Haig and Trenchard: Achieving Air Superiority on the Western Front[1]

By Sergeant Paul Marr

This article will examine the influence of Haig and Trenchard on the development of British air power during the First World War. Haig and Trenchard have both been criticised for employing unrealistic offensive tactics unsuited for the modern battlefield of the First World War. This article will demonstrate that in spite of popular perceptions to the contrary, Haig and Trenchard developed British air power methodically, logically and efficiently. However, Haig and Trenchard applied their offensive policies too rigidly at times, which had dire consequences for many British airmen, and for this they are deservingly criticised. Nevertheless in the shadow of these tragedies what is sometimes ignored is that by 1918 the Royal Air Force was highly efficient at the operational level and contributed significantly to the effectiveness of the British Expeditionary Force and eventual victory.

Introduction

The First World War saw the introduction and development of 'virtually every important manifestation' of modern air power roles.[2] Yet study of the air operations on the Western Front themselves, and the relationships between army commanders and their air leaders, still require academic scrutiny.[3] Haig's reputation as a 'technophobe,' at first glance, appears to preclude him as an area of study for the air power historian.[4] This impression is reinforced when, as late as 1914, Haig is reputed to have said:

> *"I hope none of you gentlemen is so foolish as to think that aeroplanes will be able to be usefully employed for reconnaissance purposes in war. There is only one way for a commander to get information by reconnaissance, and that is by the use of cavalry".*[5]

When considered with Trenchard's reputation as a 'stubborn and uncaring commander, who squandered the lives of his men,' the collaboration between Haig and Trenchard seems an unhealthy combination for the development of British air power during the First World War.[6] However, when studying air power during this period, particularly with regard to Haig, by consulting the actual 'actions' and 'written opinions' of those involved, a clearer perception of events may be obtained.[7] This paper therefore, will examine the considered actions and written opinions of Haig and Trenchard, in order to trace their combined influence and effect on the development of British air power during the First World War.

The literature surrounding Haig is divisive in the extreme, and there is no indication that a consensus is near at hand.[8] Tim Travers argued that Haig failed to adapt to the realities of the modern battlefield, and that his reluctance to heed advice from subordinates led to the offensives of the Somme and Passchendaele being pursued longer than was appropriate.[9] Gerard De Groot supported this when he argued that Haig's inability to adapt to new technology was responsible for him sending thousands of soldiers to 'a futile death.'[10] In Haig's defence, J.M. Bourne argued that Haig's ability to adapt new technologies and tactics into an effective cohesive doctrine, under pressure from his own government, the pressures of coalition warfare, and whilst overseeing the expansion of the army, was 'an administrative triumph.'[11] Gary Sheffield believed that Haig was one of the most significant and most successful British Generals.[12] His achievements have never been equalled, before or since 'in British military history,' and yet his record as a war time commander has been condemned in Britain.[13] Trenchard is condemned by association. Arthur Gould Lee's assertion that Trenchard's offensive policies during the First World War were as 'irrational as Haig's unyielding adherence to attrition,' links Trenchard's reputation to Haig's.[14] This view is supported by Tami Davis Biddle who described Trenchard as Haig's 'disciple.'[15]

In order to understand Haig, and by extension Trenchard, it is necessary to place them in 'the historical context in which they belong.'[16] Their shared belief in the efficacy of offensive operations in the pursuit of military goals ensured that Haig held Trenchard in high regard.[17] This belief was not peculiar to Haig and Trenchard in the years leading up to the First World War.

The development of technologies such as national railways, barbed wire and the machine gun, increasingly conferred the advantage in military operations to the defender. In spite of the evidence, there was a perception in Europe that the 'attackers would hold the advantage on the battlefield.'[18] This led to a belief that 'conquest was relatively easy' and the growth, of what Stephen Van Evera called, 'the cult of the offensive.'[19] Travers argued that prior to the war, the British Army also exhibited the symptoms of an 'unrealistic cult of the offensive.'[20] Therefore, Haig and Trenchard's belief in the offensive will be shown to be consistent with the prevailing attitudes of the times they lived in. Perhaps a more pertinent consideration is the short history upon which Trenchard and Haig had to draw upon when developing their air policies. Richard Overy argued that in order to develop doctrine effectively, five factors must be considered: Impact of politics; technology; experience; efficient review procedures; and the 'eccentricity factor.'[21] Trenchard believed that air power was 'an offensive and not a defensive weapon.'[22] In light of the limited experience on which Trenchard had to draw, this premise, as a doctrinal springboard, will be compared to more modern ideas on air power to assess its validity.

The paper will then show that Haig and Trenchard developed British air power methodically and logically according to a mutually agreed military role. The most significant role played by air power during the First World War was as an auxiliary to the artillery arm.[23] Insightfully Haig wanted his air service to provide his artillery with targeting information and other vital battlefield intelligence.[24] Haig was happy to leave the details of how to achieve this effect to Trenchard, and gave him a relatively 'free hand' to develop the Royal Flying Corps (RFC) in France.[25] Trenchard believed that for an air force to be successful it must first gain and then maintain air superiority.[26] The factors he considered essential to winning air superiority were; 'material and supply, training, tactical employment of aircraft and the morale of the fighting and ground personnel.'[27] It will be demonstrated that Trenchard developed the RFC in France in accordance with these principles, and his policies were consistently supported by Haig.

Finally, the RFC and later the RAF contribution to events in France during 1918 will be examined to demonstrate the effectiveness of Haig and Trenchard's policies. An in depth discussion regarding the legacy effect of Haig and Trenchard's policies on the strategic air campaign of 1918 is considered to be beyond the scope of this paper. What will be shown here is that the RAF, at the operational level, 'added considerably to the potency' of the British Expeditionary Force (BEF) and proved that air power had become integral to the conduct of war.[28] As the men who built the air service, Haig and Trenchard deserve 'some of the credit' for this success.[29]

Origins of the Relentless Offensive

Haig and Trenchard have been criticised for the tactics they deployed and the policies they pursued during the First World War.[30] Bourne characterises the popular image of Haig as the 'ambitious cavalryman' who, because of a limited understanding of tactics and strategy, caused the needless death of 'hundreds of thousands of men.'[31] Trenchard also received criticism for pursuing his offensive policies with a 'single-mindedness that bordered on stubbornness' regardless of the 'losses incurred.'[32] When studying history, in this case air power history, Peter

Gray emphasised 'the need to situate events in their own context.'[33] This is particularly apposite when applied to Haig and Trenchard's development of British air power during the First World War. There is some confusion as to when the two men met. Trenchard himself maintained that their first meeting took place in December of 1914, whereas Boyle, his biographer, placed the meeting in early January 1915.[34] What is more important than the date in this case, is that it marked the start of what was to 'prove an interesting and fruitful relationship'[35]

Trenchard was born in 1873 in Taunton and as a youth he proved to be an indifferent student. He eventually however, qualified for the militia in 1893 and was subsequently commissioned in to the Second Battalion of the Royal Scots Fusiliers.[36] He proved to be a keen sportsman and was diligent in his duties. By the time he met Haig Trenchard had served in India, Nigeria and had seen active service in South Africa during the Boer war, where he had been wounded. At the age of 39 Trenchard qualified as a pilot and joined the RFC in 1912.[37] Haig was born in 1861 in Edinburgh. As a youth 'he did not shine at his lessons,' nevertheless he managed to secure a place at Oxford.[38] Although he eventually left university without a degree, this was due to a residency issue and not because of academic failure; in any event, 'possession of a degree' provided no material 'benefit' in the army he was joining.[39] Haig saw no advantage to completing another term at Oxford, deciding instead to take a place at Royal Military College Sandhurst in 1884, where he graduated first in his class in December of that year.[40] Haig was ambitious and diligent; he became a serious student of soldiering however, he also took the time to partake in Edwardian past times such as polo and hunting. He served in India, attended Staff College and saw active service in the Sudan campaign and the South African Boer war.[41] Although over a decade separated Haig and Trenchard in age, their past times and careers show them to be typical examples of Edwardian officers of that time.[42] To understand Haig and Trenchard in the context of their times, it is necessary to explore the prevailing attitudes of their times.

