together with David Gates they provide a broad and cross-cutting context, while the others contribute to the current debate on air power by exploring specific topics in some depth.⁷ The analytical standard of the essays makes them worthy of consideration, as the peacetime airman's principle task is to prepare effectively for the next conflict.

A Synopsis of Air Power 21

There are several recurring themes in this collection of essays, and the most profound are the importance of being able to operate both jointly and combined, acknowledging that political considerations will always prevail in the making of strategy, be there a revolution in military affairs or not, and that one still does not know how to translate military success into the desired political endstate.

Michael Clarke discusses the greater political volatility in which modern high-technological air power operates. He argues convincingly that one is increasingly witnessing military conflicts in which national survival is not directly at stake, as one enters conflicts for indirect national interests, such as humanitarian operations, and consequently the political objectives of any given



coalition will be multiple. The perceptions, values and cost-benefit analysis will depend on the vast numbers of non-governmental institutions, public opinion, local actors with economic and political agendas and each government's international and domestic interests in any specific situation. Clarke warns that in the process of policy-making the decisions for engagement become *intuitive* rather than *analytical*, and whenever operational and political considerations do not coincide the latter will prevail. Clarke argues that modern air power can be applied as a coercive tool on both the operational and grand strategic level of peace enforcement and war, but again it must be within the political framework, which is "dominated by instinctive political imperatives that render other carefully calibrated cost/benefit projections essentially irrelevant".⁸ While air power often has been a military instrument of the last resort, the instinctive calculus by political leaders in the future might suggest that air power should be used in situations that do not amount to war. There is a huge dilemma herein that air power becomes an *ordinary* extension of politics by other means rather than an *extraordinary* instrument that is only applied within strictly defined legitimate cases. Moreover, in that process of opportunism there is the danger of air power being misapplied.

David Gates takes this aspect further from a different perspective and argues that now that air power appears to be the instrument of choice it can easily become a weakness, since it undermines the synergy of joint operations that might be required to defeat future adversaries. He warns against airmen's enthusiasm for seeking the panacea, because for "all its technical sophistication" there remain "insurmountable constraints on its application".⁹ Thus, air power must collaborate more closely with surface forces on the one hand and aircraft, helicopters and missile options must be integrated on the other, in order to provide politicians with optimal military leverage. Gates observes that the USAF is moving in the right direction as far as harmonisation of air power doctrine is concerned, as it stresses generic capabilities and competencies such as power projection, air and space control, precision engagement and the exploitation of information, rather than roles, missions and organisations.¹⁰ One point that receives surprisingly little attention in the current debate on air power is whether NATO members should specialise in order to complement each other. Gates touches upon these issues, and warns that although some air forces might be tempted to develop a niche capacity there are larger problems associated with such developments that have to be looked into. He further makes a case for missiles, as they do not put airmen's lives in danger and are politically attractive instruments for showing determination in low-intensity crises. Moreover, he agrees with Philip Sabin that aerodynamic missiles may be the preferred choice for inferior powers challenging the West. Air power is importantly presented first and foremost as a "force enabler", rather than an instrument capable of solving such a complex phenomenon as war on its own. It is immensely difficult to translate even precise targeting into the desired political objective, and in this process it is pivotal to realise that air power is an enabler for surface operations and diplomacy.

David Caddick offers some sceptical perspectives on the role of air power in the RMA, by examining the concept from a historical perspective, and exploring how air power fits into that notion. He argues that technological improvements witnessed



