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**The Pre-History of Royal Air Force Area  
Bombing, 1917-1942**

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requirements for the Degree of

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by

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Financial support was crucial in enabling me to devote myself, relatively full-time, to the research and writing of this thesis. A University of Canterbury Masters Scholarship paid for my course fees and day-to-day living expenses, without which I doubt I would have considered committing to the writing of a thesis. Soon after beginning work on this, I received a very welcome cash scholarship from Freemasons New Zealand which allowed me to undertake a three-week research trip to London. This enabled me to take my research in a very interesting and somewhat unexpected direction, but one which I hope the reader will share my enthusiasm for. Finally, after establishing several months ago that the thesis would benefit from a further round of revisions and rewrites beyond my original submission date, my parents generously sent me money to keep the rent paid once my university scholarship had expired.

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reference point for information on Air Officers and the organisational structure of the Royal Air Force.

Grateful thanks to the History Department for providing such a stimulating and supportive environment to work in, especially to Judy Robertson for upgrading my real estate for the final push. These are troubled times for the Arts at Canterbury, with a shadowy campaign from above to decimate the College of Arts by imposing an inappropriate financial model on the university. This has severely curtailed the work of several of my colleagues in the performing arts departments whose work has arbitrarily been declared 'non-core' but who are refusing to accept this without a fight. I hope that the new Vice-Chancellor will repair the damage done by the outgoing one.

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This work is dedicated to the memory of my two grandfathers, each of whom, in their own way, got me interested in things that fly.

## Abstract

This thesis charts the development of area bombing in British theory and practice before its formal adoption in the Second World War, and seeks to discover where its earliest origins can be located. Area bombing was the official policy of Royal Air Force Bomber Command between 1942 and 1945 in its strategic air offensive against Germany, and involved the bombing of industrial cities with the purpose of breaking down civilian morale and disrupting the German war economy. Most historical accounts present area bombing as a gradual development in bombing policy during 1940 and 1941, forced by a lack of success in destroying precise industrial targets from the air. This was the Air Force's stated policy during the previous two decades, but it proved impossible to implement under wartime conditions. Area bombing was thus gradually adopted by progressively broadening the definition of targets from individual installations to entire towns and cities.

This thesis rejects the traditional view, arguing instead that area bombing was at the heart of British bombing policy as early as the First World War. The legacy of this saw an 'area bombing mentality' cemented in the strategy of the Royal Air Force during the interwar period. As it was not possible to openly advocate the bombing of civilians during the 1920s and 1930s, this was shrouded in ambiguous language and kept hidden. However, the roots of area bombing come to the surface several times between the wars, and the speed with which area bombing was adopted in 1940 and 1941 shows that they were never deeply buried. While many historians have uncovered individual details that collectively support this contention, none have traced the development of this thought across the period 1917-42. Using a selection of contemporary documents and a thorough review of the secondary literature, this work shows that far from being an improvisation forced by necessity, the adoption of area bombing was unsurprising and can be traced back to 1917.

## Introduction

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Royal Air Force Bomber Command's 'area bombing' offensive against German cities in the Second World War officially took place between 1942 and 1945. The official Bomber Command historians define strategic bombing, of which area bombing is a variant, as 'a means of direct attack on the enemy state with the object of depriving it of the means or the will to continue the war'.<sup>1</sup> In the Second World War, area bombing involved large numbers of aircraft – sometimes in excess of a thousand – flying over towns and cities by night and dropping bombs indiscriminately on the built-up urban area in order to disrupt and demoralise the German war effort. In the words of the February 1942 order that made area bombing the official British bombing policy, 'the primary object of [bombing] operations should now be focussed on the morale of the enemy civil population and in particular, of the industrial workers'.<sup>2</sup> Exactly three years later, Bomber Command reached the operational culmination of area bombing in combination with strategic bombers of the American Eighth Air Force, based in the United Kingdom. Between 25,000 and 40,000 Dresdeners died in three bombing attacks (two British, one American) on 13/14 February 1945. At its peak, Bomber Command contained 226,000 people who were committed to prosecuting and sustaining the aerial offensive. Estimates of the proportion of the British war effort devoted to the offensive range from between 7 and 33 percent. 57,143 people were killed whilst serving in Bomber Command during the war, while a total of approximately 593,000 Germans died in British and American air attacks.<sup>3</sup>

Ever since the early 1960s, a historical controversy has raged over the effectiveness and the morality of the area bombing offensive. However, all sides in

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<sup>1</sup> C. Webster and N. Frankland, *The Strategic Air Offensive against Germany, 1939-1945*, 4 vols. (London: H.M.S.O., 1961), I, 6.

<sup>2</sup> Bombing directive, Air Vice-Marshal N.H. Bottomley (Deputy Chief of the Air Staff) to Air Marshal J.E.A. Baldwin (Acting Air Officer Commanding-in-Chief, Bomber Command), 14 February 1942. Printed as Appendix 8(xxii) in Webster and Frankland, *The Strategic Air Offensive*, 143-8.

<sup>3</sup> P. Addison, 'Retrospect', in Paul Addison and Jeremy A.M. Craig (eds.), *Firestorm: The Bombing of Dresden 1945* (London: Pimlico, 2006), 210. D. Richards, *The Hardest Victory: RAF Bomber Command in the Second World War* (London: Hodder & Stoughton, 1994), 297. A. J. Levine, *The Strategic Bombing of Germany, 1940-1945* (Westport, Conn.: Praeger, 1992), 189-90. Webster and Frankland, *The Strategic Air Offensive*, III, 286-7.

the debate have shown a remarkable lack of interest in the roots of area bombing. Historians since 1945 have largely agreed that area bombing began only after Bomber Command had attempted every other tactical method of bombing Germany since 1939, each of which had failed. By the start of 1942, Britain was locked in a ‘total war’ conflict, with victory a distant hope. In some ways, although area bombing could not produce rapid results, its adoption was a last throw of the dice for a country on the back foot and with few other prospects for striking the enemy. The debate over area bombing has not questioned this justification for its adoption, but I hope to do so.

This dissertation asks whether area bombing has origins earlier than 1940, and, if so, where these origins are located. It is *not* the purpose of this study to rake over the coals of area bombing’s effectiveness or morality. However, if deeper roots exist than have previously been acknowledged, then there are significant implications for these questions. Such roots would suggest that area bombing was *not* a policy of last resort, but that there was at least a degree of premeditation in its adoption.

This work is based upon a thorough review of secondary sources, as well as a selection of primary sources. While I propose a revisionist account of area bombing’s pre-history, this dissertation is unusual in the sense that the argument is not heavily reliant on newly uncovered documentary evidence. On the contrary, all the evidence used in this argument has been easily accessible to historians for decades. Many documentary sources appear as appendices in published works, while I gathered the remainder in a brief research effort at the National Archives and Royal Air Force Museum, both in London. My time there was limited and the distance between New Zealand and the United Kingdom did not allow for a repeat visit, necessitating the use of a broad net in selecting documents for examination. The extent of the historiography, however, provided me with a comprehensive starting-point. Many of the files used in this work (predominantly internal papers of the Air Ministry and the Cabinet) are also referenced in standard histories of the Royal Air Force during the period in question. Some of these documents, central to the dissertation, appear in full or in part as appendices at the end of this work. Such a brief survey of the archives inevitably means that the findings in this work cannot be regarded as conclusive, and there are points in the text where some speculation occurs in the absence of hard evidence. These points are noted as they arise. However, the evidence consulted

clearly supports the argument advanced, and I feel confident that further research would not significantly undermine the broad thrust of my argument.

‘The Pre-History of Royal Air Force Area Bombing, 1917-1942’ contains five chapters. The first surveys existing historiography, showing how this dissertation fits into the wider literature of area bombing. Chapters Two through Five contain the argument that deep roots of area bombing exist. Chapter Two examines the first strategic bombing, culminating in the creation of the Royal Air Force, in the First World War. Chapter Three tells of ‘the struggle for survival’ between 1919 and 1923, as the Air Force attempted to maintain its independence from the British Army and the Royal Navy by emphasising the potential of strategic bombing. Once independence was secure, the Air Staff debated how it was to construct a new, permanent, strategic bombing force. Chapter Four traces the way in which an ‘area bombing mentality’ pervaded the Royal Air Force between 1923 and 1939. In particular, bombing operations in the British Empire, home defence air exercises, and internal discussion of bombing policy are examined. The last years of peace, when the Air Force officially committed itself to a strategic bombing policy based upon precision targets, is inspected for continued traces of the area bombing mentality. Finally, Chapter Five analyses how, if such mentality was so pervasive in the Air Force, the war was two and a half years old before area bombing was officially adopted. Nine appendices follow at the end of the work, containing fuller extracts from some of the central documents discussed in the text.

## Chapter 1

# Area Bombing in History

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The historiography of Bomber Command's strategic air offensive against Germany during the Second World War is extensive. This is understandable, for it comprised a major proportion of the British war effort in both human and monetary terms. Also understandable is the fact that the period before 1939 has also been extensively studied. Although this literature is not nearly as large as that examining the war years, the 1920s and 1930s were a very important period in the history of the Royal Air Force as aviation technology and its military use, still in its relative infancy at the start of the period, developed.

This dissertation offers an alternative view of the roots of the area offensive to that found in the standard historiography. To understand how it is different, the existing account must first be surveyed. What becomes apparent is that area bombing is generally seen as the result of a prolonged experiment in strategic bombing during the first two and a half years of the war. Consequently, historians have spent more time debating the effectiveness and justification of the British bombing offensive than in searching for its origins. This has been exacerbated by a methodological quirk of the literature: a general tendency to consider the Second World War separately from the First World War and the interwar period. Works covering the periods 1914-18 and 1919-39 offer strong hints that the ideas fundamental to area bombing had strong roots in the two decades before the Second World War, but no author has systematically traced these hints through the formation of bombing policy during 1940, 1941 and 1942. It is the intention of this work to do that.

### **The Historiography of Area Bombing**

The historiography of area bombing implicitly deals with two questions: the contribution of area bombing to victory, and the moral justification for area bombing. Initially, the answer to these questions in the literature was rather homogenous, but has split into several different sub-genres since the early 1960s.

During the fifteen years after 1945, all significant history of Bomber Command was written by ‘insiders’: official historians and direct participants in the strategic air offensive against Germany. Looking back in 1962, British political historian Donald Watt disparagingly described this ‘Air Force View of History’. He complained that this particular version of the Royal Air Force story during the 1920s and 1930s was virtually unchallenged in institutional and personal histories written up to that time. The principal exposition of this narrative was *Royal Air Force, 1939-1945*, an official history published by the Air Ministry in 1953 and written by Denis Richards and Hilary St. George Saunders. Several other historical works written with official co-operation also conformed to the Air Force View, as did personal histories. These included memoirs by wartime commanders Sir Arthur Harris and Sir John Slessor, as well as Andrew Boyle’s biography of Lord Trenchard, the first head of the Royal Air Force.<sup>1</sup>

Although Watt was referring to accounts of the Royal Air Force’s history before 1939, implicit in his essay was criticism that the war years themselves suffered from a similarly narrow, celebratory tone. This was exemplified in the concluding section of *Royal Air Force, 1939-1945*, where Saunders wrote that the victory over Germany could not have been achieved without the strategic air offensive:

Whatever the effects produced by the sustained air bombardment of Germany, one cardinal fact was clear. No army of liberation could hope to prevail until [a large bomber] force was in existence and had been in action over a long preliminary period – the defences of Europe and the *Reich* had to be weakened. How else could this be done except by striking at the heart [by strategic bombing]?<sup>2</sup>

Harris claimed that the decision by the Americans to concentrate on area bombing in the final phase of the war against Japan was reflective of the contribution Bomber Command’s area offensive made to the defeat of Germany. He was in no doubt as to the value of this contribution: ‘without the intervention of Bomber Command the invasion of

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<sup>1</sup> D. Richards and H. A. S. G. Saunders, *Royal Air Force, 1939-1945*, 3 vols. (London: H.M.S.O., 1953). J. Slessor, *The Central Blue: Recollections and Reflections* (London: Cassell, 1956). A. T. Harris, *Bomber Offensive* (London: Collins, 1947). A. Boyle, *Trenchard* (London: Collins, 1962). Non-official works written with the co-operation of the Air Ministry include H. A. S. G. Saunders, *Per Ardua: The Rise of British Air Power, 1911-1939* (London: Oxford University Press, 1944). W. J. Lawrence, *No. 5 Bomber Group R.A.F. (1939-1945)* (London: Faber, 1951).

<sup>2</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, III, 383. Richards authored the first volume of this work, Saunders the third, and they co-authored the second.

Europe would certainly have gone down as the bloodiest campaign in history unless, indeed, it had failed outright – as it undoubtedly would have done’.<sup>3</sup> Boyle’s biography of Trenchard also linked the ‘Father of the Air Force’ with strategic bombing’s part in the Allied victory. Although Trenchard will primarily be encountered later in relation to his part in Air Force history in the First World War and interwar periods, Boyle structured his biography to climax with the victory of 1945, despite the fact that Trenchard lived on until 1956. He recounted Trenchard’s visit to Berlin soon after VE Day, describing a ‘broken bastion where civilians walked the ruined streets with the dazed look of people raised from the dead’. This, and the complete defeat of Germany that it symbolised, was thanks to years of heavy strategic bombing – an ‘awesome vindication of Trenchard’s lifework’.<sup>4</sup>

The Air Force View historians largely discounted the moral issue of area bombing. Overall, they did not view area bombing as a topic in its own right. Rather, it was treated as just one of several types of aerial attack that came under the description ‘strategic bombing’. Although deliberate attacks on German civilians – the essence of area bombing – was regrettable from a humanitarian point of view, the Royal Air Force was initially reluctant to carry it out. Instead, politicians, motivated by public clamouring for revenge following German bombing of British cities in the Blitz, pushed a reluctant Air Staff to retaliate in kind. Richards wrote that during the bombing of London in September 1940,

the politicians desired above all things retaliation on Berlin. ... Gauging the feeling in London, [politicians] wanted – in the popular phrase – to “give it ’em back!” They desired, in other words, not merely attacks on Berlin, but indiscriminate attacks ... . Nothing could have accorded less with the ideas of the Air Staff, who drew an instructive parallel between the results of four German bombs which fell on the Fulham Power Station and several thousand German bombs which fell elsewhere.<sup>5</sup>

Admittedly, the Air Staff ‘were moved by professional rather than humanitarian considerations’, because ‘they wanted to do their job as quickly and efficiently as possible; and indiscriminate bombing against a well-disciplined population is – or was,

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<sup>3</sup> Harris, *Bomber Offensive*, 263-4, 269.

<sup>4</sup> Boyle, *Trenchard*, 730.

<sup>5</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, I, 230-1.

before the atom-bomb – of all means of attack the most extravagant.’<sup>6</sup> However, the fact that politicians took the lead in initiating area bombing implicitly places any judgement regarding its morality at their feet. But in any case, area bombing *was* morally justifiable, for it was employed in ensuring the defeat of a great tyrant who wrought unprecedented destruction upon Europe. ‘The fact is that had Germany not been devastated with fire and high explosive and had not her industries in the process melted away, she must have won the war’, concluded Saunders.<sup>7</sup> Morally, this would have been intolerable.

The Air Force View was roundly rejected in another multi-volume official history, *The Strategic Air Offensive against Germany 1939-1945*, published by the Cabinet Office in 1961 as part of the official *History of the Second World War* series.<sup>8</sup> The 1960s saw a widespread questioning of received wisdom throughout the western world, and the history of Bomber Command did not escape such scrutiny. This major work was the stimulus for Watt’s 1962 article, as it brought the flaws of the Air Force View into focus by providing a powerful counter-narrative of the British bombing offensive. It also provoked fierce public attacks upon its authors for daring to suggest that the 57,000 deaths sustained by Bomber Command aircrew in the war were for a cause that was anything less than decisive in Germany’s final defeat. Although, like *Royal Air Force, 1939-1945*, it was an official history, *The Strategic Air Offensive* was outside the control of the Air Ministry. This freedom to criticise, combined with the benefits of open access to official documents, enabled it to be regarded as a credible and balanced study. Crucially, Cabinet Office officials supported the authors behind the scenes by fighting the Air Ministry for their right to judge and describe events as they saw fit. The two professional historians who wrote it mixed experience with first-hand knowledge: Sir Charles Webster was one of Britain’s pre-eminent historians, while Dr. Noble Frankland won the Distinguished Flying Cross as a Lancaster navigator during the war.<sup>9</sup> In many ways, this remains the definitive account of the bomber offensive to this day.

*The Strategic Air Offensive* is also likely to remain the most detailed account of Bomber Command’s campaign against Germany, running to three volumes of text and one of supporting appendices. It found that the offensive had a ‘decisive effect’ upon the

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<sup>6</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, I, 231.

<sup>7</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, III, 389.

<sup>8</sup> Webster and Frankland, *The Strategic Air Offensive*. Webster and Frankland co-authored each volume.

<sup>9</sup> N. Frankland, *History at War: The Campaigns of an Historian* (London: Giles de la Mare, 1998), 42, 101-26.

outcome of the war, although the most important aspect of bombing in this respect was not the area offensive, but the attacks on German oil and communications in the final year of the war.<sup>10</sup> Webster and Frankland's criticism reached far beyond the norm for official military history, which generally offers a bland and favourable account of a campaign. As the British military historian, Captain B. H. Liddell Hart, put it, "Official History" is a contradiction of terms. The word "official" tends to qualify, and often cancels out the word "history".<sup>11</sup> While *The Strategic Air Offensive* agreed with earlier histories that Bomber Command made a huge contribution to victory, its authors concluded that in the last phase of the war, when the force had achieved its greatest strength and operational capability, 'the potential of the strategic air offensive was greater than its achievement'. Divided leadership resulted in the bomber force being pulled in several directions simultaneously. In September 1944,

final victory in Europe, which had long been inevitable, now seemed also to be imminent. But at this critical moment allied strategy faltered. Where there should have been agreement, there was compromise and where there should have been concentration, there was dispersal.<sup>12</sup>

Bomber Command, the Air Staff, and the staff of General Eisenhower all disagreed on the question of what type of objectives Bomber Command should attack to achieve victory. Harris was in favour of continuing the general area offensive against German cities. Sir Charles Portal, Chief of the Air Staff, believed that attacks on the German oil industry would force the war machine to grind to a halt. Finally, Sir Arthur Tedder, the Royal Air Force officer serving as Eisenhower's second-in-command during the land campaign in Western Europe, plumped for the destruction of German transport behind the battlefield, as this would bear both tactical and strategic results. Given the power of the British bomber force by this point in the war, it could have concentrated on any of these duties and achieved decisive results. However, this 'tragic deadlock' of leadership, by failing to agree upon a common objective, unnecessarily lengthened the war.<sup>13</sup>

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<sup>10</sup> Webster and Frankland, *The Strategic Air Offensive*, III, 287-9.

<sup>11</sup> B. H. L. Hart, 'Editorial Comment: Responsibility and Judgement in Historical Writing', *Military Affairs*, 23/1 (Spring 1959), 35.

<sup>12</sup> Webster and Frankland, *The Strategic Air Offensive*, III, 75, 310.

<sup>13</sup> Webster and Frankland, *The Strategic Air Offensive*, III, 4-6.

*The Strategic Air Offensive*, following the path of earlier works, largely treated area bombing as morally justified as long as it was militarily effective. Like Richards and Saunders, the initial thrust for deliberate attacks on civilians was attributed to politicians. ‘The initiative [in adopting area bombing] was taken by the civilian and not the service leaders’, stated Webster and Frankland. At all times, even during the very climax of area bombing in the attack on Dresden in February 1945,

neither the Air Staff nor Sir Arthur Harris can justly be accused of waging war in a different moral sense from that approved by the Government. Moreover, it should equally be clear that at no stage of the war was the area bombing offensive wanton. On the contrary, it was a carefully designed strategic plan intended to contribute to the most rapid and the most economical defeat of Germany.<sup>14</sup>

However, Harris comes in for a lot of criticism from the official historians for his refusal to abandon general area bombing when the circumstances leading to its adoption – the inability to bomb anything more precise than a city – no longer applied. The implication is that, because area bombing undoubtedly killed hundreds of thousands of German civilians, it should not have continued past the point where alternatives existed that offered equal or better chances of breaking down the German war effort.

Since the publication of *The Strategic Air Offensive*, the history of Bomber Command’s offensive against Germany has split into three main sub-genres. Firstly, revisionists have picked up on Webster and Frankland’s criticisms and argued that the material investment in area bombing was not justified by its results, and/or that it was not morally justified. Initially, these historians were hampered by a lack of evidence. The official archives, freely accessed by official historians of both the Air Ministry and the Cabinet Office, remained largely closed to outside scholars until the 1970s. *The Strategic Air Offensive* did, however, quote extensively from official sources and devoted an entire volume to appendices of complete documents, directives, statistics and schedules. This provided other historians with a mass of primary source evidence which they were able to use in their own works, in addition to other material already in the public arena and interviews with key participants in the bombing offensive. Early works in this field included David Irving’s now-infamous account of *The Destruction of Dresden* and former

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<sup>14</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 130; III, 116-7.

fighter pilot H.R. Allen's attack on the emphasis accorded the bomber offensive, which, he alleges, bankrupted Britain in pursuit of an immoral and wasteful strategy.<sup>15</sup> Since the 1970s, the archival material available to Richards, Saunders, Webster and Frankland has been available to all historians, and critical accounts have backed up their charges with evidence. Max Hastings declared area bombing a failure: 'the cost of the bomber offensive in life, treasure and moral superiority over the enemy tragically outstripped the results that it achieved'.<sup>16</sup> Alan Levine and Tami Davis Biddle, amongst others, shared that broad sentiment.<sup>17</sup>

A second stream of historiography has maintained that, in spite of the failures of the bomber offensive, it was an effective and morally justified use of resources in the context of the British war effort. Denis Richards maintained what Frankland later described as a tendency to look for the 'best gloss that could be put upon events from the point of view of the Air Force' in his account of the bomber offensive and a biography of Lord Portal.<sup>18</sup> Richard Overy writes that the bomber offensive was effective insofar as it 'placed a ceiling on German war production which was well below what Germany, with skilful and more urgent management of its resources, was capable of producing after 1943'. However, the biggest factor in this was not area bombing but the more focussed attacks on parts of the German war economy. While Bomber Command played an important role in this, the lead for the targeted attack on German industry came from the United States Eighth Air Force.<sup>19</sup> Other authors such as John Terraine have concluded that war is inevitably brutal, but that Bomber Command played a vital and justified role in the victory over Germany.<sup>20</sup>

Thirdly, a huge technical and operational literature exists. This is not primarily interested in the effectiveness of the area bombing offensive, nor in the moral justification for it. Instead, the focus is on the operational level of the offensive, examining individual

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<sup>15</sup> D. J. C. Irving, *The Destruction of Dresden* (London: Kimber, 1963). H. R. Allen, *The Legacy of Lord Trenchard* (London: Cassell, 1972).

<sup>16</sup> M. Hastings, *Bomber Command* (London: Joseph, 1979), 352.

<sup>17</sup> Levine, *The Strategic Bombing of Germany, 1940-1945*. T. D. Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945* (Princeton, N.J.: Princeton University Press, 2002).

<sup>18</sup> Frankland, *History at War*, 129. D. Richards, *Portal of Hungerford: The Life of Marshal of the Royal Air Force, Viscount Portal of Hungerford, KG, GCB, OM, DSO, MC* (London: Heinemann, 1977). Richards, *The Hardest Victory*.

<sup>19</sup> R. J. Overy, *The Air War 1939-1945* (London: Papermac, 1987), 122-3.

<sup>20</sup> J. Terraine, *The Right of the Line: The Royal Air Force in the European War, 1939-1945* (London: Hodder & Stoughton, 1985).

raids and battles, as well as the aircraft and men who flew them. In general, the Royal Air Force is presented in a positive light. These works jump straight into the action, giving only as much background as is required to appreciate how the topic of discussion fits into the wider war situation. Martin Middlebrook is a leading figure in the historiography of Bomber Command operations, with books studying attacks on Berlin, Nuremberg, Peenemünde and Hamburg, as well his editorship of *The Bomber Command War Diaries*, an operational reference book.<sup>21</sup> Numerous books give technical details of aircraft and weapons, while a huge biographical and memoir literature presents first-hand accounts of bombing missions.

### **The Historiography of the Interwar Period**

The two decades between 1918 and 1939 are vital to understanding the history of the Royal Air Force. British military aviation was in its infancy at the beginning of the First World War, and did not come of age until the last year of the conflict. The Air Force itself was only created in April 1918, by the merger of two separate air arms: the Army's Royal Flying Corps, and the Royal Naval Air Service. While aviation technology and doctrine had advanced enormously by 1939, so much of it remained untested under wartime conditions. This is particularly true of strategic bombing, which occupied the central position in British aerial thinking. Long-range bombing showed great potential as a revolutionary weapon between 1914 and 1918, but the Armistice ended the war just as a concerted strategic air offensive was getting underway. The following two decades saw the Royal Air Force organised in order to undertake a massive aerial offensive against a European enemy on the basis of a tiny amount of operational experience. How it interpreted that experience and applied it to the far more modern aircraft developed in the 1930s resulted in the force that went to war in 1939.