During the years leading up to the First World War a number of technological innovations, such as the machine gun, barbed wire and railways, tipped the balance firmly in favour of the defence in warfare.[43] Yet despite this 'nearly all statesmen perceived that it favored the offense' during this period.[44] This dichotomy resulted in the growth of a phenomenon which has become known as the 'cult of the offensive.'[45] As a consequence there was a belief in European States that wars would be short.[46] The belief in the short war was not, however, universal. Von Moltke himself was hopeful that the Schlieffen Plan would work however, he feared that the resulting war could 'drag on for years, wreaking immeasurable ruin.'[47] Whilst in Britain, the General Staff answered the Government's question as to the probable length of a war against Germany with the quiet warning, 'it would not be safe to calculate on the war lasting less than six months.'[48] Nevertheless, despite a tacit acknowledgment of the strength of the defensive in warfare, all of the European major Powers had adopted 'elaborate and inflexible offensive war plans' by 1914.[49] Commentators disagree as to the extent the 'cult of the offensive' contributed to the start of the First World War.[50] However, a lengthy examination on this topic is beyond the scope of this paper the purpose of the discussion here, is merely to illustrate the pervasiveness of offensive ideologies across Europe prior to 1914.

In Britain the preference for the offensive could also be detected during this period. Travers stated that in the years leading up to the First World War the British Army adopted 'an unofficial doctrine or cult of the offensive' which was closely related to the 'concept of the psychological battlefield.'[51] Whilst Travers was critical of Haig, the main recipient of his condemnation was the army as an organisation.[52] According to Travers, the British 'cult of the offensive' was based on three tenets: the influence of fire-power on the battlefield, a primitive concept of Social Darwinism which doubted the reliability of the working classes under fire, and the belief that warfare was 'structured, ordered, and therefore potentially decisive.'[53]

Elements of Travers 'British cult of the offensive' can be detected in Haig and Trenchard's attitudes. Haig's acceptance of the structured battle can be seen in his writings before the war. In *Cavalry Studies* Haig stated 'there are four phases in a battle,' the introduction, engagement, supreme effort and finally, the 'taking advantage of victory,' or indeed retreat.[54] De Groot suggests that *Cavalry Studies* demonstrated Haig's inability to appreciate the influence of technology on the battlefield, because of Haig's belief that 'The role of the cavalry on the battlefield will always go on Increasing.'[55] If, as Sheffield suggests, the word 'cavalry' is changed to 'mobile troops' the relevance of Haig's argument is placed in a more balanced context.[56] After the war in his final dispatch Haig argued that the war should be seen as one continuous battle where the losses incurred during the supreme effort were inevitably high as this was where 'the price of victory' was paid.[57] He also affirmed his commitment to the offensive pre-war when he wrote: 'it is the "offensive" which alone can bring a war to a speedy termination.'[58] After the war he stated, 'decisive success in battle can be gained only by a vigorous offensive.'[59] His belief in moral qualities was illustrated when he stated, 'success in battle depends mainly on *moral*, and a *determination* to conquer.'[60]

Trenchard's preference for the offensive is revealed in his 'Future Policy In The Air' of 1916. This memorandum was written in the wake of the battles of Verdun and the Somme; it encapsulated Trenchard's thoughts on the employment of aircraft and defined the RFC's air policy.[61] In it Trenchard stipulated the British air effort should be one of 'relentless and incessant offensive.' He went on to state, as an offensive weapon, the effect of aircraft 'cannot be too highly estimated.' He believed that the moral effect of an aircraft on the enemy was, 'out of all proportion to the damage which it can inflict.'[62] According to Trenchard the only logical policy to be followed in the air was 'to exploit this moral effect of the aeroplane on the enemy.'[63] Haig and Trenchard were by no means the only British officers to believe so emphatically in offensive operations. In 1915 the General Staff had concluded 'that to obtain a decisive result a sustained offensive on a large scale is necessary.'[64] As late as January 1918 Robertson, then Chief of the Imperial General Staff (CIGS), during a meeting of the Supreme War Council stated 'the offensive was in fact the best form of defensive.'[65] To criticise Haig and Trenchard because of their offensive beliefs would be unfair, as has been shown their belief in the offensive merely 'reflected their commitment to the Edwardian martial culture' prevalent at the time.[66]

A more pertinent question would be whether their shared belief in the offensive was prejudicial to the development of the air arm? At first blush the evidence suggests not. A

brief examination of the development of air power theory indicates that air power has been seen as an offensive weapon from the First World War to the present. During the First World War, according to Maurice Baring, the German air service believed that the offensive strategies employed by the British should be emulated. He stated that in January 1917 General von Bulow was moved to say, 'we must exchange *defence* for *offence*, and do to the English what they are doing to us.'[67] This would appear to confer legitimacy to Haig and Trenchard's offensive policies. However, as Trenchard's assistant for many years, Baring's perspective may have been influenced by his admiration for Trenchard.[68] In Italy, the inter-war years saw Giulio Douhet offer a vision of future air power which admitted 'of no defense only offense.'[69] Heavily biased towards the Italian strategic position during the inter-war period, Douhet nevertheless concluded that air power had to be employed offensively to be successful.[70] John Slessor, whom Phillip Meilinger characterised as 'one of The Royal Air Force's most brilliant thinkers,' came to similar conclusions.[71] Slessor maintained the 'moral' advantage in the air campaign can only be realised 'by an instant and unremitting *offensive*.'[72] More recently the latest publication of 'UK Air and Space Doctrine' stated 'offensive action is inherent to air power.'[73] In this light, Haig and Trenchard's bias towards the offensive use of air power was almost intuitive. Intuition however, should not be the foundation upon which doctrine is developed. According to Overy, the essential ingredient to the creation of 'effective doctrine' is experience; he stated emphatically that it 'does not emerge in a vacuum.'[74] By 1914 barely eleven years had elapsed since the Wright Brothers had recorded the world's first successful flight in a powered aircraft therefore there was little in the way of historical experience upon which doctrine could be based.[75]

Although air power was in its infancy, the Army had been experimenting with aircraft since at least 1907; Andrew Whitmarsh stated that by 1914 the army in fact 'saw aircraft not as a 'useless and expensive fad' but as a vital weapon system.'[76] Although defeated in the 1912 Army Manoeuvres, Haig's comments regarding the performance of aircraft were positive and thoughtful. In addition to stating that the overall performance of aircraft had been good, he also pointed to the need for close cooperation between Army Headquarters and the flying corps. He warned against an over reliance on the information provided by aircraft. Finally, he also noted the perennial problem of distinction between friendly and enemy aircraft.[77] The opposing commander, Lieutenant General Grierson, was even more positive. Grierson believed the use of aircraft had proved to be 'an unqualified success' going so far as to state that the aircraft had 'revolutionised the art of war.' He also suggested that the elimination of enemy aircraft should be a priority in order to ensure success in future operations.[78] These comments demonstrated that at the highest levels of the Army, there was an appreciation of the advantages air power could provide to an army in the field, and that they were prepared to fight to retain this advantage. Additionally the *Field Service Regulations* of 1909 provided guidance for the use of aircraft on operations. The value of an aircraft as an intelligence gathering asset was highlighted. It was stressed that the most reliable and safest place for the aircraft to gather intelligence was behind enemy lines.[79] Haig's involvement in drafting the *Field Service Regulations* is significant.[80] Haig's presence, if not influence, can be linked to both, where the air battle was perceived to take place on the battlefield and the

necessity to fight for air superiority. It seems Haig knew what he wanted from the air arm, all he needed was a man he 'trusted' to pursue his vision, and in Trenchard, he had found is man.[81] However what needs to be established now, was whether Haig and Trenchard's collaboration led to the effective development of British air power during the First World War.