in the last decade do not amount to a revolution in military affairs, as such an achievement requires doctrinal and organisational changes of huge proportions that have not yet materialised. Caddick argues that although air power is an essential component of the technological developments in speed, precision and lethality, it is only the USAF that has partly managed to implement the larger conceptual aspects. However, to believe that technological improvements will ever result in an orderly war would be an illusion. While one might prefer to bridge the gap between the USAF and the rest of the world,¹¹ he warns that “an over-emphasis on technology can unreasonably raise expectations about the tragic but inevitable destructive impact of military force”.¹² The thesis has interesting implications, as one tends to focus on the uniqueness of each service, in order to sell one’s own product, and technology is a facilitator therein, but one also tends to forget the overarching factor of how “power” in the form of “violence” can be used to achieve the political endstate. There is indeed much to explore on the linkage between technological improvements such as stealth, precision and stand-off weapons in their relationship to information warfare and the whole significance of battlespace awareness therein. Although the ending of the Cold War has created opportunities for air power as a “force enabler” there arise, nevertheless, just as many restraints and constraints, and air power remains the art of what is politically possible rather than technologically achievable. Finally, one should acknowledge that every want is a weakness, and an adversary may well take advantage of the asymmetric warfare that the technological superiority of information-age forces lends.

Philip Sabin identifies how underdogs have challenged their opponents in the past, examines whether these “techniques” can be synthesised into a coherent counter-strategy and discusses the implications for Western planners. The techniques to counter the effects of enemy air superiority are categorised into “limiting vulnerability”, “fostering restraint”, “striking back” and “contesting information dominance”. In examining the ultimate challenge, namely to translate tactical and operational advantages into an integrated overall strategy that can secure victory, he assesses asymmetry versus flexibility in the structuring of forces, deterrence versus provocation in devising a coercive strategy and activity versus endurance in the underdog’s conduct of military operations. Based on a range of historical examples Sabin warns that although these paradoxes often prevent tactical triumph from amounting into strategic relevance, it would be dangerous for the Western powers to continue mirror-imaging the enemy as a passive opponent. It is rare to find western analysts attempting to go beyond mere “red-team” hypotheses and his structured and well-articulated essay is an excellent starting point for an exhaustive study. It would be interesting to study, for example, Norwegian or other small Western nations’ thinking concerning the classic potential threat from the East, and in that process acknowledge that an underdog can be technologically advanced. Finally, Sabin mutually supports Gates’ argument that integrated air defence systems are likely responses to superior air power in the future.

Timothy Garden provides some interesting thoughts on air power in a European perspective. He argues that although Europe has roughly the same resources as the United States it spends only half as much on defence, but more importantly, it is “currently trying to support far too large a number of regular forces, conscripts and reserves on too few funds”.¹³ Garden argues



that European nations must work together at reorganising their military force from the present Cold War structure, where air power assets are designated for defensive and supportive roles in a short high-intensity conflict, in order to match and complement the United States. Using Operation Allied Force as a benchmark for likely future scenarios, where humanitarian aspects are at the centre, Garden suggests that each nation should specialise rather than generalise their air forces, and next generate these assets into a European “pooling system”. The NATO AWACS force is one such example, and high dividends may be paid if one extends that model to include airlift, air transport, air-to-air refuelling, reconnaissance and search and rescue operations. These are roles that are expensive in terms of equipment and training, but since they do not involve combat aircraft one’s sovereignty is not compromised and thus it would to a larger degree be politically acceptable. The operational problems to such an integration are manageable, and by accounting for a European Union defence capability and suggesting near, medium and long term approaches to meet the new political challenges, Garden emphasises that these steps are not only politically feasible but necessary. The thesis is plausible as the 1990s bore witness to the fact that every nation found a niche within which it could contribute something important to the air campaigns in which it chose to participate. Moreover, the size of force contribution is only one factor in coalition operations, and not necessarily as important as the mere commitment of the participating nations.¹⁴ The Europeans do not have the advantage of single-nation purchasing, and none of the Europeans can afford proper ECM investment, but an arrangement whereby each of the European nations contributed a number of ECM aircraft would mean that real capability was attained. There is, nevertheless, a danger that some European countries choose not to fight in certain coalitions, and those countries may well have niche capabilities on which the overall alliance depends.

