

## THE AIR WEAPON

# **The Air Weapon**

**Doctrines of Air Power Strategy and  
Operational Art**

Andrew G. B. Vallance





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# Introduction

For many years, the advanced states of the world have spent far more of their wealth on buying and operating air power equipment (that is, military aircraft, and air and anti-air weapons and systems) than on any other area of military capability. Such equipment forms not only the core strength of the world's air forces, but also a substantial and growing element of many armies and navies. Indeed, perhaps half of the military manpower at present serving in Western armed forces is employed in operating, controlling or supporting air power equipment.

Yet despite this growing predominance, air power remains the least well understood form of military force. Even some military people continue to see it as a form of auxiliary capability: essentially an adjunct to surface force action rather than a discrete form of military force with distinct applications. Moreover, each new international crisis or conflict seems to generate fresh debate on what air power can – or cannot – be used to achieve. Technical and tactical aspects of air power are widely known, but far less is understood about how such capabilities are best applied to prosecute defence and security policy.

The reasons for this general lack of understanding may be several. Mankind's experience of waging war in the air is very slight in historical terms – a few short decades in comparison with the millennia of land and sea warfare. Thus, perhaps unsurprisingly, air power has attracted comparatively little scholarly study. The rapid advance of technology has proved to be a double-edged sword and may also have played a part in this. On the one hand, advancing technology has wrought dramatic developments in air power capabilities; on the other, the very speed and extent of those developments has made it difficult to formulate enduring concepts for air power employment. But in any case, aviation is not a field which lends itself easily to philosophy or academic research. Those who are attracted to aviation tend to favour action rather than reflection; such people are generally unwilling to commit to paper their ideas on air power, and those who do write tend to focus on the tactical and technical (rather than the strategic or operational) levels of air warfare. Worse, such people often discourage outsiders from getting involved in the field, or at best they behave passively offering little encouragement. Those who combine current

operational experience with an inquiring mind and a disciplined academic approach have always been in short supply.

But conceptual thought is as crucial to air power development and employment as it is to any other field of human endeavour. Practical experience shows only what has worked well in the past, but concepts are needed to project that experience forward into the future. And the higher the level of policy involved, and the more subjective the nature of the analysis, the more important it is that action should be based on soundly formulated concepts. Moreover, whilst it remains highly dynamic, air power is now undoubtedly a mature and tested instrument of defence policy; sufficient experience does exist to allow sound and enduring employment doctrines to be formulated. Hence the point of this study.

But before going into detail on the study itself, it would be useful to explain exactly what is meant in the military context by the term 'doctrine'. Of course, military doctrine has different meanings in different states. In Russia, military doctrine is – to all intents and purposes – defence and security policy. But most states now see military doctrine in a different light: as a body of principles designed to guide the development and employment of military power, in support of defence and security policy. It is not theory *per se*, but a blend of theory and practice which sets out the best way forward. Thus, military doctrine is of central and enduring importance to military development and employment. It forms the essential foundation on which force planning is conducted and strategy constructed.

Current Western military theory identifies three interrelated levels of doctrine. The highest level – strategic doctrine (or basic doctrine in United States parlance) – is concerned with the most fundamental and enduring principles which guide the use of military forces; it provides the basic framework within which more detailed levels of doctrine can be formulated. Next there is operational doctrine; this applies the principles of strategic doctrine to describe how forces can best be used to achieve distinct objectives, create specific force capabilities, or match particular operational environments. Operational doctrine anticipates changes and influences which may affect military operations, most notably perhaps technological advances. At the lowest end of the doctrinal scale there is tactical doctrine; this applies strategic and operational doctrine to devise and describe the best way to use specific weapon systems to execute specific roles and tasks.

This book focuses on the higher levels of air power doctrine. That is to say it deals with strategic and operational doctrine as they relate to air power; it reaches down into tactical doctrine and technical detail only when it is essential to explain an operational concept. The study

encompasses doctrines not only for war-fighting, but also for war-prevention. Clearly, the most rational objective of any state is to pursue its vital security interests without resort to armed force. And war-prevention in general, and crisis management in particular, are fields in which air power has major contributions to make.