Construction of the Relentless Offensive

Before it can be ascertained if Haig and Trenchard acted logically and developed the RFC efficiently, it is first necessary to briefly examine the effect they desired to achieve. When Haig took command of the British Army in France, he was explicitly informed:

> The defeat of the enemy by the combined Allied Armies must always be regarded as the primary object for which the British troops were originally sent to France.[82]

As C-in-C of the BEF, Haig believed the role of the air arm was to support the Army in its primary objective of inflicting a 'decisive victory' over the German forces in France.[83] He outlined how to best achieve this in a letter to the Army Council in November 1916. His first priority was for artillery, photographic and contact patrol aircraft and, 'sufficient fighting machines, of the best type that can be procured, to protect them.'[84] The next stated priority was for reconnaissance and disruptive bombing of tactical and strategic targets behind enemy lines. Finally, although he did not reject long range bombing out of hand, he doubted its utility to the overall campaign and rated it as a secondary requirement.[85] Haig believed the air service's primary contribution to his campaign was to be as spotters for his artillery and for the provision of accurate reconnaissance. History has shown that these were indeed the 'key roles played by air power in the Great War,' which lends legitimacy to Michael Crawshaw's assertion, that the 'greatest contribution of the RFC to the eventual victories was due to Haig's 'clearsightedness.'[86]

As General Officer Commanding (GOC) the RFC in France, it fell to Trenchard to realise Haig's aerial policies. Haig had a high regard for Trenchard who he believed 'rendered very valuable service' whilst commanding the RFC attached to Haig's First Army.[87] During the course of their working relationship Haig had come to trust Trenchard and, 'left him to his own devices' on air power matters.[88] Trenchard believed the most efficient way to provide Haig's desired effect was the offensive employment of air power. In his famous memorandum 'Future Policy in the Air' he stated:

> The aeroplane is not a defence against the aeroplane; but it is the opinion of those most competent to judge that the aeroplane, as a weapon of attack, cannot be too highly estimated.[89]

It was Trenchard's contention that air superiority could be won through a 'policy of relentless and incessant offensive' which would have allowed 'the machines detailed for artillery co-operation and photography,' which was Haig's priority, to carry out their tasks 'unmolested.'[90]

He believed that air superiority was 'essential' as it permitted 'the free employment' of the air service conducting essential ancillary tasks.[91] The critical factors which he stated contributed to the gaining of air superiority included material and supply, tactics and training.[92] It is therefore necessary to investigate Trenchard's performance in these areas, to ascertain whether his leadership contributed positively, to the gaining and maintaining of his prerequisite for success, namely air superiority.

Shortly after the Battle of the Somme Trenchard released a memorandum in which he emphasised his belief in the efficacy of an offensive aerial policy.[93] In it he highlighted the importance of procuring a 'large number of fighting machines of the best types' in order to conduct offensive operations effectively.[94] This demonstrated Trenchard's awareness that no matter how brave the pilot, in the end the quality of the machine he was flying had a significant impact on the end result.[95]

Trenchard understood that he had to fight for resources and was prepared to do so.[96] Unofficial complaints regarding the quality of aircraft were often sent to Sefton Brancker whilst he was at the War Office.[97] Brancker and Trenchard opened up this back channel in the interests of efficiency as a means to speed up the official process.[98] Nor was Brancker the only person to receive Trenchard's letters of concern. Trenchard's correspondence showed that he was extremely conscious of advances made by the German air service; he warned Robertson, then CIGS, as early as September 1916, of a German machine which was superior to most of the British aircraft.[99] He also monitored developments of German tactics and operational tempo closely. In August 1916 he notified Haig that the Germans had employed a new low flying technique which he was having difficulty countering.[100] Later that month Trenchard noted the increased German operational tempo; he pointed to evidence that the Germans were bringing in new aircraft from outside the operational area.[101] Although Trenchard believed that the RFC would maintain 'predominancy in the air' for the remainder of 1916, he was 'nervous' as to the prospects of maintaining air superiority during spring 1917.[102]

In February 1917 Trenchard felt that the situation was severe enough to voice his concerns to the General Staff through official channels. His complaint this time was the poor supply of advanced aircraft, which had deteriorated to such an extent the success of the aerial offensive had been, in his opinion, 'very seriously jeopardised.'[103] Consequently he believed there would be more casualties incurred by the RFC in pursuit of their duties than had been suffered in previous battles.[104] Although the Germans had regained air superiority by the winter 1916/17, earlier than Trenchard had anticipated, it can be seen that he predicted the possible danger and attempted to address it, in order to pre-empt the consequences.[105] Trenchard's concern to limit casualties also led him to investigate the possibility of procuring a 'bullet proof waistcoat' for his observers to wear whilst flying. Procurement of resources for the RFC was complicated by fierce competition from the Royal Naval Air Service (RNAS) which limited efficiency until the Air Ministry was formed. This could hardly be the fault of the GOC in the field. The example discussed above illustrates the methods Trenchard employed in his pursuit of valuable resources.

His correspondence demonstrated he was proactive and worked hard to ensure his men had the best equipment he could obtain, in order to effectively pursue his policies.

With regards to air power, the importance of training cannot be over emphasised, Richard Hallion believed, '*training is everything*.'[108] Hallion stated that the RFC's poor training programmes almost had disastrous consequences between 1916 and 1917.[109] Trenchard himself has been criticised for sending pilots into battle with severely limited experience, some with as little as twenty hours flying training.[110] David Jordan stated that training was a major failing of the RFC as a whole and led to many unnecessary casualties; although he cautioned, 'accusations that Trenchard and his fellow senior officers were responsible for effectively murdering new pilots are unhelpful.'[111] As commander in the field of the RFC, Trenchard's control over training in Britain was limited. That is not to say that he did not attempt to improve the situation. As early as December 1915 Trenchard wrote to protest at the inadequate training one of his pilots had received.[112] It was acknowledged that the situation was 'far from satisfactory,' and he was invited to discuss possible 'satisfactory' solutions.[113] Trenchard was not satisfied and continued to apply pressure for better training by sending pilots he deemed unfit back to England.[114]

At this stage in the development of RFC training there was little agreement regarding the best way to train pilots. Writing in March 1916 regarding the question of pilot training, Brancker stated, 'I have never yet met two people who agreed closely on this subject.'[115] Finally, due to 'several serious complaints' received from Trenchard, a new qualifying test was promulgated.[116] The new standard required graduating pilots to receive a minimum of 15 flying hours which was to be strictly observed.[117] Eventually pressure from Trenchard led to the minimum requirement being raised to 20 hours flying time, with a minimum of 2 hours on the type to which the pilot was to be posted.[118] Twenty hours was pitiful experience to be sent into battle with; however, it should be noted that the situation could have been worse without Trenchard's efforts to improve the training of the pilots of the RFC.

When Trenchard's correspondence as GOC RFC in France is examined, his reputation as an 'uncaring commander who needlessly threw away the lives of his men in a vicious battle of attrition,' is cast into doubt.[119] The only certainty for a commander in war is that there will be casualties.[120] Whilst Trenchard was not 'eager' to suffer casualties he was prepared to do so to maintain his offensives.[121] Even whilst suffering 'appalling' losses in pilots and aircraft, he wrote to Brancker and stated, 'it is worth it if the battle is won and if we hit the Bosche hard.'[122] Trenchard was aware of the exigencies of the moment and was determined to provide his commander with the service, which contributed most effectively to the overall campaign. In order that his directives could be executed successfully by the men of the RFC, Trenchard endeavoured to appropriate the best equipment and training possible in the limited circumstances. Trenchard's success operating within such narrow parameters led John Hussey to declare Trenchard as 'the second greatest British fighting commander in France, after Haig himself.'[123]

Whilst Haig had an appreciation for what air power could do for his armies, he held no illusions that he understood the technicalities of 'exactly how this would be achieved.'[124] He placed such a high regard on what air power could provide for him that on at least one occasion, he considered cancelling an operation if flying was prohibited because of bad weather.[125] For technical details he came to rely heavily on advice from Trenchard.[126] However, he did take a keen interest in the activities of the RFC as can be seen by his diary entries.[127] He was appreciative of the efforts of the RFC and in the build-up to the Battle of the Somme; he noted the 'extraordinary activity which is going on in the air.'[128] His comments on many of Trenchard's daily reports indicated that he read and was therefore well aware of the RFC's casualties and was even sympathetic to their efforts.[129] Haig, was aware from an incident earlier in the war, of a reluctance to rely on intelligence gathered by aircraft. Haig had informed his 'Gunner Generals' that 'he was going to use Air' in the war and they had better too.[130] In an effort to increase the awareness and understanding of air power amongst his various commands, he periodically insisted that Air policies be communicated down to Corps and Divisional commander level.[131] In a further effort to increase understanding and cooperation between the army and the RFC, he requested that tactics be developed for the direct cooperation between 'assaulting infantry' and RFC squadrons.[132] Haig believed in air power and did not want its efficiency limited because of ignorance of its utility by his commanders at any level.