Stuart Peach, in providing a brief overview of air power history from the perspective of command and control, is not convinced that there will be a smooth transition in meeting future challenges. He questions contemporary understanding of command and control, arguing that although doctrines emphasise “centralised command and decentralised execution”, the air commanders of Operations Deliberate Force and Allied Force found themselves at tactical levels, facing the danger of focusing on target-lists and process rather than strategy, which is the true realm of generalship. Allied Force was not in accordance with the principles of “manoeuvre warfare”, as the campaign was rigorously controlled and highly scripted.¹⁵ Peach warns that the current concern with providing definition labels is at the expense of the true profession of arms that is so critical to enabling successful air operations. Moreover, as one deals with wars of “choice”, rather than wars of “necessity”, with all the historical, ethnical and religious complexities that often characterise a multinational operation, Peach argues that it will be increasingly difficult to allow other nations to accept either command or control of own forces on all levels of war. This might be the biggest challenge to Garden’s thesis of an integrated European force, and when one adds Clarke’s argument of multiple political objectives in future conflicts the consequence of not contemplating a wider understanding of operational decision-making becomes immense. Furthermore, in order to ensure optimal decision-making at the strategic level one has to think jointly, where cultural differences



apply, and finally the wrap-time nature of information age warfare requires ever better situational awareness and judgement from the operational commanders. Such a focus requires insight into the nature of command in which the human function cannot be substituted by computers and procedures, and Peach suggests “air forward” commanders who deal with day-to-day targeting and tasking, while the strategic command function would be carried out in a remote multinational headquarters.

While Garden looks at combined air power challenges, Mungo Melvin looks at the first part of the joint perspective, by considering underlying institutional, parochial and cultural problems that have limited air-land co-operation in the past. On the operational level he argues that there is an inherent lack of common approach to the planning and conduct of war, particularly because of conceptual differences in the command and control of the respective forces, that next serve as a source of discord at the strategic level. Melvin argues that air power has become the preferred military instrument, as politicians are reluctant to commit ground forces to the battlefield, and since the modern battlefield is a mixture of combatants and non-combatants, villages and cities. Thus, it becomes difficult to argue the case for ground forces when vital national interests are not at stake. Consequently, close air support takes second place to distinct air operations, but in accordance with the Gates-thesis, Melvin suggests that it would be a profound mistake to neglect air-land co-operation, because one must be prepared to “mount all types of air operations in a given ‘threat’ environment”.¹⁶ In the quest for force synergy, one must move beyond the narrow notion of tactical air support to land forces and approach the challenge at an operational and strategic level where it is about support for each other in facilitating tempo. In this context the airmen’s task would actually be to convince their army and navy counterparts that they need air power in order to do a better job: it is about joint training and mutual understanding with an emphasis on how air power can shape the battlespace environment.

In accounting for the air-sea component of joint operations, Christina Goulter argues that there is a general failure to fully appreciate the role of air power in naval expeditionary warfare, by which she defines operations launched from the sea. She demonstrates through a number of historical examples the problems and advantages in each of the main phases of expeditionary warfare: “Transit to the littoral; fighting from the sea; and breakout from the beach-head”.¹⁷ She emphasises the versatility of air power’s contribution to shaping operations and argues that potential adversaries, such as India, Russia and China, will have a major advantage over an expeditionary force through their dedication to anti-shipping squadrons. Goulter warns that Britain’s decision to rely heavily on stand-off anti-surface warfare may prove to be a serious mistake, because such a capacity is just as important in the future as it was in the Cold War. While air power is but one element of an expeditionary operation, it plays a critical role in all three phases and thus, in order not to compromise the effect of the operations, one cannot afford to cut specific capabilities such as anti-surface warfare and anti-submarine warfare. She warns that the cost-reduction often associated with expeditionary forces, as an alternative to massive ground forces, is highly questionable as preparation requirements have increased. It would be interesting to combine some of these observations with Sabin’s



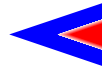
underdog-thesis, because expeditionary forces by nature are extremely vulnerable, within the enemy's reach and even old low-technology diesel submarines can cause substantial damage. While airmen often associate the third dimension with space, an adversary might find great opportunities in exploring under-water weaponry, and it would be worthwhile to consider expeditionary warfare beyond the naval framework.

