Historic Book Review

Air Power in War

Lord Tedder

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Reviewed by Air Cdre Neville Parton

'I am utterly convinced that the outstanding and vital lesson of the last war is that air power is the dominant factor in this modern world and that, though the methods of exercising it will change, it will remain the dominant factor so long as power determines the fate of nations.'[1]

This bold and confident statement comes from another of the very few books to be written by an individual who would go on to reach the senior-most position within the Royal Air Force, and who has subsequently been described as '…an unusual officer, far outside the normal mould for senior military figures.'[2] Perhaps best known as the architect of air/land integration in North Africa in 1942, he also acted as Eisenhower's Deputy in the Supreme Commander role, and ended his Service career as CAS, succeeding Portal in the post in 1946. He was atypical of his generation inasmuch as he was one of the few wartime officers from the First World War to reach senior rank without having been decorated for gallantry, although he had a considerable period of active service at the front. As with theother reviews in this series, an overview of Lord Tedder's life is provided before considering the publication itself; in this case however, as Tedder's wartime career is well known to most students of air power, the synopsis will concentrate on those aspects of his life that are perhaps less recognized.

So let us begin by considering the man himself. Arthur William Tedder was born on 11 July 1890 at Glenguin (now Glengoyne), a distillery near Stirling in Scotland, where his father was stationed as a member of the Inland Revenue. He attended Whitgift School from 1902 to 1909, and was a particularly keen member of the Officer Training Corps, as well as a cross-country runner and first XV member for two years. Here he became fascinated by astronomy, and also developed an enthusiasm for theatre, both as an actor and organiser. From school he proceeded to read for a history degree at Magdelene College, Cambridge, between 1909 and 1912, where again he was an enthusiastic member of the OTC, and also maintained his interests in cross-country running and astronomy.[3] Although a teetotaller throughout these early years, he was given to student pranks through his time at Cambridge, but still managed a creditable 2nd-class Honours (Division 2) in history, and stayed on for a further year to carry out a research project. The latter resulted in his winning the Prince Consort Prize, with the thesis work being published by the Cambridge University Press in 1916.[4] Despite his

clear academic aptitude, and liberal leanings, he decided, much to his family's surprise, to make a career for himself within the Colonial Office, and was accepted as a cadet for initial service in Fiji, leaving in February 1914. Within six months though the outbreak of war prompted Tedder to return to Britain, where he was offered a commission in the Dorsetshire Regiment with antedated seniority (a reflection on his successful OTC service). However, a knee injury resulted in a posting not to the front line, but to a depot at Calais. Having heard of another individual who became an airman after damaging his knee, Tedder applied to the Royal Flying Corps (RFC) for a transfer, and was (eventually) successful, being posted for pilot training in January 1916.[5]

He made rapid progress in training and left for France in June 1916, to join No 25 Squadron, operating the FE 2b aircraft. By August he had become a flight commander, and by December 1916 had some 323 hours under his belt, covering a range of bombing and reconnaissance missions. However, in January 1917 he was posted as the Commanding Officer of No 70 Squadron, on promotion to major. Forbidden to fly over enemy territory, as was standard for squadron COs at the time, he was still able to demonstrate that he was an efficient and capable leader, and certainly caught Trenchard's eye in a favourable manner. In July 1917 he was returned to the UK to command a training squadron, but in March 1918 was selected for service in Egypt. The journey out was eventful – his ship having been torpedoed on the second day of the journey – but he arrived in mid-May and took over a training wing. He was not a particularly keen pilot, but ran the training organisation again in a quietly efficient manner, and was promoted to lieutenant colonel.

Returning to the UK in 1919, Tedder was fortunate to be offered a permanent commission as a squadron leader, and had two squadron commands in quick succession, before being charged to take No 207 Squadron, operating DH 9a aircraft, out to Constantinople as a result of the Chanak crisis – during which he managed to fall foul of Hugh Dowding.[6] Subsequent appointments included the Royal Naval Staff College at Greenwich in 1923, and then, on promotion to wing commander, a flying training school at Digby the following year. A brief interlude in the Air Ministry began in late 1926, working for Dowding, but the following year he was selected to attend the Imperial Defence College, commencing in January 1928, before moving on tobe an instructor at the RAF Staff College in 1929, where he would spend three happy years. Promoted to group captain in 1931, he became the deputy commandant for a short while before moving to the Armament and Gunnery School at Eastchurch, where he brought a much-needed sense of realism and operational efficiency – even monitoring the aerial exercises from his own aircraft. He had obviously continued to impress the RAF hierarchy, as he left Eastchurch to return to the Air Ministry as Director of Training in 1934, in the rank of air commodore. Tours of overseas training bases followed, as well as reviews of training methods and equipment; unsurprisingly, Tedder was the