In the battle for resources Haig supported Trenchard by 'putting his personal weight behind' Trenchard's requests for new aircraft, to ensure that the RFC had the right machines and 'enough of them.'[133] In September 1916 Trenchard wrote to inform Haig that he had requested a new type of aircraft from the War Office. Haig decided that, in the interests of expediency, the authority of the C-in-C would 'hasten' delivery, and requested Trenchard draft a letter for his signature.[134] Haig subsequently wrote to the War Office requesting the required machines as a matter of urgency, and stressed that without them air supremacy may have been lost.[135] According to Higham, the process of subordinate commanders drafting letters for their seniors for onwards transmission, was 'an old military and official habit.'[136] Haig's support for Trenchard is further highlighted by an incident in 1917. Trenchard was once again frustrated by the last minute cancellation of expected aircraft and wrote to Haig.[137] Once again Haig supported his Air commander and took the matter up with the CIGS, indicating that the late change had placed his plans at a 'grave disadvantage.[138] His appreciation of the value of air power was further illustrated when he prioritised the resource requirements of the RFC above tanks, and even guns and ammunition for the armies in France.[139]

By 1918 the RAF had a proportionately larger number of fighter aircraft than either the German or French air forces and Morrow suggests that one of the primary explanations was the RAF's policy of the 'incessant offensive.'[140] During the winter of 1917-18 the RFC had a total of 2620 active service machines on inventory, 1381 of which were of a fighter variety.[141] When Trenchard relinquished command of the RFC in France to return to England he, with Haig's backing, had 'created the fighting traditions' that Higham claimed are essential for morale, and had built a force with a distinctly offensive formation.[142] However, the most important test of generalship,

is winning.[143] Trenchard's 'essential' requirement for the successful employment of air power in support of the army was, as already stated, air superiority.[144] In modern terms, 'control of the air' is still considered the most important role of air power, as it ensures 'freedom of manoeuvre.'[145] Therefore, to briefly indicate the effectiveness of Haig and Trenchard's air force, the essential question is how successful was the RFC in maintaining air superiority? Trenchard and the RFC had secured air superiority by the start of the Battle of the Somme; however, the Germans gained the upper hand from late 1916 until the middle of 1917 when the Allies once more were in control of the skies.[146] Hallion stated that the German air service 'was never again in a position to contest seriously for control of the air,' after April 1917.[147] For long periods of time Trenchard was successful in maintaining air superiority for Haig, and so could have reasonably assumed that his offensive policies were effective. This perception may have been reinforced by reports which suggested that the Germans had been adopting British tactics.[148]

The evidence suggests that Haig and Trenchard were cognisant of the requirements of material and supply, tactics and training which Trenchard believed were critical to ensuring the achievement of air superiority.[149] They were methodical and logical in their approach to developing RFC doctrine and force structure, and their approach had met with a large measure of success. However, it is in the very awareness of these requirements that the seeds of criticism for their offensive policies can be detected. During the winter of 1916-1917 the allies had lost air superiority. Over the course of the winter the German air service had introduced a new tactical concept, the Jagdstaffeln. This was a unit of handpicked pilots whose sole duty was to intercept and destroy allied aircraft. Added to this was the introduction of newer more advanced machines that had superior performance to British aircraft. Although the defensive posture maintained by the German air service throughout the war was a strategic handicap, it did allow 'them to achieve local tactical superiority' over the Western Front during the early months of 1917.[150] The ultimate consequence of this combination of factors is remembered as 'Bloody April.'[151] The RFC lost 708 aircraft and sustained 1014 casualties, 473 of whom were killed in action (KIA) between January and the end of May 1917. In April alone 275 aircraft were lost with 421 casualties, 207 of whom were KIA.[152] This represents the worst casualty rate suffered by the RFC up to this point in the war; in fact it was not to be exceeded until the last few months of the war in 1918.[153] Haig was kept informed of casualties through Trenchard's daily reports and so both men were aware of the scale of the problem.[154] As has been demonstrated, Haig and Trenchard were aware of the inefficiencies of both the supply of aircraft and the training of aircrew. However, despite acknowledging that air superiority had been lost, it was proposed to mount 'an even more vigorous offensive,' and to send RFC units further behind enemy lines in order to regain air 'ascendancy.'[155] Within this 'overemphasis' on the offensive, the manifestation of Travers' British 'cult of the offensive' can be detected.[156] Arthur Gould Lee acknowledged the importance of 'offensive spirit' in warfare but placed a higher premium on 'technical superiority' as it 'conferred the initiative.'[157] It is clear that Trenchard, and by extension Haig, ignored the 'technical threshold' whilst promulgating their air doctrine during this period of the war. In 1939 senior RAF officials suggested that poor air tactics used during the First World War could be seen as inexperience.[158] Jordan is less

forgiving, noting that some aspects of Trenchard's approach were inflexible and displayed 'a considerable lack of vision.'[159] Although Trenchard's offensive policies may have pleased Haig, they did not provide 'the best use of the resources' that were available.[160]

However, if Trenchard and Haig are to be held responsible for shortcomings of aerial policy in 1917 then, by logical extension, they deserve some measure of 'credit' for any evidence of efficient employment of air power in 1918.[161]

Legacy of the Relentless Offensive

The only test of Generalship that matters ultimately is winning.[162] The success of Haig and Trenchard's air policies can be demonstrated during 1918 in both defensive and offensive operations. The RFC's operations in a defensive role were vital to the War effort and in defeating the German spring offensive Operation MICHAEL in March 1918. According to S.F. Wise, Operation MICHAEL was 'Germany's last great effort to win the war, and her last opportunity.'[163] The RFC's role in the event of a large German offensive had already been defined in a memorandum released in January 1918, entitled 'The Employment of the Royal Flying Corps in Defence.'[164] According to the memo, in defence, RFC operations had to be primarily offensive in order to gain and maintain 'ascendancy in the air.'[165] Morrow credits Trenchard for the document however, GHQ did invite comments before its eventual general release.[166] That the senior artillery officer noted the necessity of air superiority indicated that Haig and Trenchard had met with some success educating the army regarding RFC operations.[167] Although the 'March Retreat' is considered by some 'as one of the worst defeats in the history of the British army', Sheffield was more optimistic when he suggested the failure of the German spring offensives represented 'a British defensive victory.'[168]

The German Offensive started on 21 March, although initially the RFC were outnumbered, and casualties were heavy, the campaign was prosecuted with such characteristic aggression that by 24 March they had gained a measure of 'aerial ascendancy.'[169] According to Wise, air superiority was gained because of the 'spirit which Trenchard' had imbued within the RFC.[170] Salmond's reports to Trenchard emphasised the success of operations against the German ground forces. On 22 March he reported that 'one low flier thinks he killed at least 500!'[171] The next day he reported 'low fliers' had successfully engaged an attack 'assembling on the 3rd Army front.'[172] After concentrating one hundred aircraft over German positions with orders to 'take every risk' in order to carry out their low flying attacks, he speculated that this 'had a great effect against the enemy attack.'[173] This impression has been subsequently supported. According to Wise, the heavy casualties the RFC had inflicted, led to an over emphasis of the 'importance of British air supremacy' by the German General Staff.[174] Although he admitted that it was difficult to 'quantify precisely,' Jordan maintains RFC operations were 'arguably the most significant' contributing factor in defeating the German Spring Offensives of 1918.[175] The success of the RFC in combat during Operation MICHAEL demonstrated the air force that Haig and Trenchard had created 'had almost perfected the majority of its missions' by this stage of the war.[176]