The Air Force View historians presented a rather one-dimensional view of the First World War and interwar periods. Overwhelmingly, it was positive, and centred on the personality of Trenchard, commander of the Flying Corps in France between 1915 and 1917. After German bombing raids on London created a political panic in the middle of

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<sup>21</sup> M. Middlebrook, *The Nuremberg Raid, 30-31 March 1944* (London: Allen Lane, 1973). M. Middlebrook, *The Peenemunde Raid: The Night of 17-18 August 1943* (London: Allen Lane, 1982). M. Middlebrook, *The Schweinfurt-Regensburg Mission: American Raids on 17 August 1943* (London: Lane, 1983). M. Middlebrook, *The Battle of Hamburg: Allied Bomber Forces against a German City in 1943* (Harmondsworth: Penguin, 1984). M. Middlebrook and C. Everitt, *The Bomber Command War Diaries: An Operational Reference Book, 1939-1945* (Harmondsworth: Viking, 1985). M. Middlebrook, *The Berlin Raids: RAF Bomber Command Winter 1943-44* (London: Viking, 1988).

1917, General Jan Smuts, a member of David Lloyd George's War Cabinet, wrote a report recommending that the Government respond by creating an independent air force to undertake a strategic bombing offensive against Germany. He stated that 'the day may not be far off when aerial operations with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale may become the principal operations of war'.<sup>22</sup> Slessor wrote in his memoir that 'General Smuts was one [officer] for whom I had a particular hero-worship – partly because I always associated him with the origins of the R.A.F. ... It was to these two men, Smuts and Trenchard, that we chiefly owe our victory in the Battle of Britain twenty-two years later'.<sup>23</sup> Trenchard served as the new organisation's first Chief of the Air Staff when the Royal Air Force was created in 1918, and then commanded the dedicated strategic bombing force that was at the heart of Smuts's recommendation, the Independent Force, in the final months of the war.<sup>24</sup>

While historians before Webster and Frankland did not examine the interwar period in detail, Trenchard was venerated as the man who laid the foundations for the Royal Air Force's achievements between 1939 and 1945.<sup>25</sup> After the Armistice ended the war, he once again headed the Air Staff for over a decade and turned the temporary wartime structure into a permanent organisation, thus earning his title as the Air Force's 'Father'. The foundation that he laid, which survived long after his retirement, was based on the idea that strategic bombing in a future war offered a way to avoid repeating the Great War's sacrifice of an entire generation. Boyle summarised this idea by quoting a 1928 Chiefs of Staff paper in which Trenchard stated that 'the object of all three services is the same: to defeat the enemy nation, not merely its army, navy or air force'. The Royal Air Force, Trenchard argued, could best do this through bypassing the battlefield altogether and striking at the heart of the enemy's war effort through strategic bombing. Furthermore, 'the stronger side, by developing the more powerful offensive, will provoke in his weaker enemy increasingly insistent calls for the protective employment of aircraft. In this way he will throw the enemy on to the defensive', from which it could not recover.

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<sup>22</sup> See Appendix 1: Smuts Report on Air Organisation, August 1917.

<sup>23</sup> Slessor, *The Central Blue*, 630.

<sup>24</sup> Note that the independent air force that Smuts was advocating became the Royal Air Force, independent of the Army and Navy. The 'Independent Force' was the name of the 1918 strategic bombing component of the Royal Air Force, 'independent' of military or naval operations.

<sup>25</sup> Fittingly, Trenchard himself was the subject of a biography, published in 1962. The official history of the Flying Corps, Naval Air Service and Air Force in the First World War was written under Trenchard's guidance and placed him at the centre of the story, while Saunders also wrote a history of British service aviation that continued the account up to 1939. Boyle, Trenchard. W. A. Raleigh and H. A. Jones, *The War in the Air: Being the Story of the Part Played in the Great War by the Royal Air Force*, 7 vols. (Oxford: Clarendon Press, 1922-1937). Saunders, *Per Ardua*.

Boyle wrote that this doctrine ‘became the cornerstone of R.A.F. strategic thinking until “Bomber” Harris translated theory into practice between 1942 and 1945’.<sup>26</sup> These historians viewed the air offensive as a vital contribution to victory in 1945, it will be recalled, and it would not have been possible without Trenchard’s earlier efforts.

As part of their official history of the bombing offensive, Webster and Frankland included a 100-page introductory section examining its origins in the First World War and interwar period. This was largely descriptive, but included some mild criticism of the Trenchard legend. ‘In many respects’, they wrote, ‘the story [of the interwar years] is a melancholy one. It is the story not only of what was done, but also what was done inadequately, and of what was not done at all. When war came Bomber Command could make little impression upon Germany’.<sup>27</sup> This was indisputable historical fact, but previous historians had previously explained it away to a large degree by emphasising political and technological factors beyond the control of the Air Force itself. While these were important, the strategy set down for Bomber Command upon the outbreak of war, which quickly proved impossible to implement, suffered from ‘the failure to base strategy on operational possibilities, so far as they could be discovered by exercises, and to train crews accordingly’.<sup>28</sup> In Webster and Frankland’s view, the Air Force could not escape significant responsibility for the situation it found itself in upon the outbreak of war.

As was the case regarding the air offensive itself, other historians picked up on interwar themes touched on by Webster and Frankland and developed these criticisms without access to the same body of source material during the 1960s. Robin Higham reacted sharply against the Boyle hagiography of Trenchard and squarely laid the blame for wartime failures at his feet. ‘The extremely long tenure of power of a Chief of Staff doggedly committed to his own prejudices (Trenchard) can lead to disaster’, he wrote. ‘By the time the Second World War came neither the men nor their equipment were ready to carry out what had long been the axiomatic role of the Home Defence Air Force. And if the test of a military Service is, as it must be, its ability to wage war, and if Trenchard was “the Father of the R.A.F.,” he cannot escape blame for this failure’. He elaborated that ‘though months were spent practicing aerobatics for the Hendon Air Display, until after

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<sup>26</sup> Boyle, *Trenchard*, 576-7. Trenchard’s 1928 paper is included here; see Appendix 6: Trenchard Memorandum on the War Object of an Air Force, May 1928.

<sup>27</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 4.

<sup>28</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 106.

[Trenchard' retirement] almost nothing was done about target-finding, bombs and bomb-aiming, blind-flying, night navigation, or aero-medicine, let alone actually determining whether or not the force created could achieve the objectives that had been set out for it'.<sup>29</sup> Allen, too, believed that Trenchard, for all his achievements, seriously hindered the development of an efficient air service.<sup>30</sup>

Just as the literature of the bombing offensive has blossomed since the opening of official archives in the 1970s, the historiography of the interwar period has similarly expanded. Authors such as Malcolm Smith, Philip Meilinger, Neville Jones, Scot Robertson and Tami Davis Biddle have examined various aspects of the Royal Air Force during the 1920s and 1930s, expanding some criticisms and moderating others by use of this source material. Smith placed more blame of Trenchard's successors on the Air Staff during the 1930s for the failure to adequately prepare for war, while Meilinger more explicitly rebutted earlier criticisms of Trenchard by emphasising his successes. Jones, Meilinger and Biddle all traced the intellectual development of bombing strategy through the interwar years, adding a huge amount of detail to the story but generally showing that the basic criticism, that the Air Force squandered a chance to develop a rigorous bombing doctrine during this time, is justified.<sup>31</sup>

A major problem with the historiography of the interwar period is that it does not search for roots of the wartime area offensive before 1939. This is in spite of the fact that collectively, these authors present several hints that roots exist. However, the self-imposed periodisation of many authors prevents them from examining how these roots influenced the wartime formation of the area bombing policy. 1939 is a major dividing point: historians either begin or conclude their works with the outbreak of war, and either cover the pre-1939 years as a prelude or the war years as a postlude. Remarkably, even historians who bridge this divide still compartmentalise the 1920s, 1930s and 1940s into these two categories.

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<sup>29</sup> R. Higham, *The Military Intellectuals in Britain: 1918-1939* (New Brunswick, N.J.: Rutgers University Press, 1966), vii, 7, 160.

<sup>30</sup> Allen, *The Legacy of Lord Trenchard*.

<sup>31</sup> The principal relevant works by these authors are M. Smith, *British Air Strategy between the Wars* (Oxford: Clarendon Press, 1984). P. S. Meilinger, 'Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine before World War II', *The Journal of Military History*, 60/2 (Apr. 1996). N. Jones, *The Beginnings of Strategic Air Power: A History of the British Bomber Force, 1923-1939* (London: Frank Cass, 1987). S. Robertson, *The Development of RAF Strategic Bombing Doctrine, 1919-1939* (Westport, Conn.: Praeger, 1995). Biddle, *Rhetoric and Reality*.

Smith is one such author who has written in detail about the interwar period and the war years. In *British Air Strategy Between the Wars*, he uses the example of a 1922 Air Staff memorandum to argue that an ‘underlying assumption’ that civilians would form the main bombing target in wartime pervaded the interwar Air Staff. This paper advocated seeking victory through attacking the morale of the enemy through city bombing, which Smith believed was the true institutional belief of the Royal Air Force. But this assumption was carefully kept inside the Air Ministry, for public advocacy by the Air Staff of ‘terror bombing’ during the 1920s and 1930s would have been ‘a form of political kamikaze’, Smith wrote. After pointing out this disparity between what the Royal Air Force said publicly and believed privately, however, Smith did not develop the theme and look for evidence of how this disparity shaped bombing policy during the 1930s. When he considered the war years themselves in a journal article, Smith did not suggest that the adoption of area bombing had any pre-war roots except in a very general sense. Harris, who ‘more than any man...associated strategic bombing in the historical imagination with general area bombing’, was ‘a product of inter-war reactions to what had happened between 1914 and 1918.’ Smith did not go any further than this in discussing how these reactions may have shaped area bombing, leaving the reader to ponder the link between the Air Staff’s ‘underlying assumption’ in 1922 and area bombing’s official adoption, twenty years later.<sup>32</sup>

Biddle offered a similarly tantalising, yet undeveloped, hint of earlier origins for area bombing than was explicit in her argument. Even more remarkably, she treated the entire 1914-45 period in one book, but failed to seriously refer to her analysis of interwar bombing policy when considering the adoption of area bombing. Biddle corroborated Smith’s assertion that senior officers in the interwar period implicitly assumed (but were careful not to state) that civilian morale would be a vulnerable and important target in wartime through recounting a 1933 staff exercise. In it, the Commander-in-Chief of the Wessex Bombing Area advocated bombing that was primarily aimed at enemy morale. His superiors admonished him for suggesting such a policy, but he remained insistent that from a military point of view, this would be the quickest way to break enemy morale and thus, according to Trenchardian theory, defeat the enemy nation. Biddle noted that his

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<sup>32</sup> Smith, *British Air Strategy between the Wars*, 62-3, 72, 306-22. M. Smith, ‘The Allied Air Offensive’, *The Journal of Strategic Studies*, 13/1 (Mar. 1990), 68.

defence of his plan used language ‘remarkably similar’ to that of Trenchard’s 1919 despatch on the Independent Force’s operations.<sup>33</sup> She wrote that ‘the debate over targeting, and the definition of “combatant” would continue right into the late 1930s’, and that the Air Staff could not agree upon an expression of their bombing policy that would be acceptable to all. While this suggests that the Air Staff were struggling to make their Trenchardian theory politically acceptable, Biddle failed to examine systematically how this debate did or did not link in with the wartime adoption of area bombing.<sup>34</sup> Later, she described the move towards area bombing during the war in an orthodox manner, failing to develop a link back to this 1933 incident.<sup>35</sup>

Neville Jones made perhaps the most overt connections between area bombing and pre-1939 ideas in his two works on British bombing strategy, covering the periods 1914-18 and 1923-39.<sup>36</sup> While he did not take the story beyond 1939, he at least made more explicit allusions to area bombing when discussing pre-1939 bombing policies. For example, in 1917 the Air Policy Committee produced a plan to target German civilian morale through city bombing, and Jones wrote that

This was perhaps the earliest bombing plan to embody the philosophy upon which Trenchard founded his strategic policy in the post-war Air Force. In the post-war plans the aim of that policy (that is, the terrorization of the civilian population) was to be achieved by selecting targets that were located in densely populated industrial areas, so that all the bombs which failed to hit the aiming points (ostensibly industries supporting the enemy war effort) would strike at the morale of the civilian population by destroying their lives and homes and disrupting the services (transport, gas, water and so on) on which they depended.<sup>37</sup>

Although not yet full area bombing, this was a halfway stage towards between precise and general area bombardment, similar to that adopted by Bomber Command in 1940. However, Jones did not speculate upon this. He wrote that Trenchard’s retirement resulted in confusion over bombing equipment, training and tactics on the part of the 1930s Air

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<sup>33</sup> For an excerpt of Trenchard’s Despatch, see Appendix 3: Trenchard Despatch on the work of the Independent Force, December 1918.

<sup>34</sup> Biddle, *Rhetoric and Reality*, 99-102.

<sup>35</sup> Biddle, *Rhetoric and Reality*, 102-27, ch. 4.

<sup>36</sup> N. Jones, *The Origins of Strategic Bombing: A Study of the Development of British Air Strategic Thought and Practice up to 1918* (London: Kimber, 1973). Jones, *The Beginnings of Strategic Air Power*.

<sup>37</sup> Jones, *The Beginnings of Strategic Air Power*, 16-17.

Staff, resulting in the vague notion that an attack upon enemy civilian morale existed as a back-up option if a precision-bombing strategy failed to achieve results.<sup>38</sup> He also noted, like Smith, that this was an option that could not be uttered publicly.<sup>39</sup> Yet, Jones's book became more and more orthodox as its account of the 1930s progressed, leaving these hints unexplored.

Together with Jones, Hastings made suggestive comments about early origins of area bombing, without developing them. He approached area bombing from the opposite perspective, primarily discussing its development in wartime. However, in his introductory section, he offered the most convincing exposition yet of a link between Trenchard and Harris. He wrote that 'the pre-war RAF was geared to the execution of a strategic terror bombing campaign and this was at the core of the Trenchard doctrine.' Although air officers emphasised that precise industrial and military targets would be attacked in wartime, Hastings found it 'impossible to accept the airmen's intentional at face value'; there was simply too much evidence of a predisposition towards attacking civilians and their 'morale'. He also noted that had the Air Force's Staff College and the Air Staff themselves been more rigorous in developing a coherent bombing doctrine between the wars, then the Royal Air Force might have avoided the

fatal disparity between its public commitment to precision bombing – which its line aircrew would offer so much devotion and sacrifice to when war came – and the half-articulated faith in terror bombing in the higher ranks of the service. The decisive collision between the alleged function of Bomber Command as a precision-bombing force, and its real nature as an area-bombing one, would be revealed at the end of 1941. Harris, who then became C-in-C with a mandate to conduct a full-blooded area campaign, was far more truly Trenchard's disciple than those diligent staff officers at the Air Ministry who continued throughout the war to try to direct Bomber Command's efforts to the destruction of selected key industrial targets.<sup>40</sup>

Frustratingly, however, Hastings did not give this point much further thought after making it in the introductory section to his work on the war years themselves. Discussing the

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<sup>38</sup> Jones, *The Beginnings of Strategic Air Power*, 34. Biddle also notes 'confusion' in Biddle, *Rhetoric and Reality*, 99.

<sup>39</sup> Jones, *The Beginnings of Strategic Air Power*, 43.

<sup>40</sup> Hastings, *Bomber Command*, 46-9.

formal adoption of area bombing, he pointed out that Bomber Command was not restricted to simply adopting the policy or abandoning the air offensive altogether at the end of 1941, as he alleged Webster and Frankland argued when they ‘dismiss[ed] the moral question overhanging area bombing’ and presented the choice in such terms. ‘There was a third choice’, Hastings argued: ‘to persist, in the face of whatever difficulties, in attempting to hit precision targets’. And ‘a fourth, and more realistic alternative’ existed: to reduce the production of heavy bombers and transfer many to the Atlantic, Middle and Far Eastern theatres, all of which were desperate for heavy air support. In conclusion, Hastings personally found the entire campaign a gigantic and immoral waste.<sup>41</sup> He clearly rejected the view that area bombing was adopted as a policy of last resort, but his focus on writing a narrative of the war years limited the attention he could pay to developing the link between the idea of area bombing in the First World War and the execution of it in the Second.

### **The Roots of Area Bombing**

Area bombing became Bomber Command’s official war policy on 14 February 1942. In an often-quoted bombing directive issued by the Air Staff to the Commander-in-Chief, Bomber Command, it was noted that ‘it has been decided that the primary object of your operations should now be focussed on the morale of the enemy civil population and in particular, of the industrial workers’.<sup>42</sup>

The view that area bombing was an option of last resort is common to almost the entire historiography of area bombing. However, the fact that it was allegedly the result of a two-and-a-half-year period of trial and error in bombing strategy meant that area bombing actually began before February 1942. Because it was gradually adopted, the exact moment that area bombing began is debateable, but it goes no further back than mid-1940. Hastings points to advocacy of attacks on German civilian morale by Portal, then the head of Bomber Command, in July 1940. ‘Here was the seed of the attack on the morale of the German people, of area bombing.’<sup>43</sup> Both official histories see the key transitional date as 30 October 1940, when Portal, now Chief of the Air Staff, issued his

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<sup>41</sup> Hastings, *Bomber Command*, 124-5, 350-2.

<sup>42</sup> Bombing directive, Bottomley to Baldwin, 14 February 1942. Printed as Appendix 8(xxii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 143-8.

<sup>43</sup> Hastings, *Bomber Command*, 95.

first directive to his successor at Bomber Command. This retained precision targets as the primary bombing objective, but favoured those located in cities. As Richards explained,

While still intent on damaging individual factories, the Air Staff thus recognized that these were being hit less frequently than might appear from the crews' reports, and that at the same time some retaliation for the sufferings of British towns would not be amiss. Accordingly, they were now choosing, not merely profitable targets, but profitable targets in profitable surroundings.

From this to 'area bombing' was a short and natural progression.<sup>44</sup>

'The rapier, the Air Staff were plainly acknowledging, had not been striking home', as Richards later put it. 'Now it was the time to try the bludgeon' – massed area attack upon German cities.<sup>45</sup> Many historians have not even attempted to give a precise date to area bombing's commencement, simply noting that it developed during the course of 1941. Webster and Frankland noted that by November of this year, the transition was almost complete, after progressing 'through a series of less and less precise aims to that of general attack on whole towns'.<sup>46</sup>

This thesis will argue that area bombing has roots much deeper than 1940 or 1941. On the contrary, the formal adoption of area bombing in 1942 was the culmination of twenty-five years of intellectual development in the Royal Air Force. Clear origins can be seen in the final year of the First World War, and an 'area bombing mentality' permeated the institution throughout its interwar existence. From the beginning, the Royal Air Force had a predisposition towards area bombing of enemy cities with the aim of breaking the morale of the enemy's civilian population.

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<sup>44</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, I, 234.

<sup>45</sup> Richards, *The Hardest Victory*, 112.

<sup>46</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 130-1.

## Chapter 2

# Area Bombing in the First World War

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Glimpses of the ideas which were to lead to British area bombing between 1940 and 1945 can be seen in the strategic bombing operations carried out by the Royal Naval Air Service, the Royal Flying Corps and the Royal Air Force during the First World War. This is crucial to establishing the origins of area bombing, because these operations were the first British experiments in strategic bombing. If the principles of area bombing were present during the 1914-1918 period, then it suggests that historians who maintain that area bombing in the Second World War had no origins earlier than 1940 are mistaken.

Exploration of this question begins with the first long-range bombing by the German and British air services. These culminated in the repeated bombing of London in mid-1917, which led to the creation of an independent air service to retaliate by bombing German cities. The founding document of the Royal Air Force was quite clear regarding its purpose, as it predicted that ‘the day may not be far off when aerial operations with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale may become the principal operations of war’.<sup>1</sup> Bombing operations against cities of Western Germany during 1918 clearly established the efficacy of direct attacks upon civilian morale in the minds of leading British air generals. Even when more precise targets, such as industrial facilities, were the declared aim of bombing, they were often located in cities and close to residential areas. The low level of bombing accuracy meant that bombs aimed at such targets actually fell over a wide area, killing many civilians in the process. These deaths, and the terror that they caused, were precisely what the British intended. Although the bombing was on a much smaller scale to that of the Second World War and the term ‘area bombing’ was not used, British bombing operations up to 1918 can be seen as a precursor to Bomber Command’s area offensive in the Second World War.

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<sup>1</sup> See Appendix 1: Smuts Report.

## **British and German Strategic Bombing before 1918**

Although limited in scale and effect, the small strategic bombing experiments in the first three years of the First World War had a significant effect on British perceptions of bombing. Even with relatively limited range and payloads, early bomber aircraft could strike targets deep in enemy territory, far beyond the reach of armies or navies. This both reflected and reinforced the fact that war in the twentieth century was no longer restricted to the battlefield, but was ‘total’ and involved the entire nation. Armies were generally restricted in their field of operations to territory that they controlled, and could not strike more than a few miles beyond the front line. The Royal Navy had long practised the strategy of blockade against enemy states, but Germany’s status as a land power meant that this was an indirect strategy that could yield results only in the long term. In contrast, aircraft appeared to offer a way of striking the vital parts of Germany’s war effort in a manner that would have a much more immediate impact. Even early bombers could fly a hundred miles behind enemy lines, while the development of aircraft that could fly further and carry larger payloads brought more and more of the enemy’s resources and infrastructure within range of bombardment. When German bombers demonstrated this over London in 1917, it was to have major consequences for the British air services and leave a lasting impression.

Despite heavier-than-air flight still being in its infancy in 1914, its potential for long-range bombardment was quickly realised by the Royal Naval Air Service. In September and October 1914, aircraft based near Antwerp made attacks on German Zeppelin airship sheds at Düsseldorf and Cologne. Sir Walter Raleigh, co-official historian of the British air services during the First World War, labelled the second of these the ‘first notable air-raid of the war.’<sup>2</sup> More recently, Neville Jones expanded the point and described the operations as the first of many significant contributions that naval aviators made to the theory and practice of strategic bombing during the First World War. This began with the first planned strategic air offensive in British history, carried out in 1916 by No. 3 Naval Wing against German targets from a base near Luxeuil, France. According to Jones, when the Naval Air Service and the Army’s much larger Royal Flying Corps merged in April 1918 to form the Royal Air Force, the dominance of the military tradition of aviation ensured that the naval contribution to the development of strategic bombing was forgotten.

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<sup>2</sup> Raleigh and Jones, *The War in the Air*, I, 389-90; III, 78.

*The War in the Air*, started by Raleigh and continued after his death by H.A. Jones, was written under the ‘profound influence’ of Sir Hugh Trenchard, former head of the Flying Corps and then long-time head of the Air Force. Despite No. 3 Wing’s important place in beginning a tradition that culminated in Bomber Command’s offensive between 1940 and 1945, Raleigh and Jones only devoted six pages out of six volumes of text to its operations, setting the pattern for later works.<sup>3</sup> However, the fact that these operations took place at all was important in establishing a tradition of strategic bombing within British aerial thought.

Trenchard became a strong believer in the offensive use of tactical airpower during his time in command of the Royal Flying Corps in France between 1915 and 1917. He concentrated his aircraft in support of Army operations and was a strong ally of Sir Douglas Haig, the British Commander-in-Chief. Trenchard’s experience on the Western Front led him to form the opinion that ‘the aeroplane is not a defence against the aeroplane’. Rather, it was a weapon of attack that ‘cannot be too highly estimated’, because the correct use of airpower could seize the initiative from an enemy and press home the advantage. He expressed his commitment to an offensive strategy in September 1916, outlining a doctrine that he would later apply to strategic bombing and wider British air policy between the First and Second World Wars:

British aviation has been guided by a policy of relentless and incessant offensive. Our machines have continually attacked the enemy on his side of the line, bombed his aerodromes, besides carrying out attacks on places of importance far behind the lines. It would seem probable that this has had the effect so far on the enemy of compelling him to keep back or to detail portions of his forces in the air for defensive purposes.<sup>4</sup>

While such a policy certainly forced the German air service onto the defensive, its effectiveness in other respects was questionable. Trenchard’s great rival in the Flying Corps, Sir Frederick Sykes, dismissed it in his memoir with the words that ‘Trenchard had been an exponent of the battering-ram tactics beloved at G.H.Q. and kept up a continuous

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<sup>3</sup> Jones, *The Origins of Strategic Bombing*, 21-3, 56-8. Raleigh and Jones, *The War in the Air*, II, 451-4; III, 353; VI, 118, 121, 126. Raleigh wrote the first volume in the history, published in 1922, while Jones wrote the remainder, published between 1928 and 1937. Boyle wrote that Trenchard exerted tight control over the official history, and ‘sternly refused to allow free play to his own capital role in [the RAF’s] arrival and survival’. Boyle, *Trenchard*, 514.