individual responsible for the initial procurement of Link Trainers for the RAF. Finally, in 1936, Tedder gained his first operational command since the war, as Air Officer Commanding RAF Far East, based at Singapore. This was to be a hectic posting, with a command that reflected all the problems of both the lack of inter-service co-operation and inadequate (in fact, antiquated!) assets, as well as a growing realisation of the difficulties of defending Singapore from any modern enemy.[7] However, he was promoted to air vice-marshal during the tour, and made a number of recommendations to improve the capability of what little air power existed, as well as allowing for rapid reinforcement.

In 1938, Tedder was summonsed back to the Air Ministry by one of his patrons, Air Marshal Sir Wilfred Freeman, to join him in the Directorate of Research and Development, where he was to become involved with the desperate rush to not only expand the RAF, but also to re-arm it with modern and capable aircraft and weapons. He performed well in this role, which included moving the entire department to Harrogate at short notice, at least until the arrival of Lord Beaverbrook, with whom there was a considerable amount of mutual antipathy. After a degree of political interference, and a fortunate break, Tedder was appointed as the Deputy to Air Chief Marshal Sir Arthur Longmore at Middle East Air Command in November 1940.[8] He would spend three years in the Middle East, taking over as the Air Officer Commanding-in-Chief in May 1941 when Longmore was removed from post, and during this period successfully forged – or perhaps re-developed – the principals of effective integration of air and land forces. As has already been stated, the rest of Tedder's wartime career will not be covered here, but it is worth noting that he was not a natural choice as a wartime commander: Churchill was initially concerned by his lack of command and operational experience during the inter-war years, where he had spent a considerable amount of time in either the training or procurement worlds. The 'outstanding national and allied commander' appeared from a background that did little to suggest his tremendous capacity for inspirational leadership and driving inter-service co-operation.

His post-Air Force career, reflecting his breadth of interests, spanned a variety of areas. Having taken up an appointment as one of six BBC governors on departing the Service at the end of 1949, he was surprised to be asked to accept a one-year appointment within three months as the head of joint-services in Washington, and then as Britain's first representative on a newly formed NATO executive committee. A year later, in June 1951, he was installed as the Chancellor of Cambridge University, a position which gave him a tremendous degree of personal pleasure, second only to becoming President of Surrey County Cricket Club in 1953. Tedder also became involved in business, as a director and chairmen of the Standard Motor Company (later to become Standard Triumph International). He maintained a life-long friendship and close correspondence with Eisenhower, and also stayed close to the issue of facilities for other ranks

in the form of the Malcolm Clubs, which he and his second wife, Toppy, fought hard to maintain even as his health began to fail. In many ways he had a life that was oft-touched with sadness: both his first and second wives pre-deceased him, and he lost both a son and step-son in RAF service.[9] Yet throughout his life, and even while battling against Parkinson's disease at the end, he remained full of both humour and enthusiasm. Any readers who wish to gain a deeper understanding of Tedder are strongly recommended to read Vincent Orange's biography, *Tedder: Quietly in Command*, as well as *With Prejudice*, his war-time memoirs.

Having thus learnt something of Tedder as an individual, we now need to turn to *Air Power in War*. The book itself was based upon a series of four lectures given by Tedder at Cambridge in 1947, who had been invited to give the annual Lees Knowles lectures in military science that year.[10] An official version was produced by His Majesty's Stationary Office, as well as the publicly-available publication from Hodder and Stoughton upon which this review is based – although there is very little difference between them. Given its origin, it will perhaps not come as a surprise that it is organised into only four chapters – based upon the lectures – nor that it is quite short, running only to 124 pages, and is ***eminently*** readable. The four chapter headings covered The Unities of War, Air Superiority, Air Power in Relation to Sea Power, and The Exercise of Air Power, and each chapter was longer than its predecessor, with the final chapter coming in at two-and-a-half times the length of the first – from which it is possible to gain a first impression as to where Tedder placed the main emphasis of his work.