The contribution of British air power in an offensive role is perhaps best summarised by examining its effectiveness during the Hundred Days period and its contribution to the ultimate victory in 1918. During this period a review of operations by the Tank Corps demonstrated the value of RAF operations to that arm. It stated the RAF had 'carried out their duties with great skill, pertinacity and courage,' that they had prevented the loss of tanks on 'many occasions,' and there was 'no doubt that they proved of considerable value.'[177] Although the working practices of the artillery adapted to the rapid advances of the army, the 'RAF continued to detect 80% of targets.'[178] The effect on the Germans was considerable. One report quoted a German officer 'urgently' requesting protection from 'large numbers' of British aircraft that had been operating in his area 'entirely unmolested.'[179] In another the 'indescribable panic and chaos' caused by an RAF low flying attack led to road blocks as troops fled in 'utter confusion.'[180] Captured documents revealed that the Germans acknowledged the superiority of the British air force and admitted that the German air service could not match its efficiency.[181] The evidence shows the effectiveness of the RAF was recognised by the British and the Germans. Haig and Trenchard's offensive policies had ultimately led to a force capable of winning air superiority, which enabled effective cooperation with the other arms of the army at a critical stage in the war. As an auxiliary to the Army the RAF had emerged as 'arguably the most effective air service in the world.'[182] Haig did not share the belief within the War Office that the war on the Western Front could not be won until 1919.[183] Haig believed the war could be won in 1918 and after Amiens, he was determined to win the 'War in the shortest possible time.'[184] According to Sheffield the key to victory was the 'cooperation between the various arms' of the army.[185] Without air power, Jordan concluded, winning the war would have been 'infinitely more difficult. It may even have proved impossible.'[186]

Conclusion

To understand Haig and Trenchard it is necessary to study them in the context of their 'own times.'[187] The backgrounds of the two men indicate that their attitudes were consistent with the martial culture prevalent in the Edwardian army. The years leading up to the First World War had given rise to a phenomenon that Evera has described as a 'cult of the offensive.'[188] Despite evidence to the contrary, the general perception prevalent throughout Europe was that the advantage would be held by the army on the offensive in war. This led to all of the major belligerents formulating and deploying offensive strategies at the outbreak of the First World War. The influence of the 'cult of the offensive' was also detectable in British military thinking prior to the outbreak of war. The British variant of the 'cult of the offensive' was based upon three elements. An over-emphasis on offensive action, a belief that superior morale qualities could overcome defensive firepower, and a predictable structure to war fighting. On closer examination, Haig and Trenchard's ideas on offensive action merely reflect British military thinking prevalent at that time.

With regard to air power, however, the belief in offence was an insightful starting point for the formulation of an incipient air power doctrine. The concept was validated when the Germans adopted a more offensive stance copying the successful British approach over the Somme

in 1916. Since that time, offensive operations have consistently been reiterated as the most effective use of air power. Experience, one of the pillars upon which sound doctrine is built, was in 1914 lacking, however, the army had been experimenting with aircraft prior to the First World War and by 1914 the aircraft was considered an essential weapon for war.

The objective the British Government had set Haig was the defeat of the German army in the field as part of a coalition force. He believed that the air service should support the army in that goal. His priorities were for aircraft for artillery cooperation and fighters to protect them. Secondly he required aircraft that could perform reconnaissance duties and target tactical and strategic objectives behind enemy lines. He did not pursue a long range bomber force actively as he saw the long range bombing as subordinate to his goal of defeating the German army. Haig knew what he wanted his air service to provide for his army, but was content to leave the details of how this was to be done to his air commander. Trenchard believed air power had to be offensive to be effective in support of the army. His primary objective was to win and retain air superiority, as this permitted all other duties to be carried out efficiently without interference from the enemy. According to Trenchard, the essential factors which would contribute to gaining air superiority were supply, tactics and training.[189]

Trenchard was aware that the quality of the aircraft was a critical factor when deciding the outcome of any combat and wanted the best machines available for his pilots. The RFC under Trenchard had gained and maintained air superiority during the Battle of the Somme. However, from September 1916 onwards, Trenchard became concerned that the tactical balance in the air war was shifting and aggressively pressured the authorities for more advanced aircraft types. Unfortunately, as the GOC of the RFC in France, he had little control over the procurement issues that plagued British air power at this time. The consequences as he was only too aware, was the RFC casualty rate would increase. Another area the RFC suffered was in the quality of the training. Trenchard has been criticised for sending inexperienced pilots with minimal training in to combat. What is forgotten is that Trenchard relentlessly pursued a more vigorous training programme for his aircrew. He regularly returned to England pilots he deemed unfit to fly in his theatre of operations. His efforts were instrumental in eventually raising the standard of training. Trenchard operated effectively within the narrow parameters open to him as a commander in the field. He was prepared to suffer casualties in order to win the war; but he took very real steps to limit them. His reputation as an uncaring commander does not stand up under close scrutiny.

Haig's contribution to the process was informed oversight. He remained up to date on RFC operations through Trenchard's daily reports, upon which he occasionally wrote notes. He was appreciative of RFC efforts and supported his commander with his personal authority in the battle for resources. Air power was one of Haig's highest priorities for the army in the battle for resources. Haig actively educated his army in the importance of air operations, in order to improve efficiency and to promote closer cooperation. By 1918 when Trenchard returned to England to become CAS, the force Haig and Trenchard had built was distinctive because

of the number of fighting machines it had at its disposal. Under Trenchard the RFC in France had been successful in maintaining air superiority for long periods, which suggested that the offensive policies he pursued were effective. However, during the periods that air superiority had been lost the offensive policies were applied too rigidly and resulted in heavy casualties. During the early months of 1917 especially, Trenchard and Haig can reasonably be criticised for pursuing the offensive in the air too aggressively. They were aware of the training issues, as well as the technical superiority of the German machines, yet they made no alteration to the overall prosecution of the air war during this period. This did not represent an efficient use of resources.

In 1918 the air service that Haig and Trenchard had built demonstrated its effectiveness in both defensive and offensive operations making very real contributions to ultimate victory. On 21 March, in an effort to end the war, the Germans launched Operation MICHAEL, an offensive largely directed at the British forces. Trenchard had foreseen the possibility and had carefully outlined the RFC roles for defence. Predictably emphasis was placed on the offensive deployment of the RFC. When the Germans attacked, the RFC battled aggressively and as early as 24 March had started to exert a measure of air superiority. Low flying attacks against German ground forces were particularly effective and caused panic and consternation among the German forces. Eventually the German offensives failed resulting in a British defensive victory in which the RFC's contribution was an essential part.

In offensive operations during the Hundred Days, the RAF proved to be highly effective supporting the army as a whole, and artillery and tanks particularly. The Germans recognised that the British had won air superiority and low flying attacks against ground personnel once again proved to be successful. Haig's vision of the air force was as an arm to aid the army in the field at the operational and tactical level. The RAF added a dimension to the BEF which increased its overall efficiency which in the end allowed Haig to pursue a decision in 1918. Haig and Trenchard's air policies ultimately led to an air force which was highly effective in supporting the army in the field. The model that Haig and Trenchard created was considered so effective that it was subsequently incorporated for use by the Germans in the Second World War.[190] Additionally it was consistent with Britain's 'most fervidly proclaimed' war aim; that of destroying 'Prussian militarism.'[191]

Notes

[1] This article is based on a dissertation presented for completion of MA Air Power: History, Theory and Practice at the University of Birmingham. As such the author would like to publicly acknowledge the guidance and support of Dr Peter Gray throughout the development of this project. Dr David Jordan's valuable observations and insights prior to publication are also greatly appreciated by the author.