<sup>4</sup> ‘Future Policy in the Air’, Advanced Headquarters, Royal Flying Corps, 22 September 1916. Printed as Appendix IX in Raleigh and Jones, *The War in the Air*, II, 472-5.

offensive. Spectacular dog-fights over the German lines achieved little strategic effect and resulted in grave losses.<sup>5</sup> Even H.A. Jones, proponent of the view that Trenchard was the 'Father of the Air Force', noted that his own research 'would appear [to indicate] that the offensive which was relentlessly pursued in the air by the British air service was about four times more costly than the defensive policy adopted by the Germans.'<sup>6</sup> This strained the British flying training organisation, but Trenchard was adamant that the high losses were justified by the results of his offensive policy.<sup>7</sup>

The Royal Flying Corps showed little interest in strategic bombing under Trenchard's leadership. While the Royal Navy's tradition of long-range strategic operations encouraged the Naval Air Service's bombing efforts, the Flying Corps also reflected the preoccupations of its parent service and concentrated on battlefield reconnaissance work in support of ground troops. Sykes was an influential supporter of bombing and later attempted to organise an inter-allied long-range strategic bombing force whilst Chief of the Air Staff during 1918. According to Neville Jones, had Sykes assumed command of the Royal Flying Corps in 1915, which at the time was a distinct possibility, 'he would certainly have developed the bomber element of the Corps. ... [and also] supported the naval strategic policy'. However, Trenchard was appointed General Officer Commanding, and he organised the Flying Corps entirely in a ground-support role. The Army even managed to suppress the Naval Air Service's small strategic bombing efforts. The War Office argued during 1916 that aero engines were in short supply, and that the aviation needs of the Army must come first. Ultimately, this led to the disbandment of the Navy's No. 3 Wing and its strategic operations in April 1917.<sup>8</sup>

No. 3 (Naval) Wing carried out the first British bombing attacks against enemy civilians, as reprisals for alleged German war atrocities. Unlike future bombing of this type, these operations were not rationalised as part of a campaign against civilian morale, but were designed as simple punishment. The Admiralty delayed the disbandment of No. 3 Wing so that it could undertake one last reprisal attack on 14 April 1917. The target was Freiburg, and the raid was similar to later area bombing in that the aircraft simply aimed

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<sup>5</sup> F. Sykes, *From Many Angles* (London: Harrap, 1942), 220-1.

<sup>6</sup> Raleigh and Jones, *The War in the Air*, V, 471; VI, 552-6. Jones's attitude towards Trenchard follows that of Raleigh, who wrote that when Trenchard assumed command of the Military Wing at Farnborough in 1914, 'the Royal Flying Corps had found its destined Chief.' Raleigh and Jones, *The War in the Air*, I, 417.

<sup>7</sup> Biddle, *Rhetoric and Reality*, 29.

<sup>8</sup> Jones, *The Origins of Strategic Bombing*, 67, 84-5, 122-3.

their bombs at the town centre. A dropped note informed the town's residents that the raid was carried out in response to the recent German torpedoing of two British hospital ships. The aim of the attack was purely the destruction of lives and property, so the bombers deliberately attacked during the day, when the city centre was crowded. Not requiring great accuracy, they bombed from the great height of 15,000 feet. This attack was part of a 'vicious circle' of reprisal and counter reprisal, started by a French raid on Karlsruhe in 1915. It continued until the Armistice with British, French and German bombers attacking cities.<sup>9</sup>

Later in 1917, a plan by the combined Army-Navy Air Policy Committee developed the rationale for bombing civilians by claiming that it would affect their 'morale'. Neville Jones notes that although Trenchard had little interest in long-range bombing, others in the Flying Corps shared the Naval willingness to attack civilians directly. The Air Policy Committee plan drew upon a paper prepared at Trenchard's headquarters, entitled 'Long Distance Bombing'. Jones describes both as aiming at

the terrorization of the civilian population [through] selecting targets that were located in densely populated industrial areas, so that all the bombs which failed to hit the aiming points (ostensibly industries supporting the enemy war effort) would strike at the morale of the civilian population by destroying their lives and homes.<sup>10</sup>

The plan was a more direct description of the initial 1940-41 Bomber Command policy of area bombing, summarised by Denis Richards as consisting of 'profitable targets in profitable surroundings'.<sup>11</sup> Unlike Richards, who tries to show that the 'legitimate' targets themselves were the true objectives of such bombing, Jones rightly focuses on the 'profitable surroundings' that drove the selection of targets in this 1917 plan. While destruction of industrial targets would not hurt the British cause, the ultimate reason for such bombing was their location in densely populated urban areas, where stray bombs could kill and maim civilians. This would destroy their housing and other amenities, as well as undermining their enthusiasm for their nation's war effort.

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<sup>9</sup> Jones, *The Origins of Strategic Bombing*, 123. C. Geinitz, 'The First Air War against Noncombatants: Strategic Bombing of German Cities in World War I', in Roger Chickering and Stig Förster (eds.), *Great War, Total War: Combat and Mobilization on the Western Front, 1914-1918* (Cambridge: Cambridge University Press, 2000), 212-3.

<sup>10</sup> Jones, *The Beginnings of Strategic Air Power*, 16-7. See also Jones, *The Origins of Strategic Bombing*, 152-3.

<sup>11</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, I, 234. See also 'Area Bombing Implemented' in Chapter Five.

The belief that harming enemy civilians might assist one's war effort stemmed from the advent of 'total war'. German historian Stig Förster defines this term, often employed rather loosely, as aiming at 'the mobilization of all forms of public, if not private, life toward victory on the battlefield'.<sup>12</sup> It incorporated political, economic, social and military elements of a state.<sup>13</sup> By subordinating all of these elements to the war effort, a state also made them legitimate targets for the enemy. Although Förster has identified totality in much earlier wars than that of 1914-18 (including the French Revolution, Napoleonic Wars, the Franco-Prussian War and the American Civil War), aircraft set the First World War apart from these earlier conflicts by their ability directly to attack civilians, thereby blurring the distinction between 'military front' and 'home front'.<sup>14</sup> Attacking industrial workers building guns was seen as just as legitimate as attacking the soldiers actually firing the guns on the front line. Therefore, civilian workers and their cities became legitimate targets, and this type of thinking culminated in Bomber Command's area offensive against German cities between 1940 and 1945. The British Government certainly viewed its own workers as vital to the Allied war effort. Minister of Munitions Winston Churchill saw the first priority after a bombing attack as preserving the population's willingness and ability to contribute to the war effort. His instructions to civilian authorities to deal with the air raid danger in October 1917 reflected, in the words of Barry Powers, 'fear of possible panic among the populace'.<sup>15</sup> Material damage to the war effort could be repaired but the people's cooperation, once lost, might be impossible (as contemporary events in Russia were demonstrating) to regain. In an age of total war, this could be catastrophic.

The Germans also began strategic bombing early in the war, and these operations achieved good results before British defences compelled their suspension. According to official Bomber Command historians Webster and Frankland, attacks by Zeppelin airships on targets in the North of England and the Midlands in 1915-16 constituted the first strategic bombing campaign in military history.<sup>16</sup> Although the Zeppelins were lighter

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<sup>12</sup> S. Förster, 'Introduction', in Roger Chickering and Stig Förster (eds.), *Great War, Total War: Combat and Mobilization on the Western Front, 1914-1918* (Cambridge: Cambridge University Press, 2000), 2.

<sup>13</sup> Geinitz, 'The First Air War against Noncombatants: Strategic Bombing of German Cities in World War I', 223.

<sup>14</sup> J. Buckley, *Air Power in the Age of Total War* (Bloomington, IN: Indiana University Press, 1999), 2-21. Förster, 'Introduction', 2-3.

<sup>15</sup> B. D. Powers, *Strategy without Slide-Rule: British Air Strategy 1914-1939* (London: Croom Helm, 1976), 61.

<sup>16</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 34.

than air, and working in a tradition of military balloon operations that was over a century old, the scale of their operations was much larger than anything that had been seen in the past. They were in effect being used to carry out the type of long-range bombing operations that would shortly afterwards be entrusted to aeroplanes. While their declared objectives were military, primitive early navigation and bomb-aiming techniques meant that most destruction was random and sporadic. Partly because of this lack of predictability, and partly because of the civilian casualties that ensued in such attacks, the appearance of Zeppelins over a particular vicinity frequently led to a ‘temporary paralysis’. H.A. Jones goes so far as to state that ‘the air-raid menace, more, perhaps, than any other aspect of the war, was responsible for a temporary revolution in English social and general life. Night brought the unrelieved gloom of darkened streets and a brooding sense of danger’. Eventually, progressive improvements in the British air- and ground-based defences (fighter aircraft and anti-aircraft guns) meant that the raids almost ceased, and the small interruption that industrial production had suffered was rectified.<sup>17</sup>

The Germans resumed their bomber offensive in 1917 using large Gotha aircraft, with even more dramatic results. Germany had long planned to bomb long-range targets in Britain. The Gotha and later Giant bombers were purpose-built to bomb England, and their development began in the earliest days of the war.<sup>18</sup> Their ability to reach and bomb London had major political consequences. Three major attacks in May, June and July 1917 saw 322 people killed and 972 injured, mostly in the capital. Although they could not carry as many bombs as the Zeppelins, interception of the bombers proved nearly impossible for a system developed to counter the slow-flying airships. Seventy-four, ninety-two and ninety-five British aircraft respectively scrambled on each occasion against no more than twenty-two German bombers, but only succeeded in shooting down two bombers over the three attacks.<sup>19</sup> There were significant political implications of these unprecedented attacks on London. A new and disturbing age in warfare for the United Kingdom had arrived: the centuries-old protection of the Royal Navy could not longer guarantee British security. The phrase that Britain was ‘no longer an island’ became a cliché in British politics, used in the House of Commons when introducing the Bill to

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<sup>17</sup> Raleigh and Jones, *The War in the Air*, III, 244, 247. Webster and Frankland, *The Strategic Air Offensive*, I, 34.

<sup>18</sup> Biddle, *Rhetoric and Reality*, 29.

<sup>19</sup> Raleigh and Jones, *The War in the Air*, V, 18, App. 1(b). Webster and Frankland, *The Strategic Air Offensive*, I, 34-5.

create an Air Force in November 1917.<sup>20</sup> The Government believed that London was so important to the home front that German attacks upon the capital's population might jeopardise the war effort. Fighter aircraft were recalled from France to bolster the home air defences, and the War Cabinet appointed Prime Minister David Lloyd George and South African General Jan Smuts to review the situation and make recommendations for the future.<sup>21</sup>

### **The Creation of the Royal Air Force**

As well as advising on the immediate needs of home defence, Smuts reported to the War Cabinet and recommended the creation of an independent air service with a large bomber force to attack German cities. This report, dated August 1917, noted that vital tactical air operations in support of the Army and Navy had been working well in battle and did not require a reorganisation of British air assets. However, Smuts concluded that this was not all that aircraft were capable of. Independent bombing operations against the enemy nation offered the best prospect of breaking the trench stalemate and winning the war. The current split into military and naval air arms did not allow British aircraft to be employed in such a devastating strategic manner comparable to the German attacks on London. According to Smuts:

Unlike artillery an air fleet can conduct extensive operations far from, and independently of, both Army and Navy. As far as can at present be foreseen there is absolutely no limit to the scale of its future independent war use. And the day may not be far off when aerial operations with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale may become the principal operations of war, to which the older forms of military and naval operations may become secondary and subordinate. ...

... Continuous and intense pressure against the chief industrial centres of the enemy as well as on his lines of communication may form an important factor in bringing about peace. The enemy is no doubt making vast plans to deal with us in London if we do not succeed in beating him in the air and carrying the war into the heart of his country.<sup>22</sup>

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<sup>20</sup> 'Parliament', *The Times*, 13 Nov. 1917, 10. Powers (*Strategy without Slide-Rule*, 109-10) cites this and several other uses of the phrase in showing its overuse.

<sup>21</sup> Biddle, *Rhetoric and Reality*, 32-5.

<sup>22</sup> See Appendix 1: Smuts Report. See also Webster and Frankland, *The Strategic Air Offensive*, I, 37.

The strategic bombing force, as envisaged by Smuts in his report, was one that was aimed at more than enemy war industries. The phrases ‘devastation of enemy lands’ and ‘destruction of industrial and populous centres on a vast scale’ clearly encompassed more than the bombing of munitions factories and oil refineries. Although he was discussing operations that might be several years away, Smuts was advocating the area bombing of industrial cities on a large scale.

According to Smuts, however, there were three reasons why neither the Royal Flying Corps nor the Royal Naval Air Service were capable of delivering a large-scale, co-ordinated bombing offensive against the enemy. Firstly, the General and Naval Staffs did not possess the level of specialist aviation knowledge that would be required to plan and direct a strategic air offensive. Secondly, both the Army and Navy would naturally tend to focus on their own tactical operations to the detriment of independent strategic operations. Thirdly, the requirements of a strategic bombing force would always come last in the event of there not being enough aircraft to meet competing demands. For these reasons, he advised the creation of a separate Air Force, Air Staff and Air Ministry. Smuts was actually working on the advice an aircraft production surplus would exist in 1918, but considered the creation of an independent air service as desirable anyway. He feared that under the current organisation, this surplus would simply be absorbed into the services’ existing tactical operations, necessitating a new organisation to take full advantage of it. The fact that this surplus did not materialise made Smuts’s recommendations even more vital to the development of a strategic bomber force, as tactical aviation needs would surely have seen its disbandment in the face of aircraft shortages, as had recently occurred in early 1917.<sup>23</sup>

Smuts’s proposals were controversial and encountered substantial resistance. Haig and Trenchard, for instance, believed that the war could only be won as a result of military operations on the Western Front. From their point of view, the creation of an independent strategic air service would simply divert resources away from the decisive battlefield. Such a far-reaching reorganisation of Britain’s air capability would also involve massive upheaval at a time when the country’s military resources were already stretched to the

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<sup>23</sup> See Appendix 1: Smuts Report.

limit. They strongly opposed any such move in wartime. Although Haig was not consulted until the political decision to accept the Smuts Report had been made, he wrote to the War Office to point out ‘the grave danger of an Air Ministry, charged with such powers as the Committee recommends, assuming control with a belief in theories which are not in accordance with practical experience’. Many within the Army shared this scepticism of strategic bombing, both during and after the war.<sup>24</sup> While the Admiralty was far more amenable to the idea of a strategic bombing force, it was also unhappy at the prospect of losing control of its aircraft.<sup>25</sup> Since the only rationale for an independent air service was long-range bombing, the Air Force would have to justify itself by successfully doing this in order to win over its opponents.

In spite of this service opposition, the political reality in London, where the first-hand experience of strategic bombing had recently made a deep impression on politicians and civilians that perhaps could not be appreciated by the commanders in France, ensured that Smuts’s principal recommendations were accepted. The War Cabinet was pushed by feeling in Parliament to introduce a bill to establish an independent air service with greater haste than might otherwise have been the case.<sup>26</sup> Ironically, a vocal opponent of the reorganisation, Trenchard, was recalled to London to become the first Chief of the Air Staff in January 1918. He quickly fell out with the first Secretary of State for Air, Lord Rothermere, and resigned after a matter of months. Returning to France in the middle of 1918, he was placed in command of the new Independent Force. This was the part of the new Royal Air Force created in accordance with Smuts’s belief in the potential of area bombing, and existed alongside the much larger ground- and naval-cooperation forces that remained largely unchanged from the Flying Corps and Naval Air Services respectively.<sup>27</sup> His experience with the Independent Force during 1918 was to see his views on airpower expand, so much so that he eventually reversed his opinion of strategic bombing and surpassed even Smuts as its great advocate.

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<sup>24</sup> ‘Sir Douglas Haig’s Views on a Separate Air Service’, Haig to Chief of the Imperial General Staff, 15 September 1917. Printed as Appendix III in Raleigh and Jones, *The War in the Air*, Appendices, 14-18.

<sup>25</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 36-9.

<sup>26</sup> Raleigh and Jones, *The War in the Air*, VI, 19-22.

<sup>27</sup> The Independent Force at the time of the Armistice consisted of 10 squadrons, out of a total RAF consisting 188 service squadrons and 16 flights. Raleigh and Jones, *The War in the Air*, VI, 90.

## Strategic Bombing by the Royal Air Force

The focus on civilian morale that was ultimately to lead to British area bombing in the Second World War clearly had its roots in the 1918 operations of the Independent Force. The basic rationalisations for attacking civilians in an age of total war have already been encountered. Sykes, Trenchard's successor as Chief of the Air Staff from April 1918, used all of them in a paper outlining the Independent Force's operations for the information of the Imperial War Cabinet in June 1918. In an era of industrialised warfare with entire nations involved in the war effort, the men on the battlefield were supported by many times their number at home who worked in war-related industries. Because the workers were fundamental to keeping the armies, navies and air forces fighting, they were seen as an important and legitimate target. Frighten them by bombing their factories, Sykes wrote, and they would eventually refuse to take part in the war effort through simply stopping turning up to work. Once the collective morale of the population had been reduced to a certain point, the enemy would be unable to carry on the war and would be forced to make peace, regardless of the position on the battlefield.<sup>28</sup> This particular justification for the targeting of civilian morale dates from 1918, but the same argument was used in the Second World War to justify area bombing.

Although initially subordinate to other targets, population centres were a crucial part of the Independent Force's bombing strategy that were forecast to increase in importance as the war went on. Munitions manufacture and submarine assembly facilities were listed as the first and second targeting priorities in Sykes's War Cabinet report, in order to maximise the immediate impact that bombing would have on the German war effort on the front lines and at sea. However, the third priority involved targeting the entire war economy through direct attacks on civilians. This was described and justified in the following manner:

Numerous attacks [will be launched] by small forces on all the larger cities of Germany with the object of obtaining the most widespread dislocation of municipal and industrial organisation. ...

... The aim of such attacks would be to sow alarm broadcast [*sic.*], set up nervous tension, check output, and generally tend to bring military, financial, and industrial

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<sup>28</sup> See Appendix 2: Sykes Report on Air Strategy, 27 June 1918. See also Biddle, *Rhetoric and Reality*, 76-8.

interests into opposition. ... The wholesale bombing of densely populated industrial centres would go far to destroy the morale of the operatives. The bombing of Berlin would plunge the whole of Central Germany into darkness, and would result in a widespread and far-reaching demand for anti-aircraft defences ... which could only be complied with at the expense of the armies at the front. Such an operation would also entail a national outburst of criticism against the military air service administration.<sup>29</sup>

Sykes thus advocated that the large-scale bombing of German cities – with the express purpose of killing and maiming civilians – should take place as soon as possible. The fact that the war ended long before the Independent Force had the chance to do anything close to ‘plunging the whole of Central Germany into darkness’ merely delayed the application of this doctrine by British aircraft by two decades. Trenchard forecast after the Armistice that the actual destruction of towns by his force would not have been possible for ‘at least another four or five years’, for it would have taken that long to build up a force of sufficient size and strength. However, as a way of getting the maximum return from his small force in the short and medium term, he attacked as many towns as possible to spread the effect. ‘By attacking as many centres as could be reached the moral effect was first of all very much greater, as no town felt safe’, he wrote in his post-war Despatch on the work of the Independent Force.<sup>30</sup> In the absence of a force large enough to do significant damage to war industries, Trenchard sought to cause as much damage of any kind in towns as possible. This merely underlines the fact that bombing of this type did not target specific industrial targets, but was aimed generally at the German civilian population.

Sykes’s report stated that precision bombing targets were the top priority for the Independent Force, but the reality was that indiscriminate attack was the rule in all cases. In a note to the Secretary of State for Air, Sir William Weir, Trenchard admitted that his bomber pilots could not attain very much accuracy at all. Weir wrote to Trenchard in September 1918 that

I would very much like it if you could start up a really big fire in one of the German towns. ... I can conceive of nothing more terrifying to a civilian population as bombing from a low altitude, and I was frequently very

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<sup>29</sup> See Appendix 2: Sykes Report.

<sup>30</sup> See Appendix 3: Trenchard Despatch.

apprehensive that the Bosch[e] would do this in London, and that the results would be very serious. ...

If I were you, I would not be too exacting as regards accuracy in bombing railway stations in the middle of towns. The German is susceptible to bloodiness, and I would not mind a few accidents due to inaccuracy.<sup>31</sup>

Trenchard replied that in practice, area attacks were the norm:

I do not think you need be anxious about our degree of accuracy when bombing stations in the middle of towns. The accuracy is not great at present, and all the pilots drop their eggs well into the middle of the town generally.<sup>32</sup>

Although the Independent Force was formally committed to a precision-bombing strategy as its top two priorities, this exchange shows that the average standard of accuracy meant that area bombing was the reality for attacks on all types of targets. Robin Higham has found that the Independent Force knew that its bombing operations by night were twenty times less accurate than those by day,<sup>33</sup> and night attacks heavily outnumbered those carried out in daylight. German figures demonstrate this for 1917 and 1918. Although these include attacks by French as well as British bombers, there was a clear weighting towards night attacks in these statistics. For 1917, they totalled 130 night and forty-five day attacks, and for 1918, 234 and 119 respectively.<sup>34</sup> During the last five months of the war, the Independent Force dropped 550 tons of bombs, of which 390 were dropped by night.<sup>35</sup> Given the much lower level of accuracy possible by night, the practical result of this would have been area bombing against all types of targets, regardless of official intentions.

The Trenchard-Weir exchange cited above hints at the strong feeling in London for direct attacks on German cities as reprisals for German attacks on London. While this fell away quickly after the war's end – as would also happen in 1945 – the bombing of civilians possessed widespread support from the British public during the war. The *London Daily Mail* published a 'reprisal map of Germany' after the first 1917 attack on

<sup>31</sup> H. M. Hyde, *British Air Policy between the Wars, 1918-1939* (London: Heinemann, 1976), 42. Boyle, *Trenchard*, 312.

<sup>32</sup> Boyle, *Trenchard*, 312.

<sup>33</sup> Higham, *The Military Intellectuals in Britain: 1918-1939*, 182.

<sup>34</sup> Raleigh and Jones, *The War in the Air*, VI, 152.

<sup>35</sup> See Appendix 3: Trenchard Despatch.

London, showing where it thought British bombers should strike in revenge for attacks on London. It wrote that to forbid reprisal raids as being 'un-British' would simply result in the deaths of more English civilians, and published pictures of child victims of the Gotha raids to reinforce the point. *The Times* also strongly supported reprisals, printed many letters and reported on 'crowded and enthusiastic' public meetings demanding the same.<sup>36</sup> One such meeting sent a message to the King calling for him to

instruct your Ministers at once to make rigorous and continual air attacks on German towns and cities as reprisals for the murder of civilians – men, women, and children, even infants at their school desks – and if your Ministers do not take steps to protect us we implore your Majesty to dissolve Parliament and appoint Ministers who will do their duty.<sup>37</sup>

The strong public feeling behind these calls prevailed throughout the remainder of the war. General Smuts announced a retaliation policy of deliberate area bombing reprisals on behalf of the Government on 4 October 1917. 'Hitherto we have, as far as possible, avoided using the aeroplane as an engine of destruction and terrorism against the civilian population'. However, on the principle of 'an eye for an eye and a tooth for a tooth', he stated that 'we are most reluctantly forced to apply to [the enemy] the bombing policy which he has applied to us'.<sup>38</sup> Because Germany had bombed British cities, Britain must bomb German cities.

As in the Second World War, churchmen were most vocal in expressing moral opposition to the bombing of civilians. Bishops Oxon and Ely, in a letter to *The Times*, called the policy announced by Smuts 'essentially and deeply wrong' that would sacrifice the moral high ground hitherto held by the Allies.<sup>39</sup> However, *The Times* dismissed their concerns and showed the extent to which it supported area bombing in a published response below the bishops' letter. The newspaper's editors stated that 'we can see no essential difference between the bombing of certain towns in Germany and the bombing operations which are daily and nightly carried out by our airmen behind the German lines

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<sup>36</sup> "'Reprisals.' Gen. Smuts on Air Fighting', *The Times*, 5 Oct. 1917, 9. Powers, *Strategy without Slide-Rule*, 82-6. N. Frankland, *Bomber Offensive: The Devastation of Europe*, ed. Barrie Pitt (New York: Ballantine, 1970), 152.

<sup>37</sup> Reprint of telegram sent to the King, in 'Appeal to the King: Tower Hill Demand for Reprisals', *The Times*, 10 Jul. 1917, 8. See also Biddle, *Rhetoric and Reality*, 31.

<sup>38</sup> "'Reprisals.' Gen. Smuts on Air Fighting'.

<sup>39</sup> C. Oxon and F. H. Ely, 'Air "Reprisals"', *The Times*, 15 Oct. 1917, 6. See also Powers, *Strategy without Slide-Rule*, 83.

in Flanders. There is no reason to suppose that the British Government are now contemplating the abandonment of military objectives in favour of “war on women and children”.<sup>40</sup> The public, it seems, were prepared to adopt much broader ethical standards in wartime than those which prevailed during peace, but also retained a complacent assumption that the British Government would, broadly speaking, act ethically. As has been seen, however, it *was* contemplating at least partially abandoning strictly military objectives in favour of bombing civilians.

British air strategy for 1918 took account of these pressures to attack the entire German nation. In January, a report for the British military representative at the Supreme War Council in France clearly set out that the aim of strategic bombing operations being planned for the Independent Force was to reduce civilian morale. This report was based on one for the Prime Minister by Trenchard, the new Chief of the Air Staff, and placed high importance on attacks on industrial towns. These operations, it was believed, would also reduce industrial output by war industries, either through terrifying the workers or simply through destroying their factories.

The policy intended to be followed is to attack the important German towns systematically ... . It is intended to concentrate on one town for successive days and then to pass to several other towns, returning to the first town until the target is thoroughly destroyed, or at any rate the morale of workmen is so shaken that output is seriously interfered with.