In the final chapter Tony Mason suggests that the 20th Century ended, militarily, with the Gulf War, and as the 1990s witnessed new international circumstances in which air power operated, he argues convincingly that the differences and similarities in previous wars require a re-evaluation of underlying air power concepts and ideas. He offers interesting reflections on the experience from Iraq, Bosnia and Kosovo, and on the latter he considers both the strategy and the political sensitivities. He argues that "gradualism" should be reconsidered as part of a coherent strategy, as it provides diplomatic leverage towards the ends for which the campaign is waged. Moreover, it strengthens the flexibility of air power options that are required to meet expectations of the complex political environment likely to dominate future conflicts. Thus, overwhelming force "will not always be possible, desirable or acceptable" because of the larger political considerations that must be allowed to dominate the choice of strategy.¹⁸ Mason argues that air power contributes to the resolution of conflict through shaping the environment, distinct operations and supporting surface forces, and as one should emphasise effects rather than roles, he questions the functionality of distinguishing between tactical and strategic air power. To some extent the last paragraph summarises air power's challenges for the new century:

There can be no single template for the successful application of air power. The versatility of air power application is as wide as the spectrum of conflict itself and the range of political objectives being pursued. There is now the need and opportunity to revisit some well worn ideas and construct a conceptual paradigm appropriate to many different scenarios, in which air power can sustain coercive diplomacy and become a primary instrument reinforcing the ongoing political dialogue. Thereby, it may sometimes act distinctly and directly, with overwhelming strength or more gradually, against an opponent's will to resist. On other occasions it may shape an environment for others to exploit. Elsewhere, it may protect and enhance other forces.¹⁹

Overall Assessment

To summarise the messages in *Air Power 21*: It is about re-evaluating air power strategy, accepting that overwhelming force is not the only viable option; it is about realising that air forces must collaborate more intimately with surface forces and strengthen the combined arm; it is about moving beyond military "mirror-imaging" and accounting for the enemy deceptions and perceptions; and it is about developing a profound understanding of the political sensitivities that are always associated with air operations, and the command and control challenges therein. The book is about political and military acumen, accepting that things have changed and a restructuring is required since the days of the Cold War, where unity of purpose and effort could be taken for granted.