The first short chapter, on the unities of war, clearly lays out Tedder's stall. Using sources ranging from Sun Tzu to Bacon and Liddell-Hart, it elegantly introduces one of his key themes – that of preparedness for whatever conflicts the future might bring. He begins with a highly cogent quote from Mahan:

'It behoves countries whose people, like all free peoples, object to paying for large military establishments, to see to it that they are at least strong enough to gain the time to turn the spirit and capacity of their subjects into the new activities which war calls for.'[11]

The importance of being able to 'gain the time' to prepare for a conflict was then contrasted with the traditional British approach of relying on her naval forces for security, and having an army only for Imperial policing, becoming involved in Europe as little or as much as we desired. However, all that had changed in 1914, when we became a *de facto* continental power, and were faced with the challenge – now in three very different environments – of being ready to buy time in the event of a crisis.

A slight diversion was provided by mention of the introduction of atomic weapons onto the scene, and after commenting on the coining of the phrase 'weapon of mass destruction', Tedder went on to outline his own thoughts in this area:

'I do hope we shall not dress up our attitude towards atomic warfare in any similar camouflage of morality [referring to the denigration of gunpowder by knights in the Middle

Ages]…let us face up frankly to the hard fact that the use of this new weapon is not a question of morality, but is simply and crudely a threat to the very existence of civilisation.'[12]

It was clear that he saw expediency rather than morality as the best defence, in that it would be too 'awful' to be used, which was perhaps a trifle naïve given the destruction wrought by conventional bombers during the war which he had been so intimately involved with. However, he returned to his main theme by considering what lessons we should draw from the war that had justbeen fought, and sounded a particularly cautionary note:

'Sometimes I feel we have a tendency to concentrate too much on our successes and our enemies' failures and consequently to draw our lessons too much from the final stages of the war. I suggest there is a danger in this… Surely it is the problems of the early stages of the war which we should study…Here is the real and vital test of our defence policies.'

The 'real and vital test' was then linked to the Munich crisis, where it was clear that Britain was not ready, and desperately needed both the year which Chamberlain bought as well as the eight months of the 'phoney war'. However, having come close on two previous occasions (i.e. the World Wars), Tedder's clear concern was that we should not end up in such a position again. His belief was that any future war would be both total and world-wide, and that this would require a different approach to 'economy' in peace-time, with the aim of having united and efficient armed forces, able to work co-operatively rather than in competition, and thereby ready to act swiftly as 'one of the world's policemen.'

The second chapter, covering air superiority, was also relatively short, and considered the subject from a particularly practical perspective. Air power was defined as the ability to use the available air space as you wished, while denying its use to the enemy. However, in order to exercise air power, air superiority had to be achieved – and indeed the same held true at sea even from relatively early on in the war – in that sea power could not be exercised without sufficient air superiority. The fight for air superiority though had to be regarded as a campaign rather than a battle, with the added problem that those being supported on the surface often did not feel secure unless they could see the Air Force over them. The Germans were perceived to have had a simple approach to this in the early days of the war, using all-out surprise attacks to destroy any air opposition, followed by destruction of aircraft factories to prevent the force being re-equipped or rebuilt. However, in the Battle of Britain they were not able to gain air superiority from the outset, and then moved to stages in their campaign which required such superiority in order to be a success.

A strong case was made for the fact that comparisons of relative strengths of opposing air forces were not as simple a guide to likely superiority as was the case with land or sea forces:

'There is in fact no rule-of-thumb solution to the problem of securing air superiority, no simple formula…it is not capable of any precise or mathematical assessment. Orders of battle may be a very misleading criteria…I could only

say I "thought" and "felt" that the air situation would be all right…'[13]

Tedder then identified that the pre-war RAF belief in the importance of the offensive was correct by considering what happened as the Germans diverted more and more of their effort onto defensive measures, in that while their ability to produce aircraft, and in particular fighters, steadily increased throughout the war, they were not able to make use of them. He cogently pointed out that in the third quarter of 1944, German monthly fighter production was higher than that of the British and American aircraft industries combined, and yet at this time the Allies had almost absolute air superiority, which, as Speer pointed out, was simply because as soon as the aircraft were produced the Allies destroyed them. In Tedder's words:

'I emphasise this point because it is a principle fundamental to any understanding of air power. An air force composed of fighters alone is not an air force, and is not a defence…'[14]

From this perspective, the strategic air offensive forced the Luftwaffe to fight for air superiority over its own 'vital living space' by day and night which, in conjunction with events on the Eastern front, effectively led to the organisation being bled dry of experienced aircrew. A keen fan of General Smuts, Tedder concluded by quoting his comments from the First World War regarding the need to secure 'air predominance', before finishing with his own thoughts:

'One sometimes hears it said that the air battle must be won first, before land or sea operations can take place; that can be misleading: air superiority must be established, and the greater the degree of that superiority the better, but the air battle is continuous, and when it is won the war is all but won.'