... Long-distance bombing will produce its maximum moral effect if the visits are constantly repeated at short intervals, so as to produce in each area bombed a sustained anxiety. It is this recurrent bombing, as opposed to isolated and spasmodic attacks, which interrupts industrial production and undermines public confidence.<sup>41</sup>

It is clear that Trenchard felt no qualms about attacking civilians to attain the aim of reducing industrial production, although this was not his only aim. The destruction of

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<sup>40</sup> Editors' response to Oxon and Ely, 'Air "Reprisals"'.  
<sup>41</sup> Memorandum on bombing operations, Chief of the Imperial General Staff to Sir Henry Wilson (British Military Representative, Supreme War Council), 17 January 1918. Based upon memorandum, 'The bombing of Germany', Trenchard to Lloyd George, 13 January 1918. Respectively printed as Appendices VI and V in Raleigh and Jones, *The War in the Air*, Appendices, 22-6.

civilian morale became an end in itself, and by talking of ‘undermin[ing] public confidence’, Trenchard talked of a political aim – that of fostering instability in the enemy state. He was happy to send his bombers over one town as many times as would be required to ensure that it was ‘thoroughly destroyed’, although destroying enough of it so that ‘the morale of workmen is so shaken that output is seriously interfered with’ would suffice if total destruction was not practical. Having done this, however, he intended to return to each town regularly so that its inhabitants got no respite, suffered from a ‘sustained anxiety’, and had their ‘confidence undermined’. Trenchard wrote this even before the Independent Force (or the Royal Air Force itself) had come into being, showing that such area bombing as he later carried out was at least partially premeditated.

Bombing’s psychological effects were believed by the Independent Force to be very significant. A summary of the Force’s operations, written shortly before the Armistice, justified area bombing by citing evidence of its effects on morale:

To illustrate [the effect of the Independent Force’s raids] upon German moral[e], the following captured letter, dated August 22<sup>nd</sup> [1918] from MANNHEIM, and typical of many, is quoted.

“My eyes won’t keep open while I am writing. In the night, twice into the cellar, and again this morning. One feels as if one were no longer a human being. One air raid after another. In my opinion this is no longer war, but murder. Finally in time one becomes horribly cold, and one is daily, nay, hourly, prepared for the worst”.<sup>42</sup>

This type of response to area bombing was quoted with great approval by the Independent Force. Setting off the air-raid sirens in a town twice in a night, and again the following morning, supports Trenchard’s prophecy that ‘the maximum moral effect’ of bombing would be attained ‘if the visits [were] constantly repeated at short intervals’. The letter-writer certainly appears to be suffering from a ‘sustained anxiety’ from the repeated bombing of his or her town, to the point where he or she has lost all confidence in the war and the will to carry on. In his post-war Despatch, Trenchard showed the extent to which he believed in morale as a strategic target in its own right. In it, he made the famous and unfounded claim that ‘at present the moral effect of bombing stands undoubtedly to the

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<sup>42</sup> AIR 1/109/15/17, ‘Precis No.AH 15/17: Independent Force, June-November 1918’, Capt. Fairbairn, n.d. (appears from internal evidence to be between 1<sup>st</sup> and 11<sup>th</sup> November 1918).

material effect in a proportion of 20 to 1'.<sup>43</sup> This was a meaningless figure from a man who was a master of 'the totally unfounded statistic' based upon nothing 'except his own hunches', and has been described by Philip Meilinger as earning Trenchard 'much (largely deserved) ridicule'.<sup>44</sup> However, a point that has been missed by many historians is that the 'present' time of 1918 was a time of very limited bombing accuracy, and so it was perhaps reasonable of Trenchard to maintain that the fear of his attacks was much greater than the results they actually achieved.

Had the war continued into 1919, the Independent Force would have continued to intensify its attacks on German civilians. Trenchard's Despatch also contained what H.R. Allen critically described as an unfulfilled scheme to 'desolate the cities of Germany'.<sup>45</sup> Trenchard wrote that the two main strategies that the Independent Force could have pursued in 1918 were

1. A sustained and continuous attack on one large centre after another until each centre was destroyed and the industrial population largely dispersed to other towns, or
2. To attack as many of the large industrial centres as it was possible to reach with the machines at my disposal.<sup>46</sup>

In the absence of large bomber forces, Trenchard plumped for the second option, believing that it was a more effective use of his limited forces in the foreseeable future. While this did not aim at total destruction of cities, Trenchard was merely reflecting his operational capabilities. Both options were based upon the general bombardment of the German population – the essence of British area bombing in the Second World War. Furthermore, Trenchard's Despatch suggested that had he possessed the power to destroy cities as Bomber Command could do by 1945, he may have employed it in a similar fashion to Sir Arthur Harris.

Although the Armistice prevented any of Trenchard's more far-reaching plans from coming to fruition, it seems clear that the importance of civilian morale would only

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<sup>43</sup> See Appendix 3: Trenchard Despatch.

<sup>44</sup> Smith, *British Air Strategy between the Wars*, 61. Biddle, *Rhetoric and Reality*, 48. P. S. Meilinger, 'Trenchard, Slessor and RAF Doctrine before World War Two', in Phillip S. Meilinger (ed.), *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell Air Force Base: Air University Press, 1997), 46.

<sup>45</sup> Allen, *The Legacy of Lord Trenchard*, 31.

<sup>46</sup> See Appendix 3: Trenchard Despatch.

increase in bombing strategy had the war carried on into 1919 and beyond. The new 'super-Handley Page' bomber, the four-engine V/1500 that could carry nearly three tons of bombs as far as Berlin (the ultimate psychological target) and successor to the two-engine O/400 aircraft, was just coming into production in November 1918. Only three of these aircraft were ready for operations before the Armistice, but they had been prepared and briefed to bomb the German capital. Writing just as area bombing in the Second World War was getting underway, Sykes hinted at the fascination with destruction which strategic bombing fostered. 'It was a great blow to all of us' that the War Cabinet necessarily gave orders cancelling these planned attacks upon the announcement of the Armistice, he wrote in his memoir.<sup>47</sup> The Independent Force had just received the first operational aircraft that would have allowed Trenchard to launch 'a sustained and continuous attack on one large centre after another', but Sykes lamented the fact that this devastation could not be unleashed. At the time of the Armistice, plans also existed for 'shuttle raids' from bases in England, France and the newly-independent Czechoslovakia on all parts of Germany in 1919, and, to this end, 255 of the machines had been ordered.<sup>48</sup> Even if Trenchard was only speaking hypothetically when he talked of destroying German towns, he hinted at what might have occurred once these heavy bombers had entered service.

## Conclusion

While on a tiny scale compared with the great area offensive of the Second World War, the first steps towards area bombing were taken during the British bombing of German towns and cities in the First World War. By November 1918, the principle of attacking and 'devastating' cities on a 'vast scale' had been accepted and accorded such a place in official strategy that new air service had been established in order to carry this out. Killing of enemy civilians far behind the battlefield was a legitimate act of war, whether it was rationalised as disrupting the enemy war economy through attacking the 'morale' of civilian workers, or simply as revenge for perceived enemy bombing atrocities. Even attacks on small targets directly related to the enemy's war effort killed civilians because bombing accuracy was not precise enough to ensure that all the bombs dropped actually hit the intended target. Tentative plans for Trenchard's Independent Force in 1919 suggest

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<sup>47</sup> Sykes, *From Many Angles*, 243.

<sup>48</sup> Raleigh and Jones, *The War in the Air*, VI, 173-4. Boyle, *Trenchard*, 313.

that bombing policy would have broadened to incorporate more and more of what later became known as area bombing.

Although the Armistice removed the need to implement Trenchard's plans, the ideas behind them remained in the post-1918 Air Force. Over the following two decades, they developed into an institutional 'area bombing mentality', which is explored in later chapters. However, although the area offensive against German cities from 1940 incorporated the same basic ideas behind Trenchard's bombing plan for 1919, the historiography of area bombing in the 1940s fails to acknowledge these roots.

## Chapter 3

### **The Struggle for Survival, 1919-1923**

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Even if the beginnings of a Royal Air Force ‘area bombing mentality’ appeared during the First World War, this would be of little relevance to the development of bombing policy after 1939 unless it survived the transition from war to peace. Accordingly, this chapter will examine a crucial period in the history of the Air Force: the five years following the Armistice of November 1918. For a significant portion of this time, the Royal Air Force existed on a knife-edge between maintaining its independence, only granted in April 1918, and being split into its former Flying Corps and Naval Air Service constituents. If this had occurred, it is likely that the new component of the service – the Independent Force created to bomb Germany – would have been entirely disbanded. The survival of the Air Force, therefore, was to be crucial to the survival of a British strategic bombing tradition beyond the experiments of the First World War.

This chapter traces the Royal Air Force’s fight for its independence, which it secured by referring to its founding *raison d’être* – the power of aircraft to attack targets deep inside enemy territory. Before it could do this, however, political and financial imperatives saw the Air Force quickly reduced to a tiny size as all three British services demobilised. During 1921, Trenchard, who had resumed his post as Chief of the Air Staff, argued that maintaining a strong strategic bombing force was crucial for British security. A diplomatic row with France that year helped him advance this argument by allegedly providing a strategic threat to Britain, and a threat that itself maintained a large bomber force. Once the Government had authorised the creation of a large Home Defence Air Force, Trenchard institutionalised his personal area bombing mentality through Air Staff discussions over the role and composition of the new force. The result of this was that by the end of 1923, the Royal Air Force was rebuilding a long-range bomber organisation that was intended to attack the morale of enemy civilians by bombing their cities: the same premise behind area bombing after 1940.

## Transition to Peace

While the unique ability of aircraft to destroy targets deep inside enemy territory was a compelling reason for Great Britain to create an independent air service in the middle of a war, it was an attribute of little apparent use in peacetime. Despite its strength at the time of the Armistice and its wartime achievements, the Royal Air Force was still less than a year old. Early 1919 saw its continued independence in doubt, for the primary justification for its creation – the launching of a strategic bombing offensive against Germany – was now obsolete. Victory in the ‘War to end all Wars’ had come close to bankrupting Britain, and David Lloyd George’s Government desired a quick return to pre-1914 service estimates.<sup>1</sup> In such a situation, the Air Force had to compete for scarce money with its former parent services, the British Army and the Royal Navy. These services wished to complete the return to the pre-war establishment by reabsorbing the former Flying Corps and Naval Air Service elements of the third service. In doing so, the remainder – the strategic bombing force – would disappear. In order to survive as a permanent service, the Royal Air Force needed to come up with a powerful rationale to justify its continued existence as an independent force in peace, not just in war.

The Chief of the Air Staff did not appreciate the reality that the wartime justification for an independent Royal Air Force would not hold in peacetime. Sykes’s first blueprint for the post-war air service retained the wartime focus on the strategic bombing of civilians, but he badly misread the political mood in the weeks after the Armistice and the war-weary Cabinet comprehensively rejected it because of its great cost. Sykes proposed a large, war-ready Imperial Air Force that featured a powerful strategic bombing force at its core. He believed that area bombing was a likely course of action in future ‘total war’ conflicts: ‘wars between civilized nations will be struggles for life in which entire populations, together with their industrial resources, will be thrown into the scale,’ he wrote. Sykes modelled his vision on the worldwide presence of the Royal Navy that had maintained the Empire during the nineteenth century, using aircraft to supplement naval forces in some cases whilst replacing them where surface craft could no longer adequately defend British interests. An Imperial Air Staff was to control 191 British and Dominion squadrons, including a twenty-squadron strategic bombing force and many

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<sup>1</sup> J. R. Ferris, *The Evolution of British Strategic Policy, 1919-26* (Basingstoke: Macmillan Press, 1989), 15-30.

additional heavy bomber units deployed in auxiliary roles.<sup>2</sup> Although he revised his plan numerous times to try to meet fiscal demands, Sykes could not shift his mindset from war to peace quickly enough. In January 1919, this cost him his job.<sup>3</sup>

Sykes faced a larger problem than just Cabinet parsimony, for Lloyd George saw the independent air service as an unaffordable luxury and was happy to abolish it altogether. In this, he was prompted both by financial reality and by supporters of the Army and the Navy, both of which stood to gain from the winding up of the Air Force. Twenty years later, Sykes lamented the fact that Sir William Weir, the wartime Secretary of State for Air, did not stay at the Air Ministry for another six months and oversee the implementation of some form of the Imperial Air Force plan. Weir, an industrialist who had taken on the post as a temporary patriotic duty and was not a career politician, returned to his business affairs shortly after the Armistice. In his place, Churchill became the dual Secretary of State for War and Air in January 1919. Although Sykes was to describe Weir as ‘a cordial supporter of my proposals’, the latter advised Churchill that Sykes was not politically astute enough to hold his own in the scramble for service money and ensure that some form of permanent Air Force survived in the face of political indifference and military and naval hostility. Weir recommended that Churchill instead appoint a Chief of the Air Staff who ‘can make do with little’ – Trenchard, Sykes’s rival and short-lived predecessor as Chief of the Air Staff.<sup>4</sup>

The Air Force’s position at the start of 1919 was weak, but Trenchard managed to overcome this. Strategic bombing was the only role that could justify an independent air service. However, the Cabinet had rejected the maintenance of a large strategic bombing force because of cost. The Royal Air Force had no deep roots in the British military tradition, it had few friends in Britain’s political establishment, and powerful opponents confronted it. Yet, under Trenchard, it survived and eventually flourished. John Sweetman, who has studied the Royal Air Force during the thirteen months after the Armistice, is astounded at this achievement. He says that the foundation set by Trenchard ‘secured not only a valuable respite from immediate danger, but [also] provided the

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<sup>2</sup> Sykes, ‘Air-Power Requirements of the Empire’, Memorandum by the Chief of the Air Staff, 9 December 1918. Printed as Appendix VI in Sykes, *From Many Angles*, 555-74.

<sup>3</sup> Sykes, *From Many Angles*, 262-8. E. Ash, *Sir Frederick Sykes and the Air Revolution, 1912-18* (Portland, Ore.: Frank Cass, 1998), 174-8. See also Boyle, *Trenchard*, 329.

<sup>4</sup> Boyle, *Trenchard*, 328-9. Sykes, *From Many Angles*, 266.

indispensable basis for later defence against renewed attack'.<sup>5</sup> Trenchard appreciated what Sykes did not – that different rules applied to the fighting services when they were not fighting, and that much more subtle leadership was required to successfully maintain their budgets.

Working with the small budget at his disposal, Trenchard secured the immediate survival of the Royal Air Force. Crucially, he won Churchill over to his argument that continued independence was both necessary and practical with a tiny administrative establishment. Andrew Boyle suggests that this was largely thanks to Churchill's political pragmatism, for it was far easier to remodel an existing organisation than to do away with it entirely. Even so, Churchill had to talk Trenchard down from his initial proposal of an eighty-two-squadron service. Eric Ash, who has studied Sykes's impact on the development of airpower during the First World War, notes that this represented only a saving of £6 million over Sykes's final plan, or the cost of 'less than half the price of one 1918 battleship'. However, the fact that Churchill was prepared to work with this but not Sykes suggests that he saw Trenchard as a better Chief of the Air Staff in peacetime. While Lloyd George appears to have desired the abolition of the Air Ministry, the more important priority was to keep spending down and Churchill had a relatively free hand to manage the Army and Air Force on this basis. For this reason, Churchill's support of Trenchard neutralised immediate political calls to disband the Air Ministry.<sup>6</sup>

Backed by Churchill's conditional support, Trenchard protected the longer-term independence of the Air Force by presenting a modest plan to Parliament at the end of 1919 that retained a nucleus of the independent air service. This accepted the reduction to minimum levels of the three major air branches of 1918 – independent bombing, military- and naval-cooperation forces. Unlike Sykes, Trenchard recognised that he would never be able to convince the politicians to fund a large air force at a time when there were no major strategic threats to Britain's interests. By 1923, the Royal Air Force would consist of just thirty-two squadrons, with most units stationed around the Empire and only two long-range bombing squadrons based in the United Kingdom. By accepting massive cuts in the short term, Trenchard ensured that the air service, however skeletal, was recognised

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<sup>5</sup> J. Sweetman, 'Crucial Months for Survival: The Royal Air Force, 1918-19', *Journal of Contemporary History*, 19/3 (Jul. 1984), 529, 542-3. See also Higham, *The Military Intellectuals in Britain: 1918-1939*, 164-7.

<sup>6</sup> Boyle, *Trenchard*, 329-33. Ash, *Sir Frederick Sykes and the Air Revolution, 1912-18*, 176, 186 n. 152.

as an independent and permanent service, housed in permanent accommodation. Moreover, the small but highly professional service that survived could rapidly expand in the future, in theory, if the need arose. Under Trenchard, Britain's loss of the ability to conduct a strategic bombing campaign was thus confirmed. However, it retained the infrastructure and expertise that would permit it to regain that ability in the future.<sup>7</sup>

Even a small air service, however, needed a better justification than acting as an insurance policy against another Great War. Indeed, the Cabinet was now basing its defence planning on the assumption that there would be no major war within the next decade – the 'Ten Year Rule'. Implicitly, the Rule allowed that a major war was possible, or even likely, after about 1930. In such an event, it would be much easier to expand a tiny strategic bombing force as required, rather than repeat the trouble of creating one out of separate military and naval air arms. However, the logic of this would not necessarily convince politicians of the wisdom of maintaining a separate Air Ministry in the face of financial constraints and Army and Navy lobbying. To supplement the major-war argument, Trenchard required a mission that could enable the Royal Air Force to pay its way in the meantime. He thus developed an argument for using airpower to meet Imperial requirements, such as carrying out internal 'police work' and dealing with low-level 'frontier troubles' through 'air control'. Although Sykes's plan also incorporated this, Trenchard placed much more emphasis upon it and the most detailed deployment plans of his December 1919 White Paper concerned the garrisoning of the Empire.<sup>8</sup>

In his efforts to keep the Royal Air Force in existence in the post-war environment, Trenchard had one key advantage – the fact that he was 'a cunning and ruthless bureaucratic infighter'. Luckily for the Air Ministry, his political skills far outshone those of his naval and military counterparts in the immediate post-war period, writes Ferris.<sup>9</sup> For example, on the back of a cheap, successful operation in Somaliland in 1919, he successfully diverted inter-service debate to the merits of air control itself and away from the independence of the air service. Even though air control operations relied on close co-

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<sup>7</sup> Cmd. 467, 'Permanent Organization of the Royal Air Force'. Memorandum by Trenchard, 25 November 1919; published with covering note by Churchill, 11 December 1919.

<sup>8</sup> Cmd. 467, 'Permanent Organization of the Royal Air Force'. See also Sweetman, 'Crucial Months for Survival: The Royal Air Force, 1918-19', 529, 537-8, 543. Meilinger, 'Trenchard, Slessor and RAF Doctrine before World War Two', 48. Sykes's plan included proposals such as basing heavy bombers in West Africa, which 'should prove of the greatest service in dealing with native risings and carrying out general police work'. Sykes, 'Air-Power Requirements of Empire', 9 December 1918. Printed as Appendix VI in Sykes, *From Many Angles*, 555-74; here, 566.

<sup>9</sup> Ferris, *The Evolution of British Strategic Policy*, 5-7.

operation with ground troops (and could therefore be carried out, perhaps even more successfully, by aircraft that were part of the Army), Trenchard was able to control the debate and ward off his rivals. What strengthened Trenchard's case was the fact that his air control operations were substantially subsidised by their beneficiaries, the Colonial Office and the Indian Government, which made the Air Ministry less reliant on direct funding from the Treasury. As long as the small independent air service made only modest demands on the public purse, politicians who wanted to minimise defence spending were inclined to follow Churchill's example and let it retain its organisation, rather than going through the messy business of disbanding it.<sup>10</sup>

Ultimately, the immediate retention of the Royal Air Force came down to a financial argument, and it survived by remaining the 'poor relation' of the older services. The Army and Navy dominated the service estimates, receiving 125 million and ninety-one million pounds respectively in 1920, while the Air estimate was twenty-three million pounds. This pattern continued for a decade. The Air Force budget fell to less than eleven million pounds in 1922, and it did not exceed fifteen percent of the combined services budget until 1930.<sup>11</sup> Air control helped secure immediate independence, but Trenchard's long-term goal was to retain the nucleus of a strategic bombing force for the future. Moreover, the Trenchardian concept of air control was not entirely irrelevant to strategic bombing, for it rested on the same principles that prompted the Independent Force to direct attacks against German civilians during the war: the power of aircraft to scare, intimidate and reduce morale through bombing.<sup>12</sup> The retention of an institutional nucleus, and the ideological continuation of ideas about bombing, meant that the Royal Air Force was ready to expand its area-bombing capability if and when a strategic threat appeared on the horizon.

### **Securing Independence and the Ideology of Area Bombing**

While the Royal Air Force could remain in existence as long as it did not constitute a major drain on the Government's finances, air control in itself could not justify perpetual independence. The place of aircraft in policing the Empire and acting in auxiliary roles

<sup>10</sup> Smith, *British Air Strategy between the Wars*, 28-31. J. R. Ferris, 'The Theory of a "French Air Menace", Anglo-French Relations and the British Home Defence Air Force Programmes of 1921-25', *The Journal of Strategic Studies*, 10/1 (Mar. 1987), 63.

<sup>11</sup> The Royal Air Force's budget sat at £22,992,230 in 1920, sank to £10,895,000 in 1922, and gradually increased over the following 12 years before a sharp increase in the mid-1930s. Not until 1935 did it exceed its 1920 level again. As a proportion of the total service estimates, the Air Force's share first broke the 10% mark in 1924, the 15% mark in 1930, and the 20% mark in 1935. Calculated from appendix VI in Hyde, *British Air Policy between the Wars, 1918-1939*, 516. 'Poor relation' is the title of Boyle's chapter covering the early 1920s. Boyle, *Trenchard*, 354-84, ch. 13.

<sup>12</sup> See Chapter Four for a more detailed discussion of air control.

with land and sea forces was never in doubt, but these duties could be discharged just as well, if not better, by aircraft that were under the direct command of the Army and the Navy. The only true justification for administrative independence was the strategic bombing mission, which, as Smuts had found in 1917, required an independent air service. After an interlude during 1920 when First Sea Lord Earl Beatty sportingly refrained from attacking the Air Force at Trenchard's request in order to allow it to find its feet, the Cabinet, prompted by the War Office and the Admiralty, came close to breaking up the Air Force. According to Ferris, the danger faced by the Air Force in early 1921 was more acute than at any other time in the interwar period.<sup>13</sup> In response, Trenchard revived the old argument that a strong strategic bomber force was vital to British security. Within a matter of months, the Committee of Imperial Defence had accepted this argument in principle, giving the Air Force some breathing space.

Trenchard argued the case for strategic bombing in two stages during 1921. Firstly, he sought to establish the theoretical need for bombers to counter an aerial threat to British security. In a paper for the Committee of Imperial Defence in March, he emphasised that

*the continental menace of the future will be from the air and not from the sea; not from a landing on these islands by armed forces; but from repeated incursion on a large scale by hostile aircraft operating from the sky and returning to their own bases.*<sup>14</sup>

Ominously, he wrote that 'this danger cannot be judged by our experience of aerial attack in the last war', because the 'concentrated and sustained bombing' possible in the future would far exceed the 'spasmodic attacks' of 1916-17. 'In attack is our best defence', he concluded, 'and we must have powerful air squadrons to carry the war into the enemy's country'. While no such menace within striking range of Britain then existed, one could arise at any time. Although the nucleus of the Royal Air Force provided a base upon which to expand to meet such a threat, it was too small to allow a rapid build-up of bomber aircraft. A larger standing air defence force was required. Trenchard anticipated the objection that such a force would be an intolerable financial burden by proposing that

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<sup>13</sup> Ferris, 'The Theory of a "French Air Menace"', 63-4. In contrast, Boyle presents the early 1920s as a period of constant danger. See Boyle, *Trenchard*, 325-491, chs. 12-16.

<sup>14</sup> See Appendix 4(i): 'The part of the Air Force in the future of Imperial Defence', Air Staff, March 1921. Italics as in original.

new squadrons could be employed in increased air control duties around the Empire in times of peace. He revived Sykes's post-Armistice argument in this respect to argue for a greater aerial role in Imperial defence generally, but was more explicit in using this as a means to the end of maintaining a strong bomber force.<sup>15</sup>

Trenchard did not explicitly spell out his ideas for strategic bombing, but his March paper suggests that he saw civilian morale as an important objective, similar to his view of bombing in 1918. The paper's only detail regarding targeting suggests that bombers would attack precise military objectives, comprised of the enemy's air forces 'and his personnel and establishments on the ground'. However, the technical capabilities of bombing from the First World War had shown that it was virtually impossible to confine bombing to precise targets, as most bombs fell outside the area of an individual target. Implicitly, the paper hinted at area bombing aimed at least partially against civilians. Vague assertions, such as that 'powerful air squadrons' would 'carr[y] the war into the enemy's country', appear to suggest that war operations would pick up from where the Independent Force left off in 1918 and endeavour to bring home the reality of war to the enemy population.<sup>16</sup> Area bombing of the type adopted by Bomber Command in 1940, described by Richards as aiming at 'profitable targets in profitable surroundings', predated Trenchard's Independent Force (the 'Long Distance Bombing' paper of 1917), and were an important part of his plan for operations during 1919.<sup>17</sup> While Trenchard's 1921 argument was careful not to make it explicit, the bombing strategy that he was advocating as the basis of British home defence would, in time of war, see bombers carrying out attacks on targets in enemy cities, with the aim of killing civilians.