But notwithstanding the importance of war-prevention, it remains essential also to cater for war-fighting. Armed aggression continues to be seen by many states as ‘an extension of policy by other means’, a viable and attractive alternative to peaceful negotiation. Regrettably, there is every sign that this view will continue to be endorsed, and – so long as it is – war will remain a part of the human condition. And if a state is involved in a war, it must be able to fight effectively. Thus, war-prevention capabilities must be supported by war-fighting capabilities.

The study follows a ‘top-down’ approach, dividing air power into its constituent elements and sub-elements and then examining each in turn. Admittedly, this methodology risks over-simplification and compartmentalization. It involves drawing clear-cut divisions within a continuum in which distinctions (while they undoubtedly exist) are often ill-defined; sometimes the different air power entities merge into grey areas, sometimes they overlap. But only by introducing some form of taxonomy and synthesis is it possible to examine, and therefore to understand, the various air power components not only in isolation, but also in combination. Such devices – artificial though they undoubtedly are – are essential in this discipline (as in others) if one is to make full sense of reality.

To assist the analytical process, I have defined the terms used in each stage of the study as clearly as possible. In some instances, where a currently accepted term for a given operation or role appears obsolete or anachronistic, a new term has been introduced. Some air power experts may feel uncomfortable with this, but a term which seemed appropriate in World War II may no longer be so today. The power of incorrect terminology on clarity of thought should not be underestimated: words are the means by which thoughts are given expression, and using the wrong words can channel ideas along fruitless paths or constrain the vision needed for proper development. As Confucius is thought to have said: ‘the beginning of wisdom is to call things by their right name’.

Wherever possible, the study dispenses with acronyms, conceding to them only when a constantly repeated technical phrase becomes unduly cumbersome. While acronyms save time for the writer and space for the publisher, they are burdensome for the reader. For most people,

the fewer the acronyms the more understandable the text.

But the purpose of this book is not merely to describe the currently accepted wisdom on how best to use air power; it is also to suggest means by which air power effectiveness could be enhanced in the future. And so, in the last chapter, current trends are reviewed and projected forward to provide some ideas on how air power might best be developed in the years to come. This undoubtedly means entering into the realms of speculation, but concepts are the vehicles of progress, and judicious speculation is the only means of extending practical experience. Forward thinking is indispensable in ensuring that the air weapon is used in the future to best effect.

I am most grateful to the others working in this field for the many types of help that they have given me. Air power doctrine specialists are a relatively small band, but they have developed a close-knit and – I believe – vibrant network to advance the understanding of air power. Inevitably, a study such as this draws on years of thought, discussion and debate. I hope those involved in this process – to whom I owe much and from whom I have benefited enormously – will forgive me if I do not mention them all by name.

However, I would like to offer specific thanks to those patient and generous individuals who very kindly gave me their advice and wisdom on the various drafts that led to this final text. They include Professor Trevor Salmon (St Andrews University), Dr David Gates (Aberdeen University), Dr Philip Towle (Queens' College, Cambridge University), Dr Ben Lambeth and Dr Christopher Bowie (the Rand Corporation), Air Vice-Marshal Tony Mason (Leverhulme Fellow), Group Captain Gary Waters and Dr Alan Stephens (Royal Australian Air Force Air Power Studies Centre), Dr Richard Hallion (US Air Force Department of History), Dr Richard Goodwin (Logicon RDA) and Colonel Dennis Drew (Professor and Associate Dean of the US Air Force School of Advanced Air Power Studies).

Finally, whilst at the time of writing I am the commander of an operational RAF Station, I should like to make it clear that the views expressed in this book are mine alone. They should not be taken as an expression of policy of Her Majesty's Government, the Ministry of Defence or the Royal Air Force.

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