Chapter three concentrated on the relationship between air power and sea power, and the differences that had become evident in terms of traditional understandings of how sea power operated. Although longer than the previous chapters, it did contain a considerable degree of repetition. Taking examples from the Norwegian and Mediterranean campaigns, the case was strongly made that sea power could no longer operate unless it had sufficient air superiority, with losses of significant capital ships an inevitable consequence of operating within an area where the enemy had clear control of the air. Operations around Crete were examined in some detail, with Tedder's deduction that:

'The price in surface ships was three cruisers and six destroyers sunk; one battleship, one aircraft carrier, three cruisers and one destroyer seriously damaged; and one battleship, four cruisers and six destroyers in need of extensive repairs…[once again] magnificent, but not war…to operate surface ships under an enemy air superiority… which was unchallengeable – this was clearly no longer an operation of war.'

The successful action at Dunkirk, where a barely-sufficient level of air superiority enabled the evacuation flotilla to operate with a tolerable level of losses, was contrasted with Tunis in 1943, where clear Allied air superiority combined with sea power resulted in the capture of 248,000 German and Italian servicemen due to a complete inability of the enemy

to evacuate by sea or air. Positive examples were also cited, such as the official attribution of shipping losses in the Baltic and North-West European sea-board North of the Straits of Dover, which concluded that 88 per cent of the 2,471 enemy ships sunk or damaged were due to aircraft action.

Consideration was also given to the Pacific and U-boat campaigns. The former was considered to be a special case due to the great ranges involved, which made the use of carrier aviation a prerequisite. However, the continued advantage in terms of performance of land-based aircraft was also noted. Examination of the U-boat problem culminated with a graph which showed the increasing proportion of U-boat casualties caused by air compared with surface vessels, where, from 1943 onwards, aircraft scored the majority of successes in every year.[15] This element ended with a short exposition on the 'fleet in being' and its likely future influence, given that the majority of capital ships on all sides had fallen prey to aircraft or submarines – with of course a significant number coming to ignominious ends in 'safe' harbours or anchorages. No final conclusion was reached, other than that the lessons of the war needed to be carefully considered alongside scientific assessments of impending possibilities, with the emphasis on being ready for the future.

The final chapter pulled all of the preceding elements together, and made the case for air power in a compelling manner, perhaps being one of the first publications after the Second World War to include a considerable degree of factual detail regarding the actual impact on the German war effort produced by the Allied Air Forces. Although Tedder began by making clear that he did not believe that air power by itself could win wars, and that it was the balance between the three arms of defence which was important, the bulk of the chapter was spent in determining how much air power could contribute towards winning a war. The extreme flexibility of air power was identified as one of its 'dominant characteristics', which in conjunction with centralised control allowed a power of concentration that was 'unequalled' by any other form of warfare. The changing approach towards the bomber over the course of the war from the other services and government perspectives was noted, moving from what was initially perceived as an extravagance to become an essential element in almost all campaign plans – and the consequent danger of dispersal and waste of effort due to too many calls upon the force. As Tedder put it himself:

'Air warfare cannot be separated into little packets; it knows no boundaries on land or sea other than those imposed by the radius of action of the aircraft; it is a unity and demands unity of command.'[16]

The idea of the Air Force going off to fight some form of private war, somehow removed from that of the rest of the forces, was also addressed – and firmly rebutted, with a clear exposition of just how much advice, guidance and control was provided by other military and government leaders via a range of committees. Perhaps the only slightly discordant note was an exposition on the value

of an air force in counter-insurgency operations, although this was relatively brief.