Beatty and his General Staff counterpart Sir Henry Wilson both vigorously resisted Trenchard's claims by arguing that they gambled British security on a new and untested weapon. While Trenchard argued for the potential of airpower in the future, Beatty and Wilson focussed on its actual achievements in the Great War. The vast majority of these had involved close cooperation with land or sea forces in order to influence events on the battlefield – operations that did not require a separate air organisation. Wilson cited the

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<sup>15</sup> See Appendix 4(i): 'The part of the Air Force in the future of Imperial Defence'.

<sup>16</sup> See Appendix 4(i): 'The part of the Air Force in the future of Imperial Defence'.

<sup>17</sup> For 1917 and 1919, see 'British and German Strategic Bombing Before 1918' and 'Strategic Bombing by the Royal Air Force' in Chapter Two, and Jones, *The Beginnings of Strategic Air Power*, 16-7. Jones, *The Origins of Strategic Bombing*, 152-3. See also Appendix 3: Trenchard Despatch. For 1940, see 'Area Bombing Implemented' in Chapter Five, and also Richards and Saunders, *Royal Air Force, 1939-1945*, I, 234.

testimony of Marshal Foch, who claimed that Trenchard's leadership was the only reason the Independent Force did not fatally divert resources from the land battle in 1918, because he was naturally army-minded and frequently employed his strategic bombers in tactical, ground-support roles.<sup>18</sup> In contrast, to move aircraft from tried and true duties to a strategy that was essentially untested was presented as being a hasty, unnecessary and foolish step. Fundamentally, Beatty and Wilson were arguing that Trenchard's proposals did not justify an independent air service.

In this inter-service struggle for control of Britain's air capability, it was Trenchard's arguments that finally won the day, despite his lack of detail regarding the independent bombing force's war strategy. Within the context of a wider debate regarding the Royal Air Force's position relative to the Navy and the Army, the Committee of Imperial Defence accepted Trenchard's argument that civilian morale was the decisive target in wartime. Because only strategic bombers could strike at this directly, they should form, in principle, the basis of British home defence.<sup>19</sup> In the later disparaging words of the retired Major General Ashmore, the air defence commander of London in 1918 and an officer who opposed Trenchard's view that 'the aeroplane is not a defence against the aeroplane', this policy amounted to a simple belief that 'bomb-the-other-fellow-is-the-only-way'.<sup>20</sup> Nonetheless, Trenchard convinced others that his view was correct, and in May 1921, he elaborated and stated that a continental air force would endeavour to 'destroy London by aerial attacks', reminding politicians of the popular uproar that this caused in 1917. Once primary responsibility for home defence was awarded to the Air Ministry in 1921, Ferris has found that until at least 1938, British governments of all persuasions accepted Trenchard's argument as established fact. By implication, they also accepted the principle of a strategic air offensive as the basis of home defence.<sup>21</sup> Initially developed in a tactical role, Trenchard's belief that the aeroplane was a fundamentally offensive weapon was now applied to the strategic air mission, resulting in the counter-intuitive designation of a Home Defence Air Force that would, in time of crisis, consist mostly of a large, long-

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<sup>18</sup> CAB 5/4, CID papers 136-C, 'The part of the Air Force in the future of Imperial Defence', Naval Staff, 21 April 1921; 139-C, 'The rôle of the Air Force in relation to the Army', General Staff, 25 May 1921.

<sup>19</sup> Ferris, *The Evolution of British Strategic Policy*, 85.

<sup>20</sup> E. B. Ashmore, *Air Defence* (London: Longmans Green, 1929), 147.

<sup>21</sup> Ferris, 'The Theory of a "French Air Menace"', 64. For a more general account of the workings of the Committee of Imperial Defence at this time, see F. A. Johnson, *Defence by Committee: The British Committee of Imperial Defence, 1885-1959* (London: Oxford University Press, 1960), 170.

range attacking force. The Royal Air Force had now been reunited with its *raison d'être*, justifying its permanent existence.

These battles for survival during the early years of the Royal Air Force had a huge impact on the nature and philosophy of the organisation. The idea of an independent air service, which Denis Richards describes as 'the First Article of the Air Staff creed', became inextricably intertwined with independent strategic bombing. For historians such as Richards who have championed the Air Force cause, this commitment to strategic bombing was one of Britain's greatest strengths during the Second World War. More critical authors, such as H.R. Allen and Max Hastings, have argued that the obsession with independent bombing resulted in the neglect of the no-less-vital duties of air defence and support for military and naval forces.<sup>22</sup> However, whatever view one takes on the merits and demerits of strategic bombing, one point of critical importance is clear. Strategic bombing was fundamental to the institutional interests of the Royal Air Force from the very beginning, and soon became a core component of its ideology. In addition, as seen in Chapter Two, strategic bombing in practice entailed area bombing and attacks on civilians.

### **The 'French Air Scare'**

A sense of crisis permeating Anglo-French relations during 1921-22 allowed Trenchard to launch the second stage of his argument regarding strategic bombing. In the first half of 1921, Trenchard had convinced politicians that long-range bombing to destroy civilian morale was the best way of defending Britain from aerial attack. Later that year, the worsening diplomatic relationship with France allowed him to argue that France was a strategic threat to British security, and that a strong bomber force must be created to meet it.

After the conclusion of the Paris Peace Conference in 1919, the decision by the United States to return to isolation across the Atlantic had left Britain as the only significant security France possessed against a defeated but embittered Germany. British Foreign Secretary Lord Curzon believed that this entitled Whitehall to drive a harder diplomatic bargain with Paris for this support and show where the true power in the relationship lay.

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<sup>22</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, 29. Allen, *The Legacy of Lord Trenchard*, 43-4. Hastings, *Bomber Command*, 348.

The French had other ideas, and asserted their self-sufficiency by challenging British interests in Europe, Turkey and at the Washington Naval Conference during the autumn of 1921. Whether or not its own actions were responsible for pushing the French into this assertive stance, the Foreign Office began to focus on French strength not as that of an ally, but as a possible adversary.<sup>23</sup>

These tensions in Anglo-French relations were a godsend for all three British services. Already, they were chafing under the financial restrictions of the Ten-Year Rule, but they could now argue that the French threat made the Rule redundant and that the Cabinet must increase defence budgets. The Royal Navy emphasised the danger of the French submarine fleet and its potential to blockade Great Britain, while the War Office claimed that the French Army was far larger than purely defensive purposes required. Lloyd George was inclined to support the demand of the services for increased funding. Though he regarded war with France as a 'calamity which seemed almost unthinkable', he agreed that the strength of the armed forces of Britain should not be so far behind that enjoyed by France.<sup>24</sup> Of all the services, the Royal Air Force had the most to gain from the 'French scare'. The post-1918 cutbacks had affected it far more than the Army or the Navy, and because it had by far the smallest budget of the three services, even a modest increase in funding would have a significant effect.

Trenchard produced evidence to show that the French Air Force constituted a serious potential threat, making full use of this opportunity to further the Royal Air Force's institutional interests. For evidence, he used a comparative table on the armed strength of major powers compiled in preparation for the Washington arms limitation conference later in 1921. The 'Air' column showed that France enjoyed a huge lead over Britain in home-based strike aircraft, with 1,480 such machines compared with the Royal Air Force's 129.<sup>25</sup> Trenchard claimed that this disparity must be met by a rapid build-up of the Home Defence Air Force. His timing, as Ferris observed, was extremely suspicious. Ferris wrote that Trenchard's claim, that a strategic bombing force was an immediate strategic

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<sup>23</sup> Ferris, *The Evolution of British Strategic Policy*, 92-3, 105-7.

<sup>24</sup> Ferris, "The Theory of a "French Air Menace"", 66-72. Arthur Balfour, chairman of the Committee of Imperial Defence, used almost identical words regarding the 'calamity' of a war with France. See CAB 3/3, CID paper 108-A, Note by Lord Balfour on the Report of the Sub-Committee on Continental Air Menace, 29 May 1922 (Arthur Balfour had been created Earl of Balfour earlier that year).

<sup>25</sup> CAB 4/7, CID paper 280-B, 'The Washington Conference on the Limitation of Armaments', 24 October 1921, app. III.

necessity to ensure British security, was actually ‘an immediate political necessity’ in the Air Ministry’s quest for survival and a larger budget.<sup>26</sup> Strategic bombing was central to the interests of the independent air service, and Trenchard was quick to emphasise the supposed danger posed by France in this respect.

Having already accepted the necessity of air defence in principle, the Standing Defence Sub-Committee of the Committee of Imperial Defence had little choice but to establish a sub-committee to examine the alleged ‘Continental Air Menace’ and the ‘diplomatic possibilities’ that might arise from this. These possibilities, while unlikely to involve war, threatened to hand France an advantage that would allow it to dictate diplomatic terms to Britain.<sup>27</sup> Balfour himself was worried, and meeting minutes from 14 October 1921 recorded his statement in the words that

Mr Balfour informed the Committee that he had just learned that the French were overwhelmingly superior to us in regard to air power. They had at present forty-seven independent air squadrons, whereas we had only three. He viewed the situation with profound alarm. The fact was that at this moment we were incapable of resisting an aerial invasion by the French.<sup>28</sup>

Balfour later wrote that ‘to trust to the impossibility of the two Allies coming to blows’ would run the risk that ‘the impossible may after all occur; and that even if it does not occur, the mere fear of it may, in quite conceivable circumstances, greatly weaken British diplomacy and may put temptations in the way of French statesmen which they would find it hard [*sic.*] to resist’.<sup>29</sup> While the Foreign Office shared Lloyd George’s view that war was not a likely eventuality, Balfour was concerned that Britain should not lose its diplomatic influence. If France possessed a strong bomber force, then Britain must possess a credible counter to it, or risk French diplomats riding roughshod over British interests.

The Air Ministry sought to exploit this fear by emphasising how the French aerial threat had the potential to rapidly defeat Britain through bombing attacks on civilians in London. While the Committee of Imperial Defence was openly fearful of French land, sea

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<sup>26</sup> Ferris, ‘The Theory of a “French Air Menace”’, 65-6.

<sup>27</sup> CAB 3/3, CID paper 106-A, Report of the Sub-Committee on Continental Air Menace, 26 April 1922.

<sup>28</sup> CAB 2/3, minutes of 145<sup>th</sup> CID meeting, 14 October 1921.

<sup>29</sup> CAB 3/3, CID paper 108-A, Note by Lord Balfour on the Report of the Sub-Committee on Continental Air Menace, 29 May 1922.

and air forces by November 1921, a flurry of Air Ministry memoranda the following month argued forcefully that the threat of bombing was paramount. These outlined the massive weight of bombs France could potentially drop on the United Kingdom – 1,600 tons per month, starting almost immediately and continuing for an indefinite period. London would be the principal target, and this amount of bombs dwarfed previous experience in the First World War. The best German bombing effort against Britain had been just twelve tons in September 1917 (and with such devastating impact), while the Independent Force dropped an average of 110 tons per month during its operations in 1918.<sup>30</sup> A French attack was expected to seriously hinder war mobilisation through attacks on railways, shipping and the government district of the capital.<sup>31</sup>

Revealingly, the Air Ministry simply assumed that the French would follow the policy that Trenchard had previously advocated, by attacking cities and the morale of their civilian inhabitants. The Air Ministry reported that French bombing would be relentless and heavy – 320 times greater than Britain had experienced in the First World War. Because ‘the moral effect of air attack is out of all proportion to the material effect which it can achieve’, the Air Ministry expected that the population would only be able to hold out for three weeks. By that point, it would be in a ‘most demoralised and dangerous situation’, with revolution a distinct possibility. This assessment, the Air Ministry pointed out, did not even take into account chemical and biological weapons, all of which were ‘within the bounds of possibility’. Incendiary bomb technology, too, had made significant advances since 1918, and so ‘the threat of fire on a large scale must be added to the terrors which the population would encounter’.<sup>32</sup> Although not directly stated, these reports clearly placed civilians at the centre of any French bombing offensive.

Combined with Trenchard’s bureaucratic skill, the worsening diplomatic situation meant that these warnings resulted in a victory for the Air Ministry, with the granting of political approval for a vastly expanded Home Defence Air Force. Popular fears of bombing, combined with continued Anglo-French bickering during 1922, kept the

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<sup>30</sup> CAB 16/39, Air Ministry memorandum (21) for the CID, ‘The nature and strength of the Air Attacks, that a Continental power could deliver against the United Kingdom in present and immediately impending conditions. The quantity of explosives that could be dropped upon London and other objectives in the South of England and the class of objectives most dangerous to us’, 23 December 1921.

<sup>31</sup> CAB 16/39, Air Ministry memorandum (19) for the CID, ‘The extent to which Air Attacks could be so directed as to rupture the means of putting the country on a war footing’, 23 December 1921.

<sup>32</sup> See Appendix 4(ii): Air Ministry memorandum for the CID, ‘The moral effect on the population of air attacks and the extent to which such attacks would dislocate public business’, 23 December 1921.

potential threat of the French bomber force in the forefront of politicians' minds, and the Cabinet accepted a Committee of Imperial Defence recommendation to approve a moderate air expansion in the middle of that year.<sup>33</sup> This expansion scheme aimed at twenty home defence squadrons, but was superseded a year later with an even larger expansion plan that called for fifty-two squadrons to be formed by 1928.<sup>34</sup> These schemes, based upon strategic bombing, further guaranteed the future of the Royal Air Force by giving it a certain critical mass. While the Army and Navy would continue to snipe at the Air Ministry over various issues, never again was the very existence of the Air Force in doubt.

Just as the independent bombing mission justified creating an independent air service in 1918, the need to counter air attacks on London with counter-attacks on enemy cities consolidated the Air Force's permanent survival. Undoubtedly, this could not have occurred had at least the hint of a strategic threat to the United Kingdom not existed in the early 1920s. Although Ferris believes that the case for an expansion of the Home Defence Air Force was a good one,<sup>35</sup> Trenchard's political skill ensured that the approved expansion was massive. The statistical disparity between the British and French air striking forces, which so alarmed Balfour towards the end of 1921, had actually existed since 1919.<sup>36</sup> Yet for Trenchard to have argued that this represented a real threat in 1919 or 1920, when diplomatic relations with France were good, would have been to overstate his case. When under pressure to justify the Royal Air Force in early 1921, he established the need for strategic bombers in principle by arguing that future threats to British home security would come from the air, would be directed against London, and that a counter-offensive policy was the best way to meet this. In October that year, he launched the second stage of his argument by claiming that France constituted such a danger. Given his belief that France would endeavour to destroy London by bombing, the only rational response (according to him) was to possess a strategic bomber force that could do the same thing in return – bomb Paris and French cities. The exact chronology of these years is difficult to establish, but it seems clear that Trenchard out-manoeuvred his War Office

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<sup>33</sup> Ferris, *The Evolution of British Strategic Policy*, 118-21.

<sup>34</sup> See Appendix 9: Summary Table of Royal Air Force Expansion Schemes, 1922-1939. Also see Ferris, *The Evolution of British Strategic Policy*, 116-21, 126-31. Ferris, "The Theory of a "French Air Menace"", 67.

<sup>34</sup> Ferris, "The Theory of a "French Air Menace"", 67, 72-4. Ferris, *The Evolution of British Strategic Policy*, 126-31.

<sup>35</sup> Ferris, "The Theory of a "French Air Menace"", 65-6.

<sup>36</sup> Ferris, *The Evolution of British Strategic Policy*, 107.

and Admiralty rivals to win a resounding victory for a variant of strategic bombing based upon similar ideas that later underpinned area bombing.

### **Rebuilding the Bomber Force**

The composition of the new Home Defence Air Force was determined in a series of meetings at the Air Ministry in July and August 1923, where the principles of air strategy established over the previous five years were formalised. These principles came together to establish that the Royal Air Force would favour the bomber offensive over fighter defence of the United Kingdom, and that the bomber offensive would be directed at enemy cities and the morale of their civilian inhabitants. Vigorous discussion took place, but the record shows that the Chief of the Air Staff dominated the meetings. ‘From the outset’, wrote Neville Jones, ‘he left no room for doubt about the principles which were to determine future policy’.<sup>37</sup> In the process, Trenchard’s ideas were institutionalised and adopted by the Air Staff. They were to remain the basis of British bombing strategy for two decades, culminating in Bomber Command’s area offensive against German cities in the Second World War.

The 1923 conferences were a landmark event in the evolution of British bombing strategy over the next two decades. The British strategic bomber force had been virtually disbanded following the First World War, but these debates occurred as it was about to be reborn, from where it would evolve into the Bomber Command force in existence in 1939. In addition, one of the most junior participants in the Air Ministry meetings of July-August 1923 was Squadron Leader Charles Portal, who by 1940 was an Air Marshal at the head of Bomber Command and a leading advocate of area bombing before this became official policy. Later that year, he was appointed Chief of the Air Staff, where he remained until 1945 and oversaw the area offensive against German cities. One of Trenchard’s protégés, Portal was already being groomed for a post on the Air Staff in the early 1920s. Denis Richards, his biographer, wrote that Portal was present at the meetings amongst officers much more senior to him not just to assist his superiors, but to participate fully and learn from the experience of debating fundamental issues at the highest level.<sup>38</sup> Trenchard even asked Portal what sort of bomber force he would like if he were in command during a European war. Portal replied that he would like an equal number of

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<sup>37</sup> Jones, *The Beginnings of Strategic Air Power*, 28-9.

<sup>38</sup> Richards, *Portal of Hungerford*, 89.

day and night bombers. As discussed below, night bombing was known to be very inaccurate, and Portal's statement suggests that he was already considering the bombing of population centres – the only targets large enough to be the focus of night attacks.<sup>39</sup> Portal's involvement in these discussions, and his general agreement with what was concluded, enables the drawing of a direct line of continuation between 1923 and his 1940 order authorising area bombing.

Trenchard began the 1923 conferences by reaffirming his belief that aircraft were weapons of offence and not defence. From this sprung the counter-intuitive designation of a 'home defence' air force heavily weighted in favour of attack, as he had already recommended to the Committee of Imperial Defence. On the first day of meetings, he admonished the Deputy Chief of the Air Staff, Air Vice-Marshal John Steel, for looking at the matter 'from the wrong point of view':

The defence of this country was being reckoned with without taking into account the offence against the enemy. It appeared as if it had been said "let us complete the defensive part and then the rest can be used for offensive purposes". [Trenchard] thought that the whole problem should be looked at from the point of view of ... what proportion can be used for attack, and after this was settled the remainder would be available for defence.<sup>40</sup>

Trenchard made it clear that the offensive was to take precedence over the close air defence of Britain, and reasserted his faith in the principle of 'relentless' action at a later meeting, showing that this had not dimmed since 1916:

Would it be best to have less fighters and more bombers to bomb the enemy and trust to their people cracking before ours, or have more fighters in order to bring down more of the enemy bombers[? That] would be rather like putting two teams to play each other at football, and telling one team they must only defend their own goal, and keep all their men on that one point. The defending team would certainly not be beaten, but they would equally certainly not win, nor would they stop the attack on their goal from continuing.<sup>41</sup>

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<sup>39</sup> AIR 19/92, minutes of a conference held in Chief of the Air Staff's room, Air Ministry, 3:30pm, 10 July 1923 (hereafter, AIR19/92 with date of meeting, and time if more than one meeting held on that day).

<sup>40</sup> AIR 19/92, 3:30pm, 10 July 1923.

<sup>41</sup> AIR 19/92, 11am, 19 July 1923.

The Director of Training and Staff Duties and a home defence expert from 1918, Air Commodore T.C.R. Higgins, opposed Trenchard's reasoning and advocated more fighters. He said that 'every enemy machine that got a bullet in the radiator was out of the war', implying that it would not take too much effort on the part of British fighter pilots to put enemy bombers out of action. Trenchard's reply was that 'every machine that was not used against the enemy was out of the war'. Obviously, Trenchard was using the term 'enemy' in an extremely narrow sense, one that encompassed only the enemy 'nation' and not its offensive bombers attacking Britain. His battlefield willingness to accept high casualties now extended to the civilian realm as well, for he placed greater importance on bombing enemy cities than protecting the British population. He preferred a higher ratio of bombers to fighters than any options under consideration – forty bombing and just twelve fighting squadrons, compared with the proposed ratio of thirty to twenty-two. As a compromise, a balance of thirty-six bomber and sixteen fighter squadrons was agreed to as an interim figure for the basis of planning, which became thirty-five to seventeen in the final scheme. This represented a two-to-one weighting in favour of the offensive.<sup>42</sup>

A major issue of debate at the 1923 meetings was the balance of night to day aircraft, which had major ramifications regarding the degree of precision possible in bombing. The Air Staff knew that night bombers had difficulty hitting anything much smaller than a city; the Independent Force in 1918 had to drop twenty tons of bombs at night to achieve similar results as from dropping one ton in daylight.<sup>43</sup> Even so, Trenchard had implicitly admitted that even daylight bombing was indiscriminate, when he wrote to Weir in September 1918 that 'the accuracy [of bombing] is not great at present, and all the pilots drop their eggs well into the middle of the town generally'.<sup>44</sup> From the record of their 1923 discussions, it is clear that the Air Staff implicitly accepted that what became known as area bombing would form the basis of the strategic offensive against the enemy. Steel

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<sup>42</sup> AIR 19/92, 3:30pm, 10 July 1923; 25 July 1923; Agenda for Conference on Policy of Expansion for Home Defence, n.d. (appears to be for meeting of 25 July). The Royal Air Force Staff College recommended 38 bomber and 14 fighter squadrons; the Air Staff 35 bomber, 17 fighter; Air Officer Commanding Inland Area 33 bomber, 19 fighter; and A.O.C.A. 32 bomber, 16 fighter (including 2 reconnaissance). See also Biddle, *Rhetoric and Reality*, 84-5. J. R. Ferris, 'Fighter Defence before Fighter Command: The Rise of Strategic Air Defence in Great Britain, 1917-1934', *The Journal of Military History*, 63/4 (Oct. 1999), 852. AIR 41/39, AHB Narrative 'The Pre-War Evolution of Bomber Command', n.d., 27.

<sup>43</sup> Higham, *The Military Intellectuals in Britain: 1918-1939*, 182.

<sup>44</sup> Boyle, *Trenchard*, 312. This was referring to attacks on precise railway targets, which took place by night and day, as is shown by the table 'Industrial Targets Bombed by Squadrons of the 41<sup>st</sup> Wing, and the Independent Force, Royal Air Force. October 1917-November 1918'. Raleigh and Jones, *The War in the Air*, Appendices, 42-82, App. XIII.

argued that an air offensive must take place ‘without cessation by day and by night’. This necessitated more day than night bombers. Day bombers would create more damage and result in a greater psychological effect, but were vulnerable to enemy defences. Night bombers were harder to intercept, and could therefore carry more bombs at the expense of flying lower and slower. Being of superior performance, day bombers could also work by night, but not the reverse. They could also carry fewer bombs, resulting in a weighting towards day aircraft to pursue a mixed strategy.<sup>45</sup> The preponderance of day bombers did not mean that the Air Staff expected to put more effort into precision than into area bombing. Even the more accurate day bombers would be directed, according to Steel’s comments, at targets where bombing would result in a great psychological effect.

Further reinforcing the conclusion that the Air Staff implicitly expected their bombing strategy to consist largely of area attacks, Trenchard saw the crews of bomber squadrons as having a simpler duty than fighter pilots. ‘The whole aim’ of bombing, in his opinion, was merely ‘to reach the objective and bomb it’. Given the importance he attached to the strategic air offensive, Trenchard could not have been expecting precision bombing to form the major part of it. If he had been, then he would surely not have accepted anything less than elite pilots for his bomber crews. However, he ruled that while all fighter units (which could ‘certainly not win’ a war) would be made up of regular service personnel, a large proportion of the bomber squadrons would be auxiliary and cadre units. These were to be manned by part-time crews with less training than their full-time regular counterparts, and so Trenchard cannot have expected these crews to have to aim at precise targets.<sup>46</sup> If bombing was seen as a simple matter and to be pursued in both daylight and darkness, then it follows that areas and not precise targets were envisaged as being the major objective of the bomber force.

Driving the discussion was the belief that bombing civilians could severely damage the enemy nation’s morale, and this allowed the Air Staff to accept that bombing would not be highly accurate. Reflecting his 1918 belief that the moral effects of bombing were twenty times greater than the material effects,<sup>47</sup> Trenchard claimed on two separate occasions that it was the nation whose people could stand up to the repeated moral strain

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<sup>45</sup> AIR 19/92, 25 July 1923.

<sup>46</sup> AIR 19/92, untitled and undated manuscript, appears to be notes for a speech by Trenchard, c. 1923.