[2] Tami Biddle. 'Learning in Real Time: The Development and Implementation of Air Power in the First World War.' In Sebastian Cox and Peter Gray, (Eds), *Air Power History: Turning Points from Kitty Hawk to Kosovo*. (Frank Cass, 2005 [2002]) p 3

[3] E. R. Hooten. *War Over The Trenches: Air Power And The Western Front Campaigns 1916-1918*. (Midland Publishing, 2010) p 6, p 11-12
[4] Gary Sheffield And David Jordan. 'Douglas Haig and Airpower.' In Peter Gray and Sebastian Cox, (Eds), *Air Power Leadership: Theory and Practice* (HMSO, 2002) p 264
[5] Quoted in, Andrew Whitmarsh. 'British Army Manoeuvres and the Development of Military Aviation, 1910–1913.' *War in History*, Vol. 13 No.3 (July 2007) p 326. It should be noted that there is some doubt as to whether Haig actually voiced this opinion. Whitmarsh goes on to note that some comments attributed to 'allegedly technophobic officers (always at second or third hand) are often contradicted by the actions of those same officers, and by their own written opinions.' Whitmarsh. 'British Army Manoeuvres and the Development of Military Aviation, 1910–1913.' p 326. Gary Sheffield and David Jordan suggest that, Haig's involvement in producing the *Field Service Regulations (FSR) 1914*, which recognised the importance of aircraft in any war, makes this sentiment 'rather surprising.' Sheffield and Jordan. 'Douglas Haig and Airpower.' p 269. Therefore this quote attributed to Haig should be treated with caution.
[6] Philip Meilinger. 'Trenchard and 'Morale Bombing': The Evolution of Royal Air Force Doctrine before World War II.' In Philip Meilinger, (Ed), *Airwar: Theory and Practice*. (London: Frank Cass, 2003) p 41
[7] Whitmarsh. 'British Army Manoeuvres and the Development of Military Aviation, 1910–1913.' p 326
[8] Gary Sheffield. *The Chief: Douglas Haig And The British Army*. (Aurum 2012) p VI Foreword by Saul David
[9] Tim Travers. *The Killing Ground*. (Pen & Sword Military, 2009 [1987]) p 97
[10] Gerard J. De Groot. 'Educated Soldier or Cavalry Officer? Contradictions in the pre-1914 Career of Douglas Haig.' *War & Society*, Vol. 4 No. 2 pp 51-69 (September 1986) p 66-67
[11] J.M. Bourne. *Britain And The Great War 1914-1918*. (Edward Arnold, 1989) p 173-174
[12] Sheffield. *The Chief*. p 380
[13] Bourne. *Britain And The Great War 1914-1918*. p 174
[14] Arthur Gould Lee. *No Parachute*. (Grub Street, 2013 [1968]) p 223
[15] Tami Biddle. 'British and American Approaches to Strategic Bombing: Their Origins and Implementation in the World War II Combined Bomber Offensive.' In John Gooch (Ed), *Airpower: Theory and Practice*. (Frank Cass, 1995) p 95
[16] Sheffield. *The Chief*. p 380
[17] Meilinger. 'Trenchard and 'Morale Bombing.' p 41
[18] Stephen Van Evera. 'The Cult of the Offensive and the Origins of the First World War.' *International Security*, Vol. 9 No. 1 (Summer 1984) p 58
[19] Ibid p 62, p 58
[20] Travers. *The Killing Ground*. p 37
[21] Richard Overy. 'Doctrine Not Dogma: Lessons From The Past.' *Royal Air Force Air Power Review*, Vol. 3 No. 1 pp 32-47 (Spring 2000) p 41
[22] Trenchard Papers, MFC 76/1/4 RAF Museum. Future Policy In The Air dated 22 September 1916
[23] Lee Kennett. *The First Air War, 1914-1918*. (Simon And Schuster, 1999 [1991]) p 220

[24] Sheffield, And Jordan. 'Douglas Haig and Airpower.' P 272
[25] Kennett. *The First Air War, 1914-1918*. p 223
[26] Air 9/8, TNA. Enclosure 4. 'Air Superiority. Extracts from a Memorandum of General Trenchard, September 29th, 1916. As the memorandum cites instances in 1917 and uses terms such as Royal Air Force and 'in the late war': the author believes the memorandum was written post 1918.
[27] Ibid
[28] David Jordan. 'The Royal Air Force and Air/Land Integration in the 100 Days, August–November 1918.' *Royal Air Force Air Power Review*, Vol. 11 No. 2 (Summer 2008) p 28
[29] Sheffield, And Jordan. 'Douglas Haig and Airpower.' P 267-268
[30] B. H. Liddell Hart. *Strategy: Second Revised Edition*. (Meridian, 1991 [1954]) p 162 On Haig, Liddell Hart argued that 'a method which requires four years to produce a decision is not to be regarded as a model for imitation. Gerard J. De Groot. 'Ambition, Duty And Doctrine: Douglas Haig's Rise To High Command.' In Brian Bond and Nigel Cave, (Eds), *Haig: A Re-Appraisal 80 Years On*. (Pen And Sword Military, 2009 [1999]) p 49, De Groot argued that Haig's 'tactical perceptions' were influenced by the then 'irrelevant cavalry myth.' Tim Travers. *How The War Was Won: Factors That Led To Victory In World War One*. (Pen & Sword Military Classics, 2005 [1992]) p 180-181. Travers believed that even the victories of 1918 were inefficient and wasteful of soldiers' lives. On Trenchard, Robin Higham. *Air Power: A Concise History*. (The Military Book Society, 1972) p 28. Higham criticised Trenchard for sending virtually untrained pilots in to combat. Biddle. 'British and American Approaches to Strategic Bombing. p 127.
Biddle suggested Trenchard adapted the *offensive à l' outrance* 'and applied it to the air.'
[31] J.M. Bourne. 'Haig And The Historians.' In Brian Bond and Nigel Cave, (Eds), *Haig: A Re-Appraisal 80 Years On*. (Pen And Sword Military, 2009 [1999]) p 1
[32] Meilinger. 'Trenchard and 'Morale Bombing': The Evolution of Royal Air Force Doctrine before World War II.' p 41
[33] Peter W Gray. 'Why Study Air Power History?' *Royal Air Force Air Power Review, Vol.4 No.3* (Autumn 2001) p 10
[34] Trenchard Papers, MFC 76/1/61 RAF Museum. Andrew Boyle. *Trenchard: Man of Vision*. (Collins, 1962) p 128
[35] Sheffield And Jordan. 'Douglas Haig and Airpower.' p 271
[36] Boyle. *Trenchard*. ch 1
[37] Ibid Ch 2-5
[38] Sheffield. *The Chief*. p 9-12
[39] Ibid p 16
[40] Ibid p 16- 17
[41] Ibid p 18- 52
[42] Higham. *The Military Intellectuals in Britain: 1918-1939*. p 133. Higham stated that Trenchard was 'of his time and class.' Sheffield. *The Chief*. p 7. Sheffield stated that Haig was 'the product of an era very different from our own.'
[43] Stephen Van Evera. *Causes Of War: Power And The Roots Of Conflict*. (Cornell University Press, 1999) p194

[44] Jack S Levy. 'The Offensive/Defensive Balance of Military Technology: A Theoretical and Historical Analysis.' *International Studies Quarterly*, Vol. 28 No. 2 (June 1984) p 234
[45] Van Evera. *Causes Of War*. p193
[46] Van Evera. 'The Cult of the Offensive and the Origins of the First World War.' p 58
[47] Christopher Clark. *The Sleepwalkers: How Europe Went To War In 1914*. (Penguin Books, 2013 [2012]) p 561
[48] CAB 16/18 B, The National Archives (TNA). Note by the General Staff dated March 12, 1912.
[49] Scott D Sagan. '1914 Revisited: Allies, Offense, and Instability.' *International Security*, Vol. 11 No. 2 (Autumn 1986) p152
[50] Sagan. '1914 Revisited: Allies, Offense, and Instability.' p 154. Sagan maintains that the 'cult' was a necessary contributory factor but not sufficient cause by itself. Van Evera. 'The Cult of the Offensive and the Origins of the First World War.' p 58. Van Evera suggests that the 'cult' was 'the principle cause' of the First World War.
[51] Tim Travers. *The Killing Ground*. (Pen & Sword Military, 2009 [1987]) p 55
[52] Bourne. 'Haig And The Historians.' p 6
[53] Travers. *The Killing Ground*. p 37
[54] Sir Douglas Haig. *Cavalry Studies: Strategical And Tactical*. (General Books LLC, 2012 [1907]) p 50
[55] De Groot. 'Educated Soldier or Cavalry Officer?' p 65
[56] Sheffield. *The Chief*. p 55
[57] Gary Sheffield and John Bourne. *Douglas Haig: War Diaries And Letters 1914-1918*. (Phoenix, 2006 [2005]) p 517-518
[58] Haig. *Cavalry Studies*. p 8
[59] Sheffield and Bourne. *Douglas Haig: War Diaries And Letters*. p 522
[60] Haig. *Cavalry Studies*. p 50 Emphasis in the original
[61] Maurice Baring. *Flying Corps Headquarters 1914-1918*. (William Blackwood & Sons Ltd, 1968 [1920]) p 178. Biddle. 'Learning in Real Time. p 7. Biddle highlighted that the document was important 'and much quoted.'
[62] Trenchard Papers, MFC 76/1/4 RAF Museum. Future Policy In The Air dated 22 September 1916
[63] Ibid
[64] WO 158/17/27, TNA, enclosure 27 General Staff Note titled 'The Offensive Under Present Conditions.' Dated 15 June 1915
[65] CAB 25/120/SW70, TNA, 'Draft summary of the opinions expressed at the first session of the 3rd meeting of the Supreme War Council.' Held on January 30th 1918
[66] Biddle. *Rhetoric and Reality in Air Warfare*. p 27
[67] Maurice Baring. *Flying Corps Headquarters 1914-1918*. (William Blackwood & Sons Ltd, 1968 [1920]) p 199-200 emphasis in the original.
[68] Ibid p xvi In a letter Baring describes Trenchard as 'one of the few *big men of the world*.' Emphasis in the original.
[69] Giulio Douhet. *The Command of The Air*. Translated By Dino Ferrari. (Air Force History And Museums Program, 1998 [1942]) p 55
[70] Michael D Pixley. 'False Gospel for Airpower Strategy? A Fresh Look at Giulio Douhet's