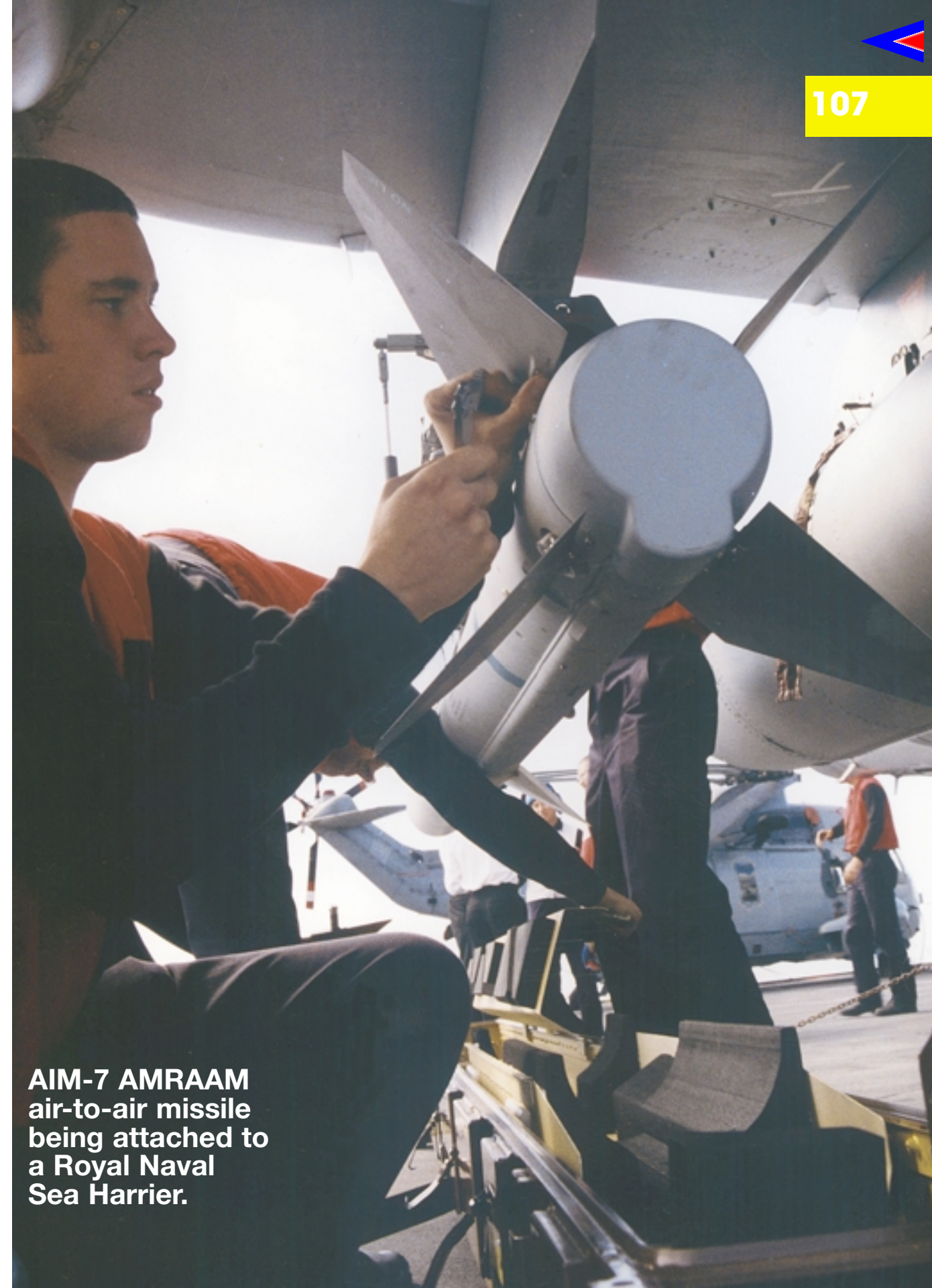


The essays offer apparently little contradiction and provocation, but rather reinforce each other's conclusion. Although some "professional disagreement" would have been welcome – accepting that "truth has many faces" – the book provides genuine and perceptive air power insight, and as such encourages further studies of the consequences associated with air power as an instrument of choice. For example, air forces might suggest a substantial restructuring in order to become "leaner and meaner" within any given budget, but the consequence would be closing existing air bases and other infrastructure throughout the country. Regional and local politicians would next find their income base substantially reduced and again the political agenda, intuitive or analytical, would dominate at the expense of operational cost-effectiveness. Short-term expedients would prevail over any long-term or abstract consideration, and as air power is viewed as an instrument that can be used in "low-intensity-conflicts" it becomes the airmen's task to convince the politicians what air power *cannot do*. Airmen may complain that they were not allowed to exercise the preferred air strategy in Operation Allied Force for political reasons, but it is partly a self-inflicted wound, as airmen have traditionally oversold their case.²⁰ After all, air power has limited influence on ground activities, as witnessed in Somalia and Kosovo; limited operational sustainability in the crisis area; limited night/all weather capability; and air power is vulnerable to enemy fire. Indeed, technological superiority does not win wars, as witnessed in Vietnam, and air power has an inherent lack of stamina, which has hardly been touched upon in these essays. Although missiles and integrated defence systems are mentioned as future problem areas for Western powers in several essays, none of the authors pay lengthy attention to them, and estimates are that twenty-one countries will possess the most advanced "double digit" SAMs, such as the SA-10/12 and –20, by 2005.²¹ Non-western countries may not bother with the traditional manned air power platform approach, but concentrate fully on defensive and offensive missile systems. Small western states should also seriously examine such an option, and its consequences for air power force structuring, as missiles are becoming increasingly more capable.