<sup>47</sup> See ‘Strategic Bombing by the Royal Air Force’ in Chapter Two, and also Appendix 3: Trenchard Despatch.

of bombing the longest that would win the war, regardless of the material damage suffered. The population would be the primary target, both of the Royal Air Force and its opponent. ‘Our people would undoubtedly squeal if they were being bombed, but we should find, if we bombed the enemy enough, that he would collapse before we did’, stated Trenchard on 13 July. Six days later, he used similar words when he emphasised that he ‘would like to make this point again. ... The nation that would stand being bombed longest would win in the end’.<sup>48</sup> He had faith that the British people were much tougher than their Continental neighbours and would prevail in this test. The Permanent Secretary of the Treasury, Warren Fisher, shared Trenchard’s view: ‘I have ... some confidence in the stamina of the English race and even if the French could blow London to bits (which is a big assumption) they [would] only have won the first round and ensured all the more certainly their defeat’.<sup>49</sup>

Trenchard believed that accuracy in bombing was sometimes important, but this was still aimed at an ultimate psychological end. ‘On material damage at times rested the moral damage. If there was no material damage in many cases the moral damage would be nil’.<sup>50</sup> The most effective way to damage morale would be to destroy property, which may require precise attacks, in addition to simply killing people, for which general area bombing would suffice. In summing up one of the meetings, he revealed that even precise attacks on industrial targets were aimed at killing people, not damaging factories. He quoted ‘figures illustrating the high percentage of casualties per ton of bombs in industrial areas where the people were collected at work’. In addition, ‘bombing by night would destroy factories[,] throwing quantities of people out of work. In a word, disrupting their normal life, [which] would not be without its moral effect’.<sup>51</sup> Fundamentally, since night bombing was accepted as being necessary but also less accurate than day bombing, area bombing was expected to play an important role in British bombing strategy.

### **Area Bombing in Strategy**

In planning the composition of the Home Defence Air Force, the Air Staff differed over the extent to which they should publicly admit that civilian morale was their main bombing target in wartime. While it was clear that the most effective strategies for

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<sup>48</sup> AIR 19/92, 13 July 1923 and 11am, 19 July 1923.

<sup>49</sup> T 162/184, minute by Fisher, 20 February 1923.

<sup>50</sup> AIR 19/92, 3:30pm, 10 July 1923.

<sup>51</sup> AIR 19/92, 25 July 1923.

targeting morale all involved making sure that lots of bombs dropped on civilians, this was hardly the type of policy that could be loudly proclaimed to ‘civilised’ British society. This ongoing debate was not fully resolved even after the official adoption of area bombing in 1942, and it resulted in ambiguous language clouding official statements of bombing policy. For example, two submissions by the Air Ministry to the Continental Air Menace Sub-Committee appeared to advocate attacks on military objectives as a means to the end of destroying civilian morale in surrounding areas. The first submission considered what the small, pre-expansion Royal Air Force of 1922 could do in the face of a French air offensive against the United Kingdom. It concluded that Britain could only hope to make harassing counter-attacks, but that by concentrating these as much as possible, their collective morale effect would be greater than the sum of the material damage caused:

Taking the units in Great Britain on the basis of the [current] 1922-23 programme [of expansion] little defence can be made against air attack. ... We may hope, however, to delay and hamper in some measure the enemy offensive by vigorous attack with such units as are available on his air bases and other military objectives. ... in the North of France with a considerable concentration on the neighbourhood of Paris: the dislocation of business and of normal conditions of life will be thus brought home to the maximum number of people and it is to this moral effect that we must, under these circumstances, chiefly trust as affording the best prospects of results.<sup>52</sup>

Because British bombers were too few to have a substantial military effect on the French attack, they should target civilian morale. This would determine the choice of ‘air bases and other military objectives’ to be bombed. Attacking these targets would not have much impact upon the wider population by ‘dislocat[ing] business and the normal conditions of life’ for the ‘maximum number of people’ unless they were located within population centres. Therefore, the Royal Air Force would not bomb French air bases near the coast, from where the French bombers would presumably be bombing England, but bases further away in and around Paris, where civilians were concentrated.

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<sup>52</sup> See Appendix 4(iii): ‘The retaliatory measures which could immediately be directed against a continental attacking Power by the Navy and Air Force’, Air Staff, March 1922.

Another paper, submitted in the same month to the same committee, was more explicit in identifying civilian morale as the main target of bombing. It simply noted that

The ultimate object of air attack on an enemy country is largely achieved by influencing the morale of the enemy population and the maximum effect will be gained by the aerial bombardment of legitimate objectives in his great centres of population. It will be important, therefore, to make a strong raid on the enemy capital in the very early days of the war.<sup>53</sup>

While expressed in a different way to the previous quotation, this also identifies civilian morale as the main target of bombing, to the point that the enemy capital must be attacked as early in the war as possible. The Air Staff recognised that this would be of at least questionable legality and morality, hence the need to ostensibly aim the attack at ‘legitimate objectives’ but ensure that their location in urban areas resulted in civilian casualties caused by the natural dispersal of bombs. Both quotations effectively advocate the area bombing of precise targets located within cities, in order to kill civilians and destroy housing and infrastructure.

In public, the Royal Air Force concealed the fact that its bombing policy was aimed at civilians even more than it did when discussing the matter internally. A draft paper outlining the service’s ‘War Aim’ was circulated for discussion on the margins of the 1923 conferences by Steel, the Deputy Chief of the Air Staff. Regarding bombing in wartime, it ruled out attacks on the enemy air force itself as impractical and unlikely to lead to victory. In keeping with the ‘strategic’ aim of bombing, the paper instead recommended that the aircraft industry itself be bombed. Successfully doing this would mean that that enemy aircraft lost in battle could not be replaced, leading to a general collapse and enabling a military victory. The closest that the paper came to discussing attacks on civilians was when it stated that ‘air attack on military objectives exposes enemy nationals to the inconveniences and trials of actual war with the certain effect which this will create on their morale’. Once the enemy population realised that their air force was no longer able to defend them and mitigate these trials and inconveniences, and when faced with the ‘impotence of its Army and Navy’, the paper claimed that this

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<sup>53</sup> See Appendix 4(iv): ‘The additional measures, if any, required to meet the existing situation’, Air Staff, March 1922.

bombing could ‘only result in an overwhelming desire for peace’.<sup>54</sup> By giving the impression that civilian morale would only be affected as a by-product of bombing, rather than as the main aim, Steel proposed that the Air Force tell the public that it viewed civilian casualties as simply an unfortunate consequence of war. Clearly, according to private discussions, it did not.

One staff officer questioned the need for this deception regarding the place of civilians in bombing policy. Higgins, the Director of Training and Staff Duties, favoured openly declaring that civilians would be attacked in wartime. He suggested an alternative draft of the War Aim, and summarised the differences in this version with a covering minute:

I think we should openly state that, as, in future wars, air warfare will devolve into a struggle between the two combatants to obtain moral superiority over the opposing civil populace, it is almost inevitable that a direct attack will be made by each side on the civil populace of the other. No doubt, with our usual skill at putting our enemies in the wrong in the eyes of the world, we shall see to it that the enemy is the first to transgress international laws. But it is certain that in any national war in which we become involved we shall find ourselves within a few hours of the declaration of war carrying out bombing attacks with the object of causing panic and alarm among the civil populace of the enemy. Let us therefore face facts.<sup>55</sup>

Higgins’s alternative War Aim suggested that the first objective in war for British bombers should be enemy aerodromes, as long as the enemy air force had not dispersed its aircraft. This reflected his background as an officer concerned more with air defence than offence. However, Higgins believed that it was ‘almost certain’ that the enemy would reduce the vulnerability of its aircraft by shifting them away from hangars and their peacetime bases. In this case, ‘we should attack the centres of [the enemy’s] civil population with every bombing squadron we possess’, to lower the enemy nation’s morale and force the enemy air force to defend these centres and consequently suffer losses in battle. The rationale for this was that the morale of the civil population was the decisive factor in war – exactly in keeping with Trenchard’s belief.<sup>56</sup>

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<sup>54</sup> See Appendix 5(i): Steel, ‘Some Notes on Air Strategy in its Application to Home Defence’, 12 July 1923.

<sup>55</sup> See Appendix 5(ii): Minute by Higgins to Steel, July 1923.

<sup>56</sup> See Appendix 5(iii): ‘The correct objective for an Air Force at the outbreak of a major or national war’, July 1923.

While agreeing in substance with Higgins, Steel saw that adopting the alternative version of the war aim as publicly stated policy would be, in the words of Malcolm Smith, ‘political kamikaze’.<sup>57</sup> Showing greater political astuteness than Higgins, Steel replied that

I cannot possibly agree to [Higgins’s version]. As a matter of fact there is little difference between [Higgins] and myself as to the value of moral effect, but he wants to lay it down that we are to attack the civil population to produce the moral effect; I insist on laying it down that we adhere to the rules, and attack military objectives in the vicinity of populated areas, which will produce the moral effect we require. ... [Higgins’s version] is almost diametrically opposed [to mine] from every point of view.<sup>58</sup>

Trenchard backed Steel, minuting that he ‘cannot agree’ to Higgins’s version’.<sup>59</sup> However, it is clear from the records of these meetings, and Trenchard’s statements before and after 1923, that Higgins had captured the essence of what was being advocated within the Air Staff. Contrary to Steel’s claim that he and Higgins possessed ‘diametrically opposed’ views of bombing, both agreed that civilian morale was the most important objective in wartime. Higgins advocated abandoning pretence and simply aiming bombs at town centres, while Steel and Trenchard recognised the political need to retain a military justification for bombing, however slight. Such a step was necessary to avoid attacks by outsiders, like those that would later occur when military and naval officers accused the Air Force of planning ‘baby killing’ in wartime. It was also necessary for the benefit of Air Force officers who would actually have to carry out the bombing. Educated men of a liberal society might baulk at being ordered to fly over enemy cities with the deliberate intention of killing as many civilians as possible. Most felt better about their mission if they were told to aim at ‘legitimate military targets’, even though they knew that they would seldom hit those targets but would instead devastate the heavily populated surrounding areas, and even though they knew that this was exactly what was required to maximise the ‘moral effect’ that they were trying to achieve.

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<sup>57</sup> Smith is referring to the idea of the Air Staff admitting this, rather than to the specific Higgins-Steel debate cited here. Smith, *British Air Strategy between the Wars*, 63.

<sup>58</sup> See Appendix 5(iv): Minute by Steel to Trenchard, 19 July 1923.

<sup>59</sup> See Appendix 5(v): Minute by Trenchard to Steel, 25 July 1923.

The type of language used in the Air Ministry discussions at this time, Higgins's forthright statements notwithstanding, was intentionally general enough that it could mean different things at different times. In situations where it was acceptable to consider deliberately bombing civilians, the term 'industrial centres' was a simple catchall phrase. Because the nature of Western European industrialisation concentrated industry in towns, the term could be used interchangeably with 'population centres'. Both terms have already been encountered. The founding document of the Royal Air Force, the Smuts Report, talked of 'destruction of industrial and populous centres on a vast scale' and of 'intense pressure against the chief industrial centres of the enemy' by bomber aircraft as being the future of warfare.<sup>60</sup> Sykes's report to the Imperial War Cabinet in June 1918 claimed that 'the wholesale bombing of densely populated industrial centres would go far to destroy the morale of the operatives'.<sup>61</sup> Trenchard's Despatch on the work of the Independent Force noted that his instructions were 'to undertake the bombing of the industrial centres of Germany'. He wrote that he therefore decided to 'attack as many of the large industrial centres as it was possible to reach with the machines at my disposal'.<sup>62</sup> However, the term could also be clarified, if need be, by claiming that bombers would aim at 'legitimate targets' within the centres. In reality, as Trenchard's and Steel's statements of 1923 show, this would really entail the 'profitable targets within profitable surroundings' justification for bombing, and the end result would be the same – the intentional bombing of civilians. Industrial targets would indeed form the aiming point for bombers, and this fact was repeatedly emphasised by the Air Ministry when publicly discussing bombing policy. However, the natural dispersal of bombs would ensure a large degree of devastation would be caused to residential areas around the targets, killing and maiming civilians and destroying their morale.

Underlying this fixation on bombing civilians was the assumption that both sides in a European war involving Great Britain would do it. Scot Robertson has identified the problem of 'mirror-imaging' in the Air Staff's thinking between the wars, whereby they assumed that their own strategy (concentrating on a bombing offensive) would be shared by the enemy.<sup>63</sup> It did not enter their thinking that an enemy might concentrate on air defence rather than bombing. Due to their own belief in the importance of civilian morale,

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<sup>60</sup> See Appendix 1: Smuts Report.

<sup>61</sup> See Appendix 2: Sykes Report.

<sup>62</sup> See Appendix 3: Trenchard Despatch.

<sup>63</sup> Robertson, *The Development of RAF Strategic Bombing Doctrine*, 83.

they assumed that an enemy would bomb British cities, and that Britain must therefore be prepared to strike back at enemy cities. As Higgins put it, Britain would not be able politically to initiate such attacks, but must be prepared to respond to them as soon as the enemy launched them and removed all restrictions on bombing.<sup>64</sup> However, other air officers knew that it would never do to admit this publicly before a war began, for it would immediately attract charges of ‘baby-killing’. For this reason, the Royal Air Force went to considerable effort to give the impression that it would target ‘industrial centres’, which sounded legitimate, but could be broadly defined with an emphasis on the ‘centre’ rather than the ‘industry’ in it to incorporate general area bombing. Trenchard admitted, in a rare unguarded moment, that aircraft would bomb civilians simply because they could. In the Air Ministry conference of 19 July, he reported that

The question had been asked at Camberley [the Army Staff College], “why is it that your policy of attack from the air is so different from the policy of the Army, whose policy it is to attack the enemy’s army, while yours is to attack the civil population.” The answer was that we were able to do this while the Army were not, and so go straight to the source of supply and stop it.<sup>65</sup>

Thus, he admitted that the Air Force would attack civilians through area bombing. This open admission in the privacy of an Air Ministry meeting must be borne in mind when reading more carefully worded statements of bombing policy from the 1920s and 1930s.

Few historians have made much comment on the 1923 Air Ministry conferences as they relate to the adoption of area bombing, despite a clear line of connection existing between these discussions and the policy of area bombing adopted by the Royal Air Force during the Second World War. Higgins’s minute, despite being easily accessible to a generation of historians in the National Archives in London, is noted by only one historian, Ferris, who does not link it with later events.<sup>66</sup> Yet the essential point from this discussion is not that the bombing of civilians should be ruled out, but that both Higgins and Steel were in agreement that in one form or another it should form the central plank of bombing policy. Where they differed was over the form that the bombing should take and over the political question of how far the intention to bomb civilians should be admitted

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<sup>64</sup> This was reflected in a 1938 Air Staff paper by Sir John Slessor; see ‘Precision Bombing Interlude’ in Chapter Four.

<sup>65</sup> AIR 19/92, 11am, 19 July 1923.

<sup>66</sup> Ferris, ‘The Theory of a “French Air Menace”’, 70.

publicly. As will be seen in chapter four, the policy of public obfuscation prevailed throughout the remainder of the 1920s, the 1930s, and a good part of the 1940s.

## Conclusion

The roots of area bombing, which date to the First World War, were clearly replanted in July and August 1923 when the British strategic bomber force that was to evolve into Bomber Command was planned. Strategic bombing was the rationale for an independent air service, without which the Royal Air Force would probably not have been created in 1918 and would certainly not have survived in peacetime. When using strategic bombing as their defence for continued existence, the Air Staff hinted that they saw area bombing and strategic bombing as the same thing. Once independence had been secured and the Air Staff were able to debate amongst themselves the composition of the permanent Home Defence Air Force, they showed that this was indeed the case. Trenchard's personal ideas became official policy, and, as the next chapter shows, a clear 'area bombing mentality' permeated the Air Force throughout the remainder of the interwar period. This belief in a relentless bombing offensive by day and night that aimed at the destruction of civilian morale was bound to result in the area bombing of enemy cities in wartime.

The assumption that civilian morale would be the primary target in wartime was never voiced publicly, and this was due to another assumption: that the British people would not accept such a policy if they knew of its existence in peacetime. But in wartime, they had loudly demanded reprisal bombing of German cities after London was attacked in 1917. Perhaps remembering this but also passionately believing that it offered the best prospect of victory, the Air Staff under Trenchard's forceful leadership felt that it must be quietly ready to bomb enemy cities. The Air Ministry therefore kept its plans secret, reassuring the public that it would bomb 'legitimate' objectives in 'industrial centres'. These targets might indeed form the aiming point in wartime. But the Air Staff knew that the reality of bombing was that only a small proportion of bombs hit their targets, and that the remainder would be dispersed in the general area of the target. Targets in 'profitable surroundings' were therefore to be selected so that these 'inaccurate' bombs would kill civilians and reduce their morale. When this policy was actually adopted in wartime from 1940, it became known as 'area bombing'.

## Chapter 4

### **The Area Bombing Mentality, 1923-1939**

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The Royal Air Force's 'area bombing mentality', an institutional predisposition to bomb civilians in order to destroy their 'morale', survived and thrived during the 1923-39 period. Because Britain did not participate in a European war between 1918 and 1939, the continued existence of the area bombing mentality during this time is not always immediately apparent. However, the mentality survived and thrived during the 1923-39 period. Its existence is crucial in tracing the origins of area bombing in the interwar period. If it prevailed between the time when it surfaced as official policy in 1923 (in the response to the French air scare) and 1942 (the adoption of civilian morale as the primary war object of Bomber Command), then it is possible to draw a much more direct line of continuity between these two moments than previous historiography has done.

At its heart, the area bombing mentality rested upon two Trenchardian assumptions. Firstly, the belief that the aircraft was a supreme, and even revolutionary, weapon of offence led the Air Ministry to advocate a mission that placed bombers at the core of British war strategy. Secondly, Trenchard's belief, that the maintenance of civilian morale was crucial to a nation's war effort in an age of total conflict, meant that the quickest way to win such a war would be to destroy this in attacks on towns and cities. These ideas, both of which can be traced back to the First World War, had clearly informed the Air Ministry's response to France's air strength in the early 1920s and resulted in the creation of a large British bomber force. Even when that supposed threat faded, the ideas marshalled in response to it remained entrenched within the top levels of the Royal Air Force. The existence of this mentality within the Air Staff does not mean that area bombing in the Second World War was consciously premeditated. However, the area bombing mentality informed attitudes that made its adoption a natural step under the pressures of war.

Clearly, the area bombing mentality did endure during the period this chapter considers, and the Royal Air Force retained a predisposition towards area bombing. This can be seen in the formulation and implementation of policy in a number of ways. Firstly,

aerial operations in colonial areas during the 1920s and 1930s, known as ‘air control’, rested upon a willingness to bomb civilians deliberately. Secondly, the area bombing mentality informed the design of the major manoeuvre exercises carried out by the Air Defence of Great Britain Command in the middle part of the interwar period, between 1927 and 1935. Thirdly, even though the Air Force publicly maintained that it would not bomb civilians, its private discussions during this time show that the area bombing mentality had far more weight in determining bombing policy than statements designed to reassure politicians and the public. Finally, even when Bomber Command prepared for the Second World War and planned a precision bombing campaign against military and industrial targets in Germany, the assumption was that this would only continue for as long as Bomber Command remained too weak to launch a Trenchardian air offensive against enemy cities. The result of this was that as soon as Britain possessed enough bombers to launch an area offensive against enemy cities, then the area bombing mentality made it very likely that this would occur. Bombers would target civilians, with the aim of reducing their morale.

### **Air Control**

Air control, the use of aircraft to maintain order throughout the British Empire, was central to the maintenance of the area bombing mentality in the Royal Air Force during the 1920s and 1930s. David Omissi, the historian of the topic, has noted its widespread use. ‘In colonies, mandates and protectorates, the Royal Air Force tried to intimidate, to bomb and to machine gun dissident subjects into submission to imperial power.’<sup>1</sup> Yet, fundamentally, Trenchard viewed air control as a means to the end of preserving an independent air service with a strategic bombing force at its core. Air control was complementary to strategic bombing, because both relied on bombing to destroy the morale of civilians. In theory, such a collapse would compel the enemy’s political leaders to surrender to British will in order to end the suffering. For Trenchard, the strategy would work against both advanced industrial economies and primitive tribal societies. The only difference was one of scale and opposition. This would be large and strong in a major European war, and small and weak in air control operations. In both cases, however, the types of targets were similar: population centres (cities or villages), economic infrastructure (factories or fields) and military forces (large bases or small rebel

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<sup>1</sup> D. E. Omissi, *Air Power and Colonial Control: The Royal Air Force, 1919-1939* (Manchester; New York: Manchester University Press, 1990), ix-x.

strongholds). Continued operations of this type over the course of two decades helped to reaffirm the notion in the Royal Air Force that bombing could effectively reduce civilian morale, which in turn had a significant political effect. This served to maintain the area bombing mentality.

Although the aerial threat supposedly posed by France dominated British air policy for a few years at the start of the 1920s, the majority of the decade saw the Air Ministry focussing on the possibilities of ‘substituting’ aircraft for ground forces in control of colonial territories.<sup>2</sup> This stemmed from the successful 1919 suppression in Somaliland of the rebellious ‘Mad Mullah’, Sayyid Hassan, who had been a thorn in the side of the British colonial authorities since the turn of the century. His power was finally shattered after a combined air-ground operation, with the Royal Air Force making the difference in achieving a result that had previously cost many lives and millions of pounds in inconclusive fighting between ground forces.<sup>3</sup> Just before his retirement at the end of 1929, Trenchard looked back at the beginnings of what were by then well-established permanent responsibilities granted after the successful, improvised demonstration of air control. The 1922 adoption of air control in Iraq, for instance, had ‘quickly justified itself’ and ‘more than fulfilled the expectations’ of its advocates. Similar operations in Transjordan allowed local governments to ‘consolidat[e] their administration in frontier districts and inaccessible areas in which it had previously been found impossible for any Government to maintain effective authority’. Air control of these and other territories (such as Aden) had been so successful over several years that Trenchard felt confident in stating that ‘the efficacy of air power for employment in undeveloped countries cannot any longer be disputed’.<sup>4</sup> Although the 1930s demonstrated the limits of air control and the Royal Air Force’s focus shifted to rearmament in the face of a European threat, it remained central to administration on the periphery of the Empire and otherwise involved in most other British possessions until the Second World War.<sup>5</sup>

From the beginning, the substitution of aircraft for ground troops in colonial duties rested on the economic argument that it was much more cost-effective. ‘We hardly like to

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<sup>2</sup> Ferris, ‘The Theory of a “French Air Menace”’, 63.

<sup>3</sup> Boyle, *Trenchard*, 365. Ferris, *The Evolution of British Strategic Policy*, 73.

<sup>4</sup> CAB 16/87, ‘The fuller employment of air power in Imperial defence’, memorandum by Trenchard on Air Control, 1919-29, November 1929.

<sup>5</sup> Omissi, *Air Power and Colonial Control*, 58-60.

mention the harmless but necessary taxpayer', noted Flight Lieutenant E.J. Kingston-McCloughry at the end of a prize-winning 1934 *Royal Air Force Quarterly* essay on air control, 'but he, too, has a right to be considered' in the control of colonial areas. Thanks to their speed and range, a handful of aircraft could control territory from afar, without the need for costly and provocative garrisons of ground troops in hostile areas.<sup>6</sup> During the Royal Air Force's first year in charge in Iraq, British expenses there were reduced from over twenty million pounds the previous year to just over six and a half million pounds. By the sixth year, annual expenditure was just £1.65 million.<sup>7</sup> As Trenchard had realised when he was fighting for the very existence of the independent air service after the First World War, an otherwise persuasive argument could be trumped if the alternative promised a similar result but for less cost. As long as air control worked and cost less than what it replaced, successive governments were happy to maintain it – and the independent air service that carried it out.

Air control helped to maintain the area bombing mentality because both relied on the psychological impact of bombing on civilians to attain a political end. Air Force officers saw the attainment of this end as simpler in air control operations than in a European war, where these civilians were educated members of an advanced society. In contrast, colonial bombing targeted 'ignorant' tribesmen with 'savage mind[s]', in the words of Flight Lieutenant C.J. MacKay in a prize-winning *Journal of the Royal United Services Institute* essay of 1922.<sup>8</sup> In the right circumstances, aircraft could neutralise the advantages of local knowledge and guerrilla tactics that poorly armed local rebels enjoyed over British forces. Widening this technological gap was a significant psychological deterrent to taking up arms against the authorities, but also made a community more likely to think twice before supporting the rebellion of some of its members. For instance, just two aircraft from nearby Aden were required to pacify Somaliland after the murder of a British officer in 1922. The Governor reported that 'the mere appearance' of the aircraft had had an 'electrical effect' that removed the need for ground troops. Twelve years later, it was felt that the local population 'recognise[d] the ubiquity of air power' enough that the aircraft

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<sup>6</sup> E. J. Kingston-McCloughry, 'The Gordon-Shepherd Memorial Prize Essay, 1933. Subject: "It Has Been Contended by Critics of the Royal Air Force That Air Control of Undeveloped Countries Is More Inhumane Than Control by Older Methods." Discuss This Contention.' *The Royal Air Force Quarterly*, V/3 (Jul. 1934), 274.

<sup>7</sup> Powers, *Strategy without Slide-Rule*, 173.