"Command of the Air." Accessed 23 August 2013. http://www.airpower.maxwell.af.mil/airchronicles/cc/douhet.html

[71] J. C. Slessor. *Air Power And Armies*. (The University of Alabama Press, 2009 [1936]) This is stated in Meilinger's Foreword to this edition. Page is un-numbered.

[72] Ibid p 10 Emphasis in the original.

[73] *Joint Doctrine Publication 0-30 UK Air and Space Doctrine*. (The Development, Concepts and Doctrine Centre, 2013) p 4-12

[74] Richard Overy. 'Doctrine Not Dogma: Lessons From The Past.' *Royal Air Force Air Power Review, Vol. 3 No. 1* (Spring 2000) p 43

[75] Peter Simkins. *Air Fighting 1914-1918: The Struggle For Air Superiority Over The Western Front*. (Imperial War Museum, 1978) p 5

[76] WO 163/12, TNA, Minutes of the Army Council meeting held 24/25 October 1907, p 24 item 15. The council authorised further experiments with aeroplanes. Whitmarsh. 'British Army Manoeuvres and the Development of Military Aviation, 1910–1913.' p 346

[77] WO 279/47, TNA, Army Manoeuvres 1912, p 162

[78] Ibid p 170

[79] *Field Service Regulations Part 1, Operations. Reprinted with Amendments* (London: War Office, 1912 [1909]) p 118-123

[80] Travers. 'The Offensive and the Problem of Innovation in British Military Thought 1870-1915.' p 540

[81] Sheffield and Jordan. 'Douglas Haig and Airpower.' p 278

[82] WO 158/21, TNA, Enclosure 27. Letter from the War Office signed by Kitchener to Haig on taking command of the BEF dated 28 December 1915

[83] WO 158/21, TNA, Enclosure 93. Letter from Haig to the Army Council dated 01 November 1916

[84] Ibid

[85] Ibid

[86] John Buckley. *Air Power In The Age Of Total War*. (UCL Press, 1999) p 47 For the key roles of air power during the First World War. Michael Crawshaw. 'The Impact Of Technology On The BEF And Its Commander.' In Brian Bond and Nigel Cave, (Eds), *Haig: A Re-Appraisal 80 Years On*. (Pen And Sword Military, 2009 [1999]) p 167 For Haig's 'clearsighteness.'

[87] WO 256/5, TNA. Diary entry for 18 August 1915

[88] Sheffield and Jordan. 'Douglas Haig and Airpower.' p 272

[89] Trenchard Papers, MFC 76/1/4. 'Future Policy In The Air' 22 September 1916. RAF Museum

[90] Ibid

[91] Air 9/8, TNA. Enclosure 4. 'Air Superiority. Extracts from a Memorandum of General Trenchard, September 29th, 1916. As the memorandum cites instances in 1917 and uses terms such as Royal Air Force and 'in the late war': the author believes the memorandum was written post 1918.

[92] Ibid

[93] Trenchard Papers, MFC 76/1/4. 'Short Notes On The Battle Of The Somme' 20/11/16. RAF Museum

[94] Ibid

[95] Lee Kennett. *The First Air War, 1914-1918*. (Simon And Schuster, 1999 [1991]) p 94
[96] Eric A Ash. 'Air Power Leadership: A Study Of Sykes and Trenchard.' In Peter Gray and Sebastian Cox, (Eds), *Air Power Leadership: Theory and Practice*. (HMSO, 2002) p 172
[97] Trenchard Papers, MFC 76/1/5. Letter dated 25 March 1916 from Trenchard to Brancker. 11 April 1916 Trenchard to Brancker. MFC 76/1/6. 4th June 1916 Trenchard to Brancker. RAF Museum
[98] Trenchard Papers, MFC 76/1/5 Letter dated 23 March 1916 Brancker to Trenchard. 24 March 1916 Trenchard to Brancker. RAF Museum
[99] Trenchard Papers, MFC 76/1/8. Letter dated 30th September 1916. Trenchard to Robertson. RAF Museum
[100] WO 158/34, TNA. Letter dated 12 August 1916 From Trenchard to Adv GHQ and GS
[101] WO 158/34, TNA. Letter dated 31 August 1916 From Trenchard to Adv GHQ and GS
[102] Trenchard Papers, MFC 76/1/8. Letter dated 30th September 1916. Trenchard to Robertson. RAF Museum
[103] Air 1/522/16/12/5, TNA. Letter dated 11th February 1917. From Trenchard to CGS
[104] Ibid
[105] Buckley. *Air Power In The Age Of Total War*. p 53
[106] Trenchard Papers, MFC 76/1/8. Letter dated 2nd October 1916. Trenchard to Brancker. RAF Museum
[107] Morrow. *The Great War In The Air*. p 368
[108] Richard P Hallion. *Rise Of The Fighter Aircraft 1914-1918*. (The Nautical & Aviation Publishing Company Of America, 1984) p 160. Emphasis in the original
[109] Ibid
[110] Higham. *Air Power: A Concise History*. p 28 Alan Clark. *Aces High: The War In The Air Over The Western Front 1914-18*. (Fontana/Collins, 1974 [1973]) p 40
[111] David John Jordan. *The Army Co-Operation Missions Of The Royal Flying Corps/Royal Air Force 1914-1918*. (Unpublished dissertation, 1997) p 346, p 73
[112] Air 1/131/15/40/218, TNA. Memorandum dated 31 December 1915. From Trenchard to DDMA
[113] Air 1/131/15/40/218, TNA. Letter dated 5th January 1916. From DDMA to Trenchard
[114] Air 1/131/15/40/218, TNA. Letters dated 3/1/16, 20th February 1916. From Trenchard to DDMA
[115] Air 1/131/15/40/218, TNA. Letter dated 21st March 1916. From Brancker to Burke.
[116] Air 1/131/15/40/218, TNA. Letter dated 23rd March 1916. From Deputy Director of Military Aeronautics to GOC 6th Brigade, C,.CFS and OC Admin Wing.
[117] Ibid
[118] Air 1/131/15/40/218, TNA. Letter dated 17th May 1916, 15/11/16. Trenchard to War Office. Minute dated 9th December 1916 from Brigadier General Commanding Training Brigade.
[119] Philip Meilinger. 'Trenchard, Slessor, and Royal Air Force Doctrine before World War II.' In Philip Meilinger, (Ed), *The Paths of Heaven The Evolution of Airpower Theory*. (Air University Press Maxwell Air Force Base, 2001[1997]) p 45
[120] Rupert Smith. *Utility Of Force: The Art Of War In The Modern World*. (Penguin Books, 2006 [2005]) p 67