Some chapters are inevitably more skilfully developed and clearly articulated than others, but overall the analytical standard is impressive, and collectively *Air Power 21* is worthy of attention. The book is useful in the process of developing a comprehensive military theory, as the fallacy of suggesting one-dimensional solutions to all future challenges has been avoided. If Icarus is to be fully saved, however, one might suggest an increased focus on the social mechanisms related to the use and nature of force, violence and power. As one moves into a new century, where low-intensity crisis may dominate and the United States may reduce its commitment to Europe, one can only hope that exploring the underlying nature of air power becomes the focal point in strategic thought, and not the aircraft, be it manned or not. In that process it is imperative to contextualise air power, which is to consider it in its proper political realm with all the economic, social, psychological, public and diplomatic aspects that follow. As many air forces witness current institutional problems, the challenge is to enhance air power understanding at the strategic level, by focusing on vision and commitment to the true profession of arms.

NOTES

- 1 The author would like to thank Dr. H. P. Willmott, Dr. Alan Stephens, Nils E. Naastad and Patricia Aresvik for comments on this essay.
- 2 Carl H. Builder, *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the U.S. Air Force*, 4th ed., (London: Transaction Publishers, 1998).
- 3 Philip Anthony Towle, *Pilots and Rebels: The Use of Aircraft in Unconventional Warfare 1918-1988*, (London: Brassey's, 1989).
- 4 Sir Michael Howard, cited in Lt. Col. William F. Andrews, *Airpower Against an Army: Challenge and Response in CENTAF's Duel with the Republican Guard*, (Maxwell Air Force Base, Alabama: Air University Press, 1998), p. 3.
- 5 H.P. Willmott, "When Men Lost Faith in Reason: Reflections on Warfare in the Twentieth Century", (work in progress).
- 6 Andrew Lambert and Arthur C. Williamson (eds.), *The Dynamics of Air Power*, (Bracknell, Berkshire: HMSO, 1996); and Stuart Peach (ed.), *Perspectives On Air Power: Air Power In Its Wider Context*, (London: HMSO, 1998).
- 7 Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, (London, HMSO: 2000).
- 8 Michael Clarke in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 8.
- 9 David Gates in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 23.
- 10 United States Air Force, *Air Force Basic Doctrine: Air Force Doctrine Document*, September 1997.
- 11 Note that precision strike, stealth and stand-off weapons are in many ways the three capabilities that have driven the RMA, and they are more or less solely resident in US aerospace forces.
- 12 David Caddick in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 66.
- 13 Timothy Garden in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 103.
- 14 Richard P. Hallion, "Critical Aerospace Capabilities for Coalition Operations", paper presented at the Royal Norwegian Air Force Academy, Trondheim, 7 February 2001.
- 15 William S. Lind, "The Origins of Maneuver Warfare and its Implications for Air Power"³, paper presented at the Royal Norwegian Air Force Academy, Trondheim, 22 September 2000.
- 16 Mungo Melvin in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 181.
- 17 Christina Goulter in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 183.
- 18 Tony Mason in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 222.
- 19 Tony Mason in Peter W. Gray (ed.), *Air Power 21: Challenges for the New Century*, p. 236.
- 20 Lieutenant General Michael C. Short, "An Airman's Lessons from Kosovo", paper presented at the Royal Norwegian Air Force Academy, Trondheim, 28 February 2001.
- 21 Richard P. Hallion, "Critical Aerospace Capabilities for Coalition Operations", paper presented at the Royal Norwegian Air Force Academy, Trondheim, 7 February 2001.



**AIM-7 AMRAAM
air-to-air missile
being attached to
a Royal Naval
Sea Harrier.**

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