<sup>8</sup> AIR 9/8, 'The Policy Which Should Govern the Distribution of Air Forces and Some Considerations as to How they Should be Employed', Air Staff memorandum, April 1920, cited Biddle, *Rhetoric and Reality*, 82. C. J. Mackay, 'The Influence in the Future of Aircraft Upon Problems of Imperial Defence: Gold Medal (RAF) Prize Essay for 1921', *Journal of the Royal United Services Institute*, LXVII/466 (May 1922), 280, 309.

based in Somaliland since that incident could be withdrawn. Routine overflights by aircraft based in Aden were now judged sufficient deterrent to future trouble.<sup>9</sup> The threat and use of bombers against civilians had won political compliance, even if it was perhaps easier to sanction killing ‘backward’ and ‘savage’ civilians than Europeans. Nevertheless, this maintained and fostered the area bombing mentality by setting a precedent in targeting non-combatants. An Air Staff paper of September 1941 linked area bombing of German cities with air control, arguing that the former was simply ‘an adaptation, though on a greatly magnified scale’, of the latter.<sup>10</sup>

The ethical argument that military forces should not deliberately target non-combatants was disregarded in air control operations throughout the 1920s and 1930s, and this helped keep the area bombing mentality alive. Many officers commanding units on air control duty were veterans of the First World War, wrote Omissi, ‘trained to think in terms of a military “solution” [and] to use the maximum violence at their disposal’ to ensure success. Restraint did not come naturally to them; indiscriminate bombing of villages took place, and it was a slow process to bring the Air Force into line with the official British policy of minimum necessary force. No less an officer than the Deputy Chief of the Air Staff failed to accept the necessity of dropping notes warning that a village was to be bombed the following day, as was politically required. Air Vice-Marshal Steel, who had shown himself willing to bomb European civilians in his debate with Air Commodore Higgins in 1923, had no qualms about bombing rebel villages and claimed that the requirement for dropping notes was ‘ludicrous’. The Air Officer Commanding Iraq and future Chief of the Air Staff, Sir John Salmond, argued in 1923 that illiteracy was so widespread as to make written warnings of bombing pointless, although non-written methods were also used. Not until the 1930s did commanders commonly follow this practice; even then, considering Salmond’s argument, it appears doubtful that civilians always understood warning notes. As late as 1937, the Air Officer Commanding India, Sir Edgar Ludlow-Hewitt, used an ingenious argument to blame villagers themselves for their deaths. Because tribal justice worked on a system of collective responsibility, it was appropriate to destroy entire villages as punishment for the rebellion of only some of their

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<sup>9</sup> AIR 2/1281, Somaliland: Air Control and Defence Policy. Note (95A) by W/Cdr. Pirie (Directorate of Operations and Intelligence), 20 October 1934.

<sup>10</sup> ‘Development and Employment of the Heavy Bomber Force’, Air Staff paper, 22 September 1941. Cited Biddle, *Rhetoric and Reality*, 83.

inhabitants.<sup>11</sup> Such cynicism and readiness to attack civilians clearly reflected and helped to maintain the area bombing mentality.

While the Air Staff was careful to conceal its commitment to killing civilians from the British public, there was significant opposition to area bombing within the armed forces, including the Royal Air Force. Opponents claimed that the bombing of villages was a barbaric method of exerting political control. Although he undoubtedly also had bureaucratic interests in mind, Secretary of State for War Sir Laming Worthington-Evans declared in 1921 that aircraft, bombs and machine guns could not reconcile tribesmen to ‘civilized rule’ when they were used against women and children, by implication an uncivilised action.<sup>12</sup> Field-Marshal Sir Henry Wilson, Chief of the Imperial General Staff, castigated the Royal Air Force’s air control operations as ‘coming from God knows where, dropping its bombs on God knows what, and going off God knows where’.<sup>13</sup> The title of Kingston-McCloughry’s 1934 essay suggested that such criticism was not uncommon: the task set for the essay competition was to rebut the charge that ‘air control of undeveloped countries is more inhumane than control by older methods’.<sup>14</sup> Most worrying was when such criticism of air control came from within the ranks of the Air Force itself. The most notable case of this, however – the 1923 protest and subsequent resignation of Air Commodore L.E.O. Charlton, the Senior Air Staff Officer in Iraq – was far from typical and did not have a wide impact.<sup>15</sup> Such criticism rested on the claim that air control operations were indiscriminate, killed non-combatants as well as rebellious fighters, and that this did not trouble the Royal Air Force. Certainly, the Air Ministry was not concerned about this as long as criticism did not get out of hand, for – just like area bombing – the display of power had a great ‘moral effect’ on all inhabitants of a bombed settlement.

The supporters of air control used two main arguments to defend it from charges that it was barbaric and indiscriminate. Firstly, advocates argued that air control was actually *more* humane than the Army methods that it replaced. Kingston-McCloughry employed this argument when he outlined these traditional techniques: ‘entire villages are burned to

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<sup>11</sup> Omissi, *Air Power and Colonial Control*, 151-2, 154-5, 159, 165-8, 181-2.

<sup>12</sup> Omissi, *Air Power and Colonial Control*, 164.

<sup>13</sup> Boyle, *Trenchard*, 383.

<sup>14</sup> Kingston-McCloughry, 'Gordon-Shephard Essay: Air Control'.

<sup>15</sup> Omissi, *Air Power and Colonial Control*, 175-6.

the ground and the resistors shelled. Live-stock are confiscated in large numbers, irrigation works and stores of grain, food and fuel are destroyed, and sometimes even fruit trees are destroyed'. These traditional methods were hardly any more systematic than air control, because they left villages destitute and without shelter, causing 'the women, children and the aged [to] suffer far more than the warriors themselves'.<sup>16</sup> The Army's field manual confirmed these methods: 'Insurrection in Mesopotamia' ordered that rebellious villages that failed to surrender be 'razed to the ground' and surrounding areas 'cleared of the necessities of life'.<sup>17</sup> In contrast, air control could allegedly avert the need for such drastic measures. Kingston-McCloughry claimed that aircraft's 'swiftness of action' meant that outbreaks of rebellion could be 'nip[ped] in the bud' before they spread. He emphasised that warnings were given before bombing, allowing a final chance to surrender. Additionally, bombing promised greater accuracy than artillery fire, allowing it to 'cut out a cancerous growth' with as much precision as a 'surgeon's knife'.<sup>18</sup> The Air Staff even argued that precision was so great that individual houses of rebel leaders could be bombed individually, 'leaving untouched the property' of compliant subjects. As has already been noted, however, villagers did not always understand these warnings, while Omissi has found that the claims of pinpoint bombing accuracy were 'demonstrably fabulous'.<sup>19</sup> Still, these defences were enough to ward off most criticisms of air control.

The second defence of air control was more straightforward: simply hide the facts, as Steel and Trenchard favoured in 1923 when discussing strategic bombing in the War Aim document. In Omissi's words, Trenchard 'preferred the reports about casualties [caused by air control bombing] to be expressed in vague or euphemistic language'. Published accounts of air control operations lacked detailed casualty reports, replaced by meaningless references to the bombing's 'moral effect'. The Royal Air Force was not alone in using this term to cover up major acts of violence, for the responsible general also used it to justify the 1919 Amritsar massacre in India.<sup>20</sup> Author George Orwell, who served as a British colonial policeman in Burma during the 1920s, saw 'euphemism, question-begging and sheer cloudy vagueness' as widespread in official reports. As an example, he listed the simple term 'pacification' as code for 'defenceless villages [being]

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<sup>16</sup> Kingston-McCloughry, 'Gordon-Shephard Essay: Air Control', 252.

<sup>17</sup> AIR 9/8, Air Policy, 'Extract from a Memorandum regarding disarmament of tribes – Page 329 of "Insurrection in Mesopotamia"'.  
<sup>18</sup> Kingston-McCloughry, 'Gordon-Shephard Essay: Air Control', 254-8, 273-4.

<sup>19</sup> Omissi, *Air Power and Colonial Control*, 166-7.

<sup>20</sup> Omissi, *Air Power and Colonial Control*, 150-2, 160, 182.

bombarded from the air, the inhabitants driven out into the countryside, the cattle machinegunned, [and] the huts set on fire with incendiary bullets'. In his 1946 essay, Orwell listed this euphemism beside a Western defence of Stalinist political murder ('elimination of unreliable elements'), condemning both with the same breath.<sup>21</sup> Kingston-McCloughry's air control article unwittingly employed this type of 'newspeak'. He claimed that 'air operations are planned not to spread death and suffering, but to wear down the tribesman's morale, dislocate his normal life, and this make his existence wretched and intolerable'.<sup>22</sup> A 'wretched and intolerable' life necessarily involves suffering; the author's claim that suffering was not intended was a disingenuous feint akin to describing cities as 'industrial centres' to draw attention away from the fact that the surrounding population were just as important a target as the industrial facilities. Yet again, however, such bluster appears to have been enough to divert most critics of air control at the time. Even though pacifist Labour backbenchers denounced air control in Parliament, Trenchard wrote in 1924 that 'the [Labour] Ministers thoroughly understand' the rationale for bombing tribal villages.<sup>23</sup>

Finally, air control also influenced area bombing by leaving a direct personal legacy upon the Royal Air Force's top commanders in the Second World War. The deliberate bombing of civilians during the interwar years, and the belief that such actions had a 'moral effect', maintained the area bombing mentality and helped to demonstrate to a younger generation of officers the tenets of Trenchardism. All of the wartime heads of Bomber Command, who were junior officers in the 1914-18 War, later spent formative years in the Empire. A few months after recording his justification of the indiscriminate bombing of villages, Ludlow-Hewitt left India to become Commander-in-Chief of Bomber Command and lead the bomber force into battle during the winter of 1939-40. Portal, instrumental in advocating area bombing and then authorising its adoption as official policy in 1942, commanded air control operations in Aden in the 1930s. Sir Richard Peirse, who succeeded Portal as head of Bomber Command in 1940, commanded in Palestine. He advocated using bombers to 'cow the country' by making a 'good example' of Nablus and destroying other rebellious villages after the Arab Revolt in

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<sup>21</sup> G. Orwell, 'Politics and the English Language', in Peter Hobbey Davison, Ian Angus, and Sheila Davison (eds.), *Works: The Complete Works of George Orwell* (London: Secker & Warburg, 1997. First pub. *Horizon*, Apr. 1946), 427-8.

<sup>22</sup> Kingston-McCloughry, 'Gordon-Shephard Essay: Air Control', 249.

<sup>23</sup> Hyde, *British Air Policy between the Wars, 1918-1939*, 167.

1936.<sup>24</sup> Finally, Harris described in his memoir the improvised bombing experiments his squadron undertook in Iraq in 1923, where his Flight Lieutenants were Robert Saundby, later his deputy at Bomber Command, and Ralph Cochrane, one of his Group commanders.<sup>25</sup> Omissi described a 1924 report by then-Squadron Leader Harris as displaying ‘distasteful relish’ for the effects of bombing, and wrote that its vividness was ‘too much for the Air Ministry’. Harris vividly noted that ‘within 45 minutes a full sized village ... can be practically wiped out and a third of its inhabitants killed or injured by four or five machines’. ‘One can dimly perceive the horrific firestorms of Hamburg and Dresden’ in Harris’s report, wrote Omissi, showing how air control operations were critical to maintaining the area bombing mentality.<sup>26</sup>

Air control did not itself create the area bombing mentality, but it was crucial to maintaining it through the two decades of peace between the world wars. Historians, including Omissi, have cautioned against attributing too much importance to air control in relation to the adoption of area bombing.<sup>27</sup> However, this position fails to take account of the fact that the area bombing mentality was already in existence by the early 1920s, and so air control did not actually need to *create* it. Air control’s crucial role was to *maintain* the area bombing mentality through two decades of peace so that it was still alive in 1939, by repeated uses of bombing against civilians in order to create a ‘moral effect’. The justifications given for this were similar to those later employed with regard to area bombing in the 1940s. The claim that air control helped to sustain an existing area bombing mentality does not contradict detailed studies of air control, yet is very useful in tracing the origins of area bombing in the Second World War.

### **Air Exercises**

Britain’s annual home defence air exercises, held between 1927 and 1935, show how central the area bombing mentality was to the Royal Air Force’s thinking through the middle part of the interwar period. The assumptions inherent in the design of the exercises, and the interpretation of their results, show clearly that the Air Staff expected to bomb targets in urban areas by day and night. Previous experience had shown that this would result in large numbers of civilian casualties. Records of the exercises give no

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<sup>24</sup> Omissi, *Air Power and Colonial Control*, 46.

<sup>25</sup> Harris, *Bomber Offensive*, 21-3.

<sup>26</sup> Omissi, *Air Power and Colonial Control*, 154.

<sup>27</sup> Omissi, *Air Power and Colonial Control*, 147-8, 150. Biddle, *Rhetoric and Reality*, 82.

impression that the Air Staff genuinely planned to follow a precision-bombing strategy in wartime, or that they expect an enemy to do so. Rather, the expectation was that both sides would follow a Trenchardian strategy of ‘relentless offensive’, bombing the cities of the other to destroy civilian morale. In their reflection and acceptance of the area bombing mentality, the exercises simultaneously maintained and entrenched it.

Between the fading of the French air threat in the mid-1920s and the rise of the German threat in the mid-1930s, the Air Staff lacked a clear strategic focus to challenge their Trenchardian thinking and the area bombing mentality. The more optimistic international mood, symbolised with the signing of the Locarno and Kellogg-Briand treaties, had appeared to settle the new European order after the upheaval of the First World War. Accordingly, the huge expansion of the Home Defence Air Force slowed dramatically. The urgency of the scheme disappeared entirely, although two bomber squadrons were still formed for every one fighter squadron, in keeping with the original scheme. The projected completion date for the fifty-two squadrons was moved back from 1928 to 1935, then to 1938, and then suspended completely during the Geneva Conference on disarmament in 1931 while still fifteen squadrons short. By this time, the capabilities of British aircraft had even fallen behind those of second-rank air powers such as Italy and the United States, and most types still dated from the First World War.<sup>28</sup> There was little other stimulus for the Air Staff to question their belief that the bombing of enemy cities would be the primary responsibility of the British bomber force in a major European war. Just maintaining the bomber force was enough of a challenge when international moves were afoot to ban bombers entirely, and the Air Staff vigorously argued that this type of agreement was not in Britain’s interest, regardless of its apparent humanitarian attractiveness.<sup>29</sup> In such a situation, no serious discussion or development of the basic principles of air warfare and the area bombing mentality took place, beyond what the 1923 Air Ministry conferences established.

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<sup>28</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 58-60. See also Appendix 9: Expansion Schemes, 1922-39.

<sup>29</sup> See, for instance, AIR 9/17, folio 17, AS Memo on Reduction of Air Armament, 20 July 1925, and AIR 9/21, papers 58 (Disarmament: Limitation of Front-Line Aircraft, Plans, 2 January 1930) and 96 (Parity with First Line Aircraft with France, Plans, 27 March 1930). AIR 9/22 contains notes pointing out the implications of any successful international agreement that banned aerial bombardment, see folios 119 (anon. Notes on the Abolition of Air Bombing, n.d., c. February-April 1932) and 120 (Spaight, note on The Prohibition of Bombing, April 1932). See also U. Bialer, *The Shadow of the Bomber: The Fear of Air Attack and British Politics, 1932-1939* (London: Royal Historical Society, 1980), 7-40. Hyde, *British Air Policy between the Wars, 1918-1939*, 274-317.

The home air exercises, held annually between 1927 and 1935 except in 1929 and 1931, generally featured a bomber force ‘attacking’ London and other parts of England, while fighters attempted to ward them off. The Trenchardian belief that cities would form the basis of both sides’ bombing offensives in war was thus integral to the design of the exercises, even though this belief does not appear to have had any grounding in analyses of foreign air forces’ strategies.<sup>30</sup> The first two exercises, held in 1927 and 1928, were organised by the Air Defence of Great Britain Command, which simply pitted its offensive and defensive elements against each other, with some of the War Office’s ground-based air defences bolstering the fighter force. From 1930, all the exercises were organised by the Air Ministry. The scenarios contained in the exercises were more complex, but were still fundamentally based on either attacking or defending population centres. After 1935, the split of the rapidly growing Air Defence of Great Britain Command into Bomber and Fighter Commands saw these types of exercises largely abandoned, as each force exercised on its own.<sup>31</sup> The exercises were major events and widely reported in the media, in both the popular press and the professional journals *Royal Air Force Quarterly* and the *Journal of the Royal United Services Institute*.<sup>32</sup>

A major flaw in these air exercises was their unquestioned acceptance of the Trenchardian notion that ‘the aeroplane is not a defence against the aeroplane’, which perpetuated the idea of bomber supremacy and the area bombing mentality that accompanied it. This served to reinforce the belief that bombers could adequately defend themselves over enemy territory, allowing them operational freedom. Because no actual shooting could take place during the exercises, the number of fighters and bombers present determined the results of air-to-air combats. However, in light of both the experience of the First World War and what was to come in the Second, the bombers had an unrealistically high ‘killing power’. The result of this was that a bomber formation’s

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<sup>30</sup> This notion of ‘mirror-imaging’ can be seen, for instance, in CAB 16/39, Report of the Sub-Committee on Continental Air Meance, 26 April 1922. It has also been criticised by Robertson: *The Development of RAF Strategic Bombing Doctrine*, 83-4, 112.

<sup>31</sup> Ludlow-Hewitt rued the fact that expansion did not allow further full-scale exercises after 1935. AIR 14/296, ‘Annual Report on the State of Bomber Command for 1937’, March 1938, 4-5. For the reorganisation of the Air Defence of Great Britain Command more generally, see Hyde, *British Air Policy between the Wars, 1918-1939*, 385-6.

<sup>32</sup> W. T. S. Williams, ‘Air Exercises, 1927’, *Journal of the Royal United Services Institute*, LXXII/488 (Nov. 1927). C. C. Turner, ‘The Aerial Defence of Cities: Some Lessons of the Air Exercises, 1928’, *Journal of the Royal United Services Institute*, LXXIII/492 (Nov. 1928). A Blue Force Staff Officer, ‘Some Lessons of the Air Exercises 1930’, *The Royal Air Force Quarterly*, 2/1 (Jan. 1931). F. A. D. V. Robertson, ‘Air Exercises, 1932’, *Journal of the Royal United Services Institute*, LXXVII/508 (Nov. 1932). ‘Cyclops’, ‘The Air Defence of Great Britain Command Exercise, 1933’, *Journal of the Royal United Services Institute*, LXXVIII/512 (Nov. 1933). See also Robertson, *The Development of RAF Strategic Bombing Doctrine*, 97-108.

combined firepower was invariably judged great enough to ward off small groups of intercepting fighters. Even so, the theoretical loss rates suffered by bomber forces were very high. Fighters intercepted half of the 1928 bomber raids, and the killing power formula that was stacked against the defence still judged them to have shot down 25 percent of the bombers. This pattern continued in subsequent years, but, incredibly, appears to have been ignored by the exercise planners.<sup>33</sup> Such a high loss rate was untenable in practice; the Germans suspended their 1918 bombing offensive against England when losses exceeded 14 percent, and Bomber Command calculated in 1945 that 7 percent was its maximum long-term sustainable casualty rate.<sup>34</sup> Such unrealistic assumptions of how bombers would fare in wartime perpetuated the Trenchardian emphasis on the offensive in a self-reinforcing manner: the bombers existed, they were capable of great things, and therefore they must exist and be employed against the most profitable target – civilian morale in cities. In this way, tactical delusions fed the Air Staff's area bombing mentality.

A second and related flaw in the air exercises was that they accepted but did not test the Trenchardian belief that a bombing counter-offensive was the best defence against a bombing attack. Straight fighter-versus-bomber confrontations could not test the strategy, only the tactical application of it, but most of the exercises were of this type. The closest that this belief, expressed during the Air Ministry conferences of 1923,<sup>35</sup> did come to being tested was in the exercise of 1930. A sophisticated scenario pitted two opposing forces with mixed bomber and fighter elements against each other, but neither side possessed the two-to-one ratio of bombers to fighters on which the Home Defence Air Force as a whole was organised. 'Blue' force was skewed towards the offence (nine bomber and three fighter squadrons), with 'Red' force focussed on defence (eight fighter and five bomber squadrons). Furthermore, 'Blue' force had far fewer strategic resources to defend than 'Red', allowing it to commit all its forces to the offensive.<sup>36</sup> Trenchard's belief that the British civil population could withstand heavy bombing was also untested. Of course, the only true test would have been an actual attack, but there were hints that the

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<sup>33</sup> Williams, 'Air Exercises, 1927', 739-45. Robertson, *The Development of RAF Strategic Bombing Doctrine*, 98-108.

<sup>34</sup> Ashmore, *Air Defence*, 151. 'What is the highest percentage of losses that the Royal Air Force could stand over a period of 3 months of intensive operations?' Paper by Director of Bomber Operations, 16 March 1945. Printed as Appendix 42 in Webster and Frankland, *The Strategic Air Offensive*, IV, 445-6.

<sup>35</sup> See 'Rebuilding the Bomber Force' in Chapter Three. See also, e.g., AIR 19/92, Minutes of a Meeting held in Chief of the Air Staff's room, 10 July 1923, 3:30pm.

<sup>36</sup> A Blue Force Staff Officer, 'Some Lessons of the Air Exercises 1930'. See also Robertson, *The Development of RAF Strategic Bombing Doctrine*, 100-3.

British people were not as resilient as Trenchard had assumed. The official report of the 1932 exercise noted that ‘political considerations’ prevented London from being used as the major objective for the ‘enemy’ bomber force, as was usually the case. Previous exercises had made civilians and politicians nervous, and it seems that the Air Staff did not wish to test their belief that Londoners could withstand bombing for a long period any more.<sup>37</sup> Yet this was a crucial assumption, because if the British population were in danger of ‘squealing’ first, then the Royal Air Force could not commit the bulk of its forces to the bombing offensive against enemy cities.

The manner in which bombing was carried out during the air exercises implicitly shows that the Air Staff believed that the major effort in wartime would be directed against industrial and population ‘centres’. To prove that they had ‘bombed’ targets, aircraft were simply required to fly over their targets and photograph them. The Air Force carried out no tests of methods of attack and bomb effectiveness,<sup>38</sup> again showing how the acceptance of orthodox dogma pervaded the execution of the exercises. In this case, the dogma was Trenchard’s belief that bombing was a simple matter, summarised in his 1923 statement that ‘the whole aim’ of it was merely ‘to reach the objective and bomb it’.<sup>39</sup> Therefore, bombers could be entrusted to part-time pilots and crews, who lacked the training and experience of full-time fighter pilots. The only possible interpretation of this is that Trenchard and the Air Staff expected bombing to be the relatively straightforward matter of flying over a target and dropping bombs in the process. The exercises confirm this. Night bombing featured prominently each year, even though the journal report of the 1933 exercise noted that they found it difficult to find and hit certain objectives.<sup>40</sup> The journal report for the 1928 exercise stated that ‘air raids on cities are of real military value not merely on account of the material damage they cause or the casualties they inflict but because they dislocate war work’. However, ‘no matter how much care is taken to confine attack to “military objectives”, civilians and civilian property will inevitably suffer’.<sup>41</sup> Finally, the all-encompassing term ‘industrial centres’ – the principal objective of area bombing in the Second World War – was a major bombing objective in ‘Blue’ force’s

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<sup>37</sup> Robertson, *The Development of RAF Strategic Bombing Doctrine*, 103. Robertson, ‘Air Exercises, 1932’, 808.

<sup>38</sup> Robertson, *The Development of RAF Strategic Bombing Doctrine*, 99.

<sup>39</sup> AIR 19/92, untitled and undated manuscript, appears to be notes for a speech by Trenchard, c. 1923.

<sup>40</sup> ‘Cyclops’, ‘The Air Defence of Great Britain Command Exercise, 1933’, 744-5.

<sup>41</sup> Turner, ‘The Aerial Defence of Cities: Some Lessons of the Air Exercises, 1928’, 692.

strategy in the 1930 exercise.<sup>42</sup> These factors suggest that bomber targets would not be small, but would consist of large ‘areas’ in urban centres.

Implicitly, the 1927-35 air exercises practiced area bombing, which maintained the area bombing mentality with relation to a European war through the middle part of the interwar years. With no strategic threats to force an examination of established theory, the Air Staff organised exercises based on Trenchard’s ideas of bomber supremacy, relentless offensive and the primacy of civilian morale in war. These exercises were not designed in such a way that they could really test these assumptions, and even when their results did question them, it appears that this evidence was brushed aside. The result of this was the perpetuation of the area bombing mentality, and the belief that Trenchard’s ideas underlying it were applicable in wartime operations.

### **War Aim of the Royal Air Force**

After Trenchard and Steel effectively ruled in 1923 that the Royal Air Force should hide the fact that its bombing policy centred on the destruction of civilian morale, public and private statements of policy diverged considerably. Examining three different statements of the Air Force’s ‘war aim’ from 1928, each aimed at a different audience, reveals this discrepancy. An internal debate in 1933 over how to express the war aim also shows that the Air Staff still felt it necessary to ensure that officers were not too candid when discussing bombing strategy in wartime. When an operational commander openly suggested that he would bomb Paris in the event of a war with France, his superiors did not admonish the plan itself, but the fact that it did not use the accepted euphemisms and coded language to disguise the intent of bombing. Hidden behind the face it presented to the public, the area bombing mentality was strong in the upper reaches of the Royal Air Force.