[121] Ash. 'Air Power Leadership: A Study Of Sykes and Trenchard.' p 172
[122] Trenchard Papers, MFC 76/1/7. Letter dated 9th September 1916. Trenchard to Brancker. RAF Museum.
[123] John Hussey. 'Portrait Of A Commander-in-Chief.' In Brian Bond and Nigel Cave, (Eds), *Haig: A Re-Appraisal 80 Years On*. (Pen And Sword Military, 2009 [1999]) p 34-35 fn 33
[124] Sheffield And Jordan. 'Douglas Haig and Airpower.' p 281
[125] Trenchard Papers, MFC 76/1/61. RAF Museum
[126] Higham. *The Military Intellectuals in Britain: 1918-1939*. p 136
[127] For examples see. WO 256/9, TNA. Haig's diary entry on 06 March 1916 he notes that a new aircraft can climb to 9000 ft in four minutes and compares this to the poor performance of aircraft in 1914. Also see diary entry 25 April 1916.
[128] WO 256/10, TNA. Haig's diary entry on 19 June 1916.
[129] For examples see, WO 158/34 Report dated 03 August 1916. Trenchard requests a rest for some of his men which Haig agreed to by writing on the report. Report dated 07 October 1916. Haig wrote on the bottom of the report, 'A highly credible performance in view of the weather conditions.' WO 158/35 Note dated 28 July 1917. Haig sends his congratulations.
[130] Trenchard Papers, MFC 76/1/61. RAF Museum
[131] Air 1/522/16/12/5, TNA. Minute Dated 6th October 1916. Minute Dated 9th April 1917.
[132] Air 1/522/16/12/5, TNA. Minute Dated 12 August 1917.
[133] Crawshaw. 'The Impact Of Technology On The BEF And Its Commander.' p 169
[134] Air 1/521/16/12/2, TNA. Letter dated 25/9/16. From Trenchard to GS and Adv GHQ
[135] Air 1/521/16/12/2, TNA. Letter dated 29/9/16. From Haig to War Office
[136] Higham. *The Military Intellectuals in Britain: 1918-1939*. p 136
[137] Air 1/522/16/12/5, TNA. Letter dated 13 July 1917 from Trenchard to CGS, Adv GHQ. In a folder marked Policy as to Type of Aeroplanes and Squadrons.
[138] Air 1/522/16/12/5, TNA. Letter dated 14 July 1917 from Haig to Chief of the Imperial General Staff. In a folder marked Policy as to Type of Aeroplanes and Squadrons.
[139] MUN 4/2791, TNA. Letter from Haig dated 5th June 1917
[140] Morrow. *The Great War In The Air*. p 363
[141] Air 1/476/15/312/214, TNA. Table of British Aeroplanes – All Fronts 24/1/18
[142] Higham. *The Military Intellectuals in Britain: 1918-1939*. p 138
[143] Bourne. *Britain And The Great War 1914-1918*. p 174
[144] Air 9/8, TNA. Enclosure 4. 'Air Superiority. Extracts from a Memorandum of General Trenchard, September 29th, 1916.
[145] *Joint Doctrine Publication 0-30 UK Air and Space Doctrine*. (The Development, Concepts and Doctrine Centre, 2013) p 3-3
[146] Simkins. *Air Fighting 1914-1918*. p 77. Buckley. *Air Power In The Age Of Total War*. (UCL Press, 1999) p 52-53
[147] Hallion. *Rise Of The Fighter Aircraft 1914-1918*. p 112
[148] Air 1/522/16/12/5, TNA. Minute dated 25 April 1917 from Adv GHQ signed by Kiggell
[149] Air 9/8, TNA. Enclosure 4. 'Air Superiority. Extracts from a Memorandum of General Trenchard, September 29th, 1916.

[150] Simkins. *Air Fighting 1914-1918*. p 42-44
[151] Hallion. *Rise Of The Fighter Aircraft 1914-1918*. p 74
[152] Peter Hart. *Bloody April*. (Cassell, 2006 [2005]) p 355
[153] Ibid p 355
[154] WO 158/35, TNA. Letter dated 6/4/17 from Trenchard to GHQ. Trenchard on this occasion characterises the casualties as, 'fairly heavy.'
[155] Air 1/522/16/12/5, TNA. Memo 'Policy In The Air' attached to a letter dated 9th April 1917 sent to the Army Commanders from GHQ and signed by Kiggell
[156] Travers. *The Killing Ground*. P 37-38
[157] Lee. *No Parachute*. p225
[158] Air 35/214, TNA. Memorandum by the Air Staff, 'Bomber Support For The Army' dated 21/11/1939.
[159] Jordan. *The Army Co-Operation Missions Of The Royal Flying Corps/Royal Air Force 1914-1918*. p 346 The author would like to thank Dr Jordan for clarifying his thinking on this point
[160] Ibid p 347
[161] Gary Sheffield. *Forgotten Victory: The First World War: Myths And Realities*. (Headline, 2002 [2001]) p 362
[162] Bourne. *Britain And The Great War 1914-1918*. p 173
[163] S.F. Wise. *Canadian Airmen And The First World War*. (University of Toronto Press, 1980) p 479
[164] Air 1/675/21/13/1422, TNA. Undated document
[165] Air 1/675/21/13/1422, TNA Undated document Appendix I. 'The Employment of the Royal Flying Corps in Defence.' 16th January 1918.
[166] Morrow. *The Great War In The Air*. p 310. Air 1/526/16/12/36, TNA. Letter dated 27th December 1917 from GHQ to GOC RFC, BGGS 'I' and MGRA
[167] Air 1/526/16/12/36, TNA. Letter dated 28/12/17 from MGRA to CGS
[168] Sheffield. *Forgotten Victory*. p 221
[169] Morrow. *The Great War In The Air*. p 311
[170] Wise. *Canadian Airmen And The First World War*. p 507
[171] Air 1/475/15/312/201, TNA. Letter dated 22 March 1918 from Salmond to Trenchard. Salmond had replaced Trenchard as GOC RFC in France in January 1918
[172] Air 1/475/15/312/201, TNA. Letter dated 23/3/18 from Salmond to Trenchard
[173] Air 1/475/15/312/201, TNA. Letter dated 25 March 1918 from Salmond to Trenchard
[174] Wise. *Canadian Airmen And The First World War*. p 509
[175] Jordan. *The Army Co-Operation Missions Of The Royal Flying Corps/Royal Air Force*. p 349, p 281
[176] Ibid p 283
[177] WO 95/94, TNA. Folder marked Summary of Tank Operations August to October 1918, memorandum 'The Battle Of Amiens.'
[178] Hooten. *War Over The Trenches*:' p 264
[179] Air 1/2124/207/74/3, TNA. Summary of Air Intelligence No 216 dated 24th September 1918
[180] Air 1/2124/207/74/3, TNA. Summary of Air Intelligence No 221 dated 30th September 1918
[181] Air 1/725/97/8, TNA. 'Extracts From 17th Army Order Dated 22 August 1918,' attached to letter dated 9th October 1918 from Adv RAF HQ

[182] Jordan. *The Army Co-Operation Missions Of The Royal Flying Corps/Royal Air Force*. p 350
[183] Sheffield and Bourne. *Douglas Haig: War Diaries And Letters*. P 434
[184] John Terraine. *Douglas Haig: The Educated Soldier*. (Cassell & Co, 2000 [1963]) p 461
[185] Sheffield. *Forgotten Victory*. p 261
[186] Jordan. *The Army Co-Operation Missions Of The Royal Flying Corps/Royal Air Force*. p 350
[187] Sheffield. *The Chief*. p 379
[188] Van Evera. 'The Cult of the Offensive and the Origins of the First World War.' p 58
[189] Air 9/8, TNA. Enclosure 4. 'Air Superiority. Extracts from a Memorandum of General Trenchard, September 29th, 1916. Trenchard lists the factors which contribute to achieving air superiority as; 'material and supply, training, tactical employment of aircraft and the morale of the fighting and ground personnel.' The importance Trenchard places on these factors is highlighted when he goes on to state, the 'Combination of these factors is essential to success. The absence of any one may entail failure.'
[190] Simkins. *Air Fighting 1914-1918*. p 77. Sheffield And Jordan. 'Douglas Haig and Airpower.' p 282
[191] John Gooch. 'Soldiers, Strategy And War Aims In Britain 1914-18.' In Barry Hunt and Adrian Preston, (Eds), *War Aims And Strategic Policy In The Great War, 1914-1918*. pp 21-40 (Croom Helm, 1977) p 24