An overview of the Allied bomber offensive against Germany was provided, which formed the largest part of the chapter – and was introduced, with perhaps a wry smile on Tedder's face as he delivered the words, by comparing the first directive issued to Bomber Command in 1940 after the German invasion of the West (i.e. France), with the last directive issued to the Anglo-American strategic bomber forces – both giving oil and lines of communication as the priority targets. His point was that bombing policy had swung through a huge circle. The differing types of target sets were considered, together with the impact of night operations – and the rationale underpinning the 'area' attacks against German towns. Mention was made of the forces diverted to air defence by Germany; where nearly 900,000 people were employed on the anti-aircraft defences by 1944, which was very close to the peak strength of the entire RAF during the war. The growth in tonnage of weapons delivery onto German targets was contrasted with the decline of that on England, and particular attention was paid to the effects produced on the railway system in France prior to D-Day, where traffic was reduced to a third of its normal level, and with wider consequences for the rest of the German rail system, which was unable to provide raw materials to the war industries due to the loss of rolling stock.[17] The consequences of targeting oil production at the same time were also considered. Tedder's closing summary was quite simple: at the start of the war, air power, in the form of the RAF, had been just strong enough to hold the enemy back from the heart of Great Britain's war effort, and provided that essential element of time to allow all three armed forces to be built up to enable a fight for victory, as opposed to survival, to commence. Air power had also provided the only means to continue the fight against Germany itself, for at least four years of the war, and had contributed significantly towards enabling victory both at land and sea. Looking to the future, while it was accepted that sea power was still vital to the nation's security, in Tedder's mind it was air power that in any future conflict would inevitably determine the end result.

So how should we regard Tedder's book today? The world has obviously changed a great deal, especially with regard to societal values and the norms of international relations, as well as the type of conflict that we are currently engaged in. From our perspective, perhaps the most important elements are those that relate to the need for preparedness, and understanding the impact of changes in technology on future warfare. The concept of the size of standing armed forces in a democracy being determined by the need to be capable of withstanding an initial onslaught, and thus allowing the nation to bring itself onto a war footing in order to succeed in an all-out conflict possibly seems dated today, although the analysis that identifies technology as a potential way out of the conundrum was highly prescient.[18] Furthermore, his advice to look at learning the lessons from the beginning of a conflict, not just the end, is well worth bearing in

mind. The analysis of the impact of the Combined Bomber Offensive also still stands as an excellent summary of this area of the war, and a powerful argument for the effects that air power can create in a major conflict. And although our futureologists at present predict more of the same, applying some careful thought to the less-likely end of the conflict spectrum through Tedder's eyes might make for some uncomfortable thoughts. Notwithstanding any of the above, while his memoirs make for excellent reading, *Air Power in War* stands as a testament to an individual who knew a great deal about the application of air power in a joint environment, and from which present and future generations of airmen will always be able to draw something of value.

Orange, Vincent. *Tedder: Quietly in Command*. Edited by Sebastian Cox, Studies in Air Power. London: Frank Cass, 2004.

Peden, G.C. *Arms, Economics and British Strategy*. Cambridge: Cambridge University Press, 2007.

Tedder, Lord. *Air Power in War*. First ed. London: Hodder and Staughton, 1947.

Notes

[1] Lord Tedder, *Air Power in War*, First ed. (London: Hodder and Staughton, 1947), p 123.

[2] Series Editor's Preface to: Vincent Orange, *Tedder : Quietly in Command*, ed. Sebastian Cox, Studies in Air Power (London: Frank Cass, 2004), p xiii.

[3] Air Chief Marshal, Trafford Leigh-Mallory, was also a member of Magdelene College, and although he and Tedder were students at the same time, they were never particularly friendly. In fact, Tedder had prickly relationships with a number of future RAF senior officers, including (as will be seen), Dowding and Slessor.

[4] The precise title of his thesis was *The Navy of the Restoration from the Death of Cromwell to the Treaty of Breda: its Work, Growth and Influence*.

[5] His first application was made in March 1915, which appeared to have foundered in a sea of red tape, and he was advised to re-apply in December 1915.

[6] Dowding sought disciplinary action against Tedder for having taken more spares than he should have done. The request for action was overturned by Trenchard, but Tedder never forgave Dowding, and considered him unfit for high command. Orange, *Tedder: Quietly in Command*.

[7] All biplane types, consisting of Short Singapore IIIs, Vickers Vildebeest and Hawker Audax – no fighter types at all.

[8] The man originally proposed for the job, Air Vice-Marshal Owen Boyd, had been landed at Sicily instead of Malta on the outward journey, and as a result had been captured.

[9] His son was killed in action in 1940 on a daylight bombing raid over France, whilst his stepson died in a training accident in 1946.

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[11] Tedder, *Air Power in War*, p 15.

[12] Ibid., p 19.

[13] Ibid., p 39-40.

[14] Ibid., p 44.

[15] Ibid., Opposite p 82.

[16] Ibid., p 91.

[17] A number of the graphs used by Tedder to illustrate his points are reproduced at Annex A.

[18] For more on this concept see G. C. Peden, *Arms, Economics and British Strategy* (Cambridge: Cambridge University Press, 2007).