The discrepancy between the public and private discourse of the Royal Air Force was particularly clear in 1928, when three different versions of the Air Force’s ‘war aim’ appeared, the focus of each determined by its intended audience. At the most public end of the scale, the Royal Air Force published a ‘War Aim’ document that explicitly denied that British bombers would target civilians. The basis of it was a speech given to the Imperial Defence College by Trenchard, where he used similarly coded language to the 1923 draft

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<sup>42</sup> A Blue Force Staff Officer, ‘Some Lessons of the Air Exercises 1930’, 62-3.

version prepared by Steel that was criticised as misleading by Air Commodore Higgins.<sup>43</sup> The pamphlet stated that material damage caused by bombing would break down an enemy's national resistance and bring it to the point of collapse. It clearly placed the priority on causing tangible damage to the enemy's war machine, in the expectation that this would foster political instability and loss of the national will to war. Trenchard acknowledged that there existed what he called a 'misapprehension' that 'the Air Staff are desirous of carrying out indiscriminate bombing attacks on the civil population'. While he claimed that 'there is certainly no such intention', he was not explicit in stating what British bombers would target. He wrote that 'air attacks will be directed against military objectives using that term in the broad sense; and any air bombardment we undertake will be strictly governed by the rules which to-day govern naval bombardment'. However, there was no mention of the fact that 'legitimate' targets might well be located in densely populated areas, and that their destruction might cause the deaths of many civilians in the vicinity. Trenchard's soothing words, in fact, did not rule out the type of attack that Steel advocated in 1923: an attack on 'legitimate' targets located in cities with the main aim of injuring and killing civilians.<sup>44</sup> The initial impression, though, was that civilians would not be targeted.

'The War Object of an Air Force', Trenchard's 1928 paper for his fellow Chiefs of Staff, was less public than the War Aim discussed above and hence, slightly more candid regarding bombing policy. Trenchard sought to assure the heads of the Army and Navy that although bombing was a radical new development of war, the Royal Air Force was subordinate to the same international laws governing conflict by which the other services abided. 'For his operation, each belligerent will set out to attack direct those objectives which he considers most vital to the enemy', the Chief of the Air Staff wrote. By ruling out attacks on civilians, he implied that these objectives would be military, and stated that 'no authority would contend that it is unlawful to bomb military objectives, wherever situated'. No diplomatic agreement existed to govern bombing, but this type of bombing would not be contrary to either such international law as existed, or to 'the dictates of humanity'.<sup>45</sup> Trenchard acknowledged that bombing of legitimate targets located in cities

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<sup>43</sup> See 'Rebuilding the bomber force' in chapter 3. See also Appendix 5(ii): minute, Higgins to Steel, July 1923.

<sup>44</sup> AIR 2/675, insert 4A, 'The War Aim of the Royal Air Force, Air Staff Memo. no. 43, October 1928. See also Appendix 5(iv): Minute, Steel to Trenchard, 19 July 1923, and Biddle, *Rhetoric and Reality*, 97.

<sup>45</sup> The draft Rules of Air Warfare, compiled in 1923 by the Commission for the Revision of the Rules of Warfare at The Hague, were never ratified. The contentious clause was Article 24, which began with the statement that 'Aerial bombardment is legitimate only when directed at a military objective'. See Cmd. 2201, 'Despatch from the First British

‘will result in casualties also to the neighbouring population’, but argued that the laws of naval bombardment accepted this. Furthermore, to rule such targets out on the basis that this would happen would accord the enemy ‘complete immunity for his war manufactures and depots merely by locating them in a large city’.<sup>46</sup> The implication was that targets in cities could be attacked, but that these targets would be bombed purely on their own merits and not as a cover for area bombing of neighbouring civilians.

Unlike the public War Aim statement, Trenchard did address the issue of civilian morale in the more restricted War Object paper, although in a very limited way that was dependent on the enemy not attacking British cities. He acknowledged the reduction of morale as an important objective in war. However, Trenchard argued that this legitimate goal contrasted with an ‘illegitimate’ step, ‘contrary to the dictates of humanity’: ‘indiscriminate bombing of a city for the sole purpose of terrorising the civilian population’. He explained that in contrast to this,

It is an entirely different matter to terrorise munition workers (men and women) into absenting themselves from work or stevedores into abandoning the loading of a ship with munitions through fear of air attack upon the factory or dock concerned. Moral effect is created by the bombing in such circumstances but it is the inevitable result of a lawful operation of war – the bombing of a military objective. The laws of warfare have never prohibited such destruction as is “imperatively demanded by the necessities of war” (Hague Rules, 1907).<sup>47</sup>

Trenchard concluded that ‘this form of warfare is inevitable’ and that the enemy would use it, ‘whatever views we may hold in regard to it’. The only rational response, he suggested, was to ‘accept this fate and face it’, and be ‘prepared to meet and to counter these inevitable air attacks’ with similar actions.<sup>48</sup> This showed that even when Trenchard claimed to rule out attacks on civilians, it was conditional on the enemy doing likewise. Implicit in this was an acceptance of the truth in Air Commodore Higgins’s accusation in 1923: ‘no doubt, with our usual skill at putting our enemies in the wrong in the eyes of the

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Delegate to the International Commission for the Revision of the Rules of Warfare, together with the General Report of the Commission of Jurists to consider and report upon the Revision of the Rules of Warfare. The Hague, December 10, 1922, - February 17, 1923’. See also Bialer, *The Shadow of the Bomber*, 109-10.

<sup>46</sup> See Appendix 6: Trenchard Memorandum, War Object of an Air Force, 2 May 1928.

<sup>47</sup> See Appendix 6: War Object of an Air Force.

<sup>48</sup> See Appendix 6: War Object of an Air Force.

world, we shall see to it that the enemy is the first to transgress international laws'.<sup>49</sup> Although not fully spelt out, Trenchard left the way open for the Royal Air Force to match *any* escalation of bombing by the enemy, including the step of directly bombing civilians.

The Chiefs of the Naval and Imperial General Staffs both saw through the coded language in Trenchard's War Object paper, and its assurance that bombing would not be indiscriminate convinced neither of them. Sir George Milne, head of the Army, noted that 'factories exist in almost every town which produce some article or other that can be regarded as warlike material'. The inevitable result of this was that 'indiscriminate bombing of undefended towns and of their unarmed inhabitants' – explicitly ruled out by Trenchard – would take place.<sup>50</sup> The Navy's Sir Charles Madden made the more pragmatic point that bombing of towns had not been proven to reduce civilian morale, and that the arguments used to justify it were similar to those used by the Germans when they adopted unrestricted submarine warfare in the First World War. 'The policy reacted against Germany in every sphere of the War', because it antagonised the United States and tended to stiffen, not weaken, British morale. For these reasons, Madden rejected Trenchard's implicit argument that Britain should be ready to match any instance of city bombing by the enemy, labelling it 'against our national interest'. He also rejected the legal comparison with naval bombardment, stating that the prospect of air raids on cities meant that 'civilian life is endangered to a far greater degree than has ever hitherto been contemplated under International Law'.<sup>51</sup> Madden was remarkably astute in summarising the mentality of the Air Staff, even in response to a relatively tame and cloudy exposition of it.

Finally, the 1928 *Royal Air Force War Manual*, a detailed and technical publication intended for an internal audience only, most fully revealed the true centrality of civilian morale to bombing policy. Here, it became the major emphasis of bombing strategy, even though the public War Aim statement barely mentioned it and the semi-private War Object paper downplayed it. The *War Manual* ignored Trenchard's public reassurances and noted that 'although the bombardment of suitable objectives should result in

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<sup>49</sup> See Appendix 5(ii): Minute, Higgins to Steel, July 1923.

<sup>50</sup> Note by the Chief of the Imperial General Staff for the Chiefs of Staff Sub-Committee on the memorandum by the Chief of the Air Staff, 16 May 1928. Printed as Appendix 2(ii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 76-81.

<sup>51</sup> Note by the Chief of Naval Staff for the Chiefs of Staff Sub-Committee on the memorandum by the Chief of the Air Staff, 21 May 1928. Printed as Appendix 2(iii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 81-3.

considerable material damage and loss, the most important and far-reaching effect of air bombardment is its moral effect'. Without going into detail, a section on 'The Conduct of Air Bombardment' stated that this 'moral effect (especially against disciplined bodies) cannot, however, be attained without inflicting casualties and material damage'. However, the moral damage caused by repeated bombing '[is] far more important than the actual physical destruction and damage caused by air bombardment and will react upon the morale of both the enemy nation and its fighting forces'.<sup>52</sup> This shows that the Air Staff's public statements reassuring people that enemy morale would not a target of bombing in wartime were false. In private, enemy morale was central to air strategy. While open population bombing was not explicitly mentioned, it was not ruled out and the term 'enemy nation' could reasonably be expected to become all-encompassing in wartime.

An internal debate of 1933 showed the extent to which the Air Staff were willing to go to hide the fact that privately, they saw civilian morale as the major bombing target in wartime. Like Higgins a decade earlier, a high-ranking officer explicitly outlined the implications of this doctrine, and was admonished for it. A 1933 exercise held in the Headquarters of the Wessex Bombing Area, Air Defence of Great Britain, considered a war with a hypothetical 'Western European Confederation' made up of France, Belgium and the Netherlands. The Wessex commander, Sir Tom Webb-Bowden, drew up a response to enemy air raids on London. In keeping with the orthodox Air Staff thinking, this plan placed an attack on civilian morale at the centre of the bombing counter-offensive:

Our effort must therefore be directed against the morale of the civil population with the object of disorganizing the normal daily life of the individual that a continuance of such conditions becomes intolerable. This postulates striking primarily at targets located in thickly populated areas. ....

Our chief object is the application of moral pressure (material damage being a secondary consideration) ... [bombers will be deployed] so as to disturb as wide an area as possible.<sup>53</sup>

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<sup>52</sup> AIR 10/1910, *Royal Air Force War Manual. Part 1: Operations* (July 1928), chapter VIII.

<sup>53</sup> See Appendix 7(i): Webb-Bowden, 'An appreciation of the employment of the Air Defence of Great Britain bomber formations against the Western European Confederation during the first month of operations', 12 March 1933.

Accordingly, targets in Paris, Brussels and Amsterdam comprised the majority of operations. Webb-Bowden's forces could drop 285 tons of bombs every twenty-four hours, and 70 percent of these were to target government buildings, the aircraft industry and power stations in these cities.<sup>54</sup> Yet these objectives were targets of convenience, for Webb-Bowden had already admitted that he was more interested in harming the civilians around them than destroying the targets themselves.

Webb-Bowden maintained that his plan was formulated in accordance with his orders and orthodox Air Force doctrine. Verbally defending it against criticism, he emphasised that his instructions were

to "break the enemy's national resistance in the shortest possible time"; that and that alone was given to me by the C.A.S. quite definitely. And here I would emphasise the five words "IN THE SHORTEST POSSIBLE TIME". Having examined closely all the available targets I came to the conclusion that it would be quite impossible to achieve the aim by considering material damage alone. ... I decided that the aim must be achieved by exerting moral pressure on the enemy, in other words, by making the normal existence of masses of the population intolerable. That postulates attacking targets situated in the most thickly populated areas ...<sup>55</sup>

Webb-Bowden suggested that had the Chief of the Air Staff not instructed him to achieve quick results, he might have been able to 'break the enemy's national resistance' by relying on material damage caused by precision bombing. However, his aim was a rapid breakdown of enemy resistance; Trenchardism taught that this was to be achieved by moral damage caused by bombing in population centres. The area bombing mentality, clearly visible in Webb-Bowden's plan, allowed this to be easily contemplated.

Although other senior officers criticised Webb-Bowden, they were more concerned about how others might view Webb-Bowden's proposals, rather than with the proposals themselves. The Commandant of the Royal Air Force Staff College, Air Vice-Marshal Joubert de la Ferté, contributed to the debate by pointing out several 'common

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<sup>54</sup> See Appendix 7(i): Webb-Bowden, 'Appreciation – Western European Confederation'.

<sup>55</sup> See Appendix 7(ii): Remarks by AVM Sir Tom Webb-Bowden ("A" Syndicate) at the final conference on 15.3.33.

misconceptions' held by Army and Navy officers about the plans of the Air Staff that Webb-Bowden's paper exemplified. He listed these:

- (a) The Air Force is not going to fight the enemy air forces at all ...
- (b) We are going to make ruthless air attack (baby-killing) our aim – we say so in our manual when we state we are going to attack the enemy's morale ...
- (c) We say we are going to attack military targets – but of course we shall select them in densely populated areas, where it does not matter if our bombs do miss the military target, as we are really striking at the morale of the enemy. This is the “near-miss theory”, subscribed to by many Air Force officers.
- (d) We are not directing our efforts to what should be the common end of all the services, the defeat of the armed forces. This is a development of (a) and is usually followed by an accusation of “gambling on the effect of air attack on that imponderable factor – the moral fibre of the enemy people.”
- (e) We are teaching in peace a form of military action which no British government will allow us to put into effect on the declaration of war.<sup>56</sup>

Group Captain Portal, then working in the Directorate of Plans, also noted how Webb-Bowden's plan conformed to the 'near-miss theory', and criticised it as such. Even though it conformed to the basic Trenchardian ideas that he had enthusiastically agreed to in 1923, Portal criticised the plan for advocating “indiscriminate attacks on the civil population”, which is exactly what ... we have told the Government that it would not pay us to do'.<sup>57</sup> Yet according to the official *War Manual* (as Joubert acknowledged to in his second point), morale *was* to be the target.<sup>58</sup> Furthermore, Steel implicitly accepted the 'near-miss theory' in his 1923 response to Higgins, despite refusing to consider stating this openly.<sup>59</sup> Webb-Bowden's crime, such as it was, was not that he aimed at civilian morale. It was simply that he openly stated that he would do this, and that he even suggested that Britain should initiate such attacks.

The 'war aim issue', noted Tami Davis Biddle, 'was never fully resolved' at this time, despite the official hand wringing that Webb-Bowden's plan provoked. In 1935, Group

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<sup>56</sup> AIR 2/675, insert 1B, 'The Aim of the Royal Air Force', May 1933.

<sup>57</sup> AIR 2/675, minute 7, Portal to Deputy Chief of the Air Staff, 2 August 1933.

<sup>58</sup> AIR 10/1910, *Royal Air Force War Manual. Part 1: Operations* (July 1928), chapter VIII, para. 13.

<sup>59</sup> See Appendix 5(iv): minute, Steel to Trenchard, 19 July 1923.

Captain Harris, Portal's successor as Deputy Director of Plans, took it up. He concluded that it might be worthwhile updating the official war aim statement, to avoid such misunderstandings in the future. However, as long as the Air Staff remained wedded to a doctrine that they knew they could not fully disclose publicly, this would be impossible. A draft produced under Harris's authority later that year avoided explicit mention of civilian morale, stating simply that victory in war 'goes to the nation which can the sooner break down the other's power of resistance', and that 'resistance' comprised military, economic, industrial and moral aspects.<sup>60</sup> This effectively restated Steel's 1923 draft in its bland wording. Even Harris, who did not feel the need to sanitise his reports of air control bombing of civilians when a junior officer in the 1920s (or later, as head of Bomber Command), appears to have learnt that coded language was required to disguise the extent to which the Air Staff felt bombing of civilians would be a useful strategy in wartime. While more research may uncover further contemporary discussion of the war aim question, the fact that it was never resolved lends weight to the suggestion that the Air Staff were attached to a bombing doctrine which they dared not openly state in its entirety.

### **Precision Bombing Interlude**

Even when the Royal Air Force seriously committed to a strategy of precision bombing in the late 1930s, the area bombing mentality persisted at its highest levels and remained the unspoken long-term war plan for Bomber Command. A precision bombing era did exist, covering approximately the years 1937-1940, but it was an aberration in view of what preceded and followed it. It came about when the rise of Hitler forced the Air Staff to contemplate seriously a war in Europe, and the subsequent realisation that war would probably start before Bomber Command was prepared to launch a Trenchardian offensive. However, there is good reason to believe that while genuine to a point, preparations for precision bombing were a feint, designed to appease public and political opinion as well as provide a legitimate wartime mission for Bomber Command. This would ensure that its expansion continued into the 1940s, by which time it would be strong enough to launch an area-bombing offensive against enemy civilian morale.

By the later 1930s, Bomber Command realised that it could not win a bombing duel of the type Trenchard envisaged and which justified its existence. Its commitment to this

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<sup>60</sup> AIR 2/675, insert 13A, 'The War Aim of the RAF (Draft)', n.d., c. March-November 1935. See also Biddle, *Rhetoric and Reality*, 101-2.

rested on the faith that the British people could withstand bombing for longer than the population of a European enemy, which meant that Britain could maintain a modest air defence organisation and commit the bulk of its air forces to the offensive. However, if the Royal Air Force were significantly weaker than the enemy's air force, devoting a high proportion of its resources into offensive bombing could bring domestic political stability into question by asking the civil population to withstand too much. Therefore, having maintained an air force comparable with European air forces within striking distance of the United Kingdom since 1923, the British Cabinet was thrown into a panic when Hitler told British Foreign Secretary Sir John Simon in March 1935 that the Luftwaffe was already equal to the Royal Air Force's home-based units. Furthermore, it would continue to expand.<sup>61</sup> In the face of this, the Trenchardian principle of massed bomber attacks continued to guide the Royal Air Force's expansion, but the German lead soon became insurmountable. By September 1939, the Luftwaffe possessed 2,130 bombers and 1,215 fighters and the Royal Air Force just 536 bombers and 608 fighters.<sup>62</sup> By the end of 1937, the Minister for the Co-ordination of Defence, Sir Thomas Inskip and, through him, the Cabinet, had lost faith in Bomber Command's ability to defend Britain by attacking the enemy, as Trenchard had claimed since the early 1920s. Inskip placed a much bigger emphasis on air defence by proposing that more bombers of the Luftwaffe would be destroyed in the air by Fighter Command's new generation of monoplane fighters than in their factories by Bomber Command.<sup>63</sup> This forced the Air Force to reduce its emphasis on long-range bombers, and called into question the very existence of the independent bomber force.

To avoid provoking Hitler into committing even more aggressive acts than he was already undertaking, and to justify the continued expansion of Bomber Command, the Air Staff committed to a precision bombing plan that made no mention of civilian morale. Precision bombing possessed both political and technical advantages. Deterring Hitler from going to war was the ultimate goal of British rearmament until relatively close to the outbreak of hostilities, but Trenchard's offensive strategy did not fit with this because of its inherent aggression. Britain's diplomatic strategy was to match German rearmament,

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<sup>61</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 69.

<sup>62</sup> These are first-line strengths. Hastings, *Bomber Command*, 50. Hyde, *British Air Policy between the Wars, 1918-1939*, 519, App. VIII. For a summary of the RAF expansion schemes, their maintenance of a high proportion of bombers until 1938 and the increased fighter emphasis thereafter, see Appendix 9: Expansion schemes, 1922-39.

<sup>63</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 76-7. See also Smith, *British Air Strategy between the Wars*, 193-7.

but not exceed or provoke it and push the unpredictable Hitler towards war. Technically, precision bombing appeared to promise significant results with far fewer bombers than would be required to carry out an offensive focussed on destroying morale. Given the circumstances, it appeared the best medium-term option to the Air Staff.

The manifestation of this shift in focus to precision bombing was the series of Western Air Plans, developed during the final two years of peace. Orthodox Trenchardian thinking was almost completely absent from them, for none of them even hinted at an attack on civilian morale.<sup>64</sup> By September 1939, three of the original thirteen basic schemes had become detailed operational plans outlining attacks on the Luftwaffe (Plan W.A.1), military communications (W.A.4) and the Ruhr's industry (W.A.5). Although plans of the 1920s geared to war with France placed great importance on bombing Paris, the Air Ministry shelved the plan for attacking administrative targets in Berlin (W.A.13) because it was not 'sufficiently attractive'.<sup>65</sup> Admittedly, attacking distant Berlin would have been a much greater test of Bomber Command's resources than the attacks on targets in Western Germany envisaged in Plans 1, 4 and 5, but the contrast is noteworthy. Webster and Frankland suggested that the two years before the outbreak of war had forced the Air Staff to realise that the Royal Air Force could not meet a German attack with a bombing counter-offensive.<sup>66</sup> In the event, the Western Air Plans gave Bomber Command a chance to live up to at least some of the claims for airpower made by Trenchard and others since the First World War. By effectively sacrificing the hopes of playing the major role in winning a war in the short term, the Plans attempted to set realistic objectives for the still-rebuilding bomber force that would help the overall war effort.

When Ludlow-Hewitt became Commander-in-Chief of Bomber Command in 1937, it did not take him long to discover that the organisation he was taking charge of was in no position to execute *any* offensive plans – even the more limited precision-bombing ones then taking shape. Bomber Command's problems were too fundamental to overcome in the medium term, because it was being simultaneously re-equipped with new types of bombers whilst being expanded. Ludlow-Hewitt's first annual report showed the

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<sup>64</sup> AIR 2/2731, Reports by Chiefs of Staff Sub-Committee on Planning for War with Germany, encl. 25A, 'Proposed priority for the preparation of detailed plans on the Western Plan', from minutes of a conference held in D.D.I.'s room, 1 October 1937.

<sup>65</sup> 'Western Air Plans 1<sup>st</sup> September 1939', published as Appendix 6 in Webster and Frankland, *The Strategic Air Offensive*, IV, 99-102.

<sup>66</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 91-106.

difficulties he faced in even getting the force into the air: ‘although both the aircraft and men are excellent in themselves’ – an optimistic statement – ‘much more is required before this material can be welded into an efficient weapon of war’. He particularly identified navigation, all-weather flying and overcoming or evading enemy air defences as issues requiring major improvement. These deficiencies were so serious that this report of March 1938 did not even consider the types of targets that the bombers would have to attack: at this stage, the focus was simply to get them to and from any sort of target intact. Even so, he feared Bomber Command would suffer such high casualties that it would be wiped out in under two months of intensive operations.<sup>67</sup> More than a year later, he wrote that he was ‘far from satisfied with the progress which is being made’ towards the official aim of having ‘a bomber force at least comparable in striking power with those components of the strongest foreign air force capable of attacking this country and our sea borne trade’. He felt ‘bound to express my conviction that under existing conditions we will not obtain’ either the qualitative or the quantitative measures of this aim.<sup>68</sup> Bomber Command was clearly in need of a massive effort to take its undoubted potential and turn it, in its commander’s words, into an efficient weapon of war.

Unhurried development of precision bombing capabilities over the previous fifteen years meant that these were poor when Bomber Command’s focus shifted to precision bombing from 1937. In noting that ‘accurate bombing is our principal *raison d’être*’, Ludlow-Hewitt pointed out fundamental equipment deficiencies that hampered this.<sup>69</sup> In 1934 and several times since, the Bombing Committee, an Air Ministry body chaired by the Deputy Chief of the Air Staff, had suggested the establishment of a Bomber Development Unit to examine tactical issues relating to bombing in detail, away from the operational pressures of a service squadron.<sup>70</sup> In 1938, tasks for its attention were proposed and mostly related to improving standards of bombing accuracy. First on the list was ‘practical trials to assist in the determination of bombing errors’, while tactical methods of delivering a bombing attack, night bombing, target identification, and technical requirements of bombing also featured prominently.<sup>71</sup> However, the Air Ministry gave little priority to the formation of the unit, much to Ludlow-Hewitt’s frustration. By

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<sup>67</sup> AIR 14/298, Ludlow-Hewitt, ‘Annual Report on the State of Bomber Command for 1937’, March 1938, 2-5. See also Webster and Frankland, *The Strategic Air Offensive*, I, 95.

<sup>68</sup> AIR 2/3078, Letter, Ludlow-Hewitt to Air Ministry, 25 May 1939.

<sup>69</sup> AIR 14/298, Ludlow-Hewitt, ‘Annual Report on the State of Bomber Command for 1937’, March 1938, 12.

<sup>70</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 117.

<sup>71</sup> AIR 2/4452, Notes on Formation of Bomber Development Unit, January 1939.

the time of its creation in 1940, war operations were exposing tactical shortcomings and forcing experimentation in the field. Webster and Frankland suggest that even though the Air Ministry supported its formation before the outbreak of war, it was impossible to obtain a suitable bombing range for the unit.<sup>72</sup> However, it is difficult to imagine that the Air Staff would have accepted the lack of a tactical development establishment had they been fully committed to precision bombing as the fundamental purpose of Bomber Command. The fact that the Bomber Development took six years from proposal to establishment suggests that they did not see highly accurate bombing as Bomber Command's true long-term duty.

The aircraft of Bomber Command in the late 1930s also fell significantly short of the standard required to carry out an accurate bombing offensive against Germany, because there was no confidence that they could do this. The vast majority of bombers that served in the war originated in 1930s Air Ministry specifications,<sup>73</sup> and even if their deficiencies in carrying out precision bombing in war can in part be attributed to British complacency, this is too convenient an argument for those who allege that area bombing came about by accident.<sup>74</sup> The heavy bombers under development in the later 1930s were to be flown by night: as head of Bomber Command in May 1940, Portal wrote that 'to the Heavy Bomber Squadron', which was equipped with late-1930s-designed aircraft, 'day is night'.<sup>75</sup> Since the First World War, the Air Staff had known that night bombing was very inaccurate. A conference at the Air Ministry in November 1938 acknowledged this and noted that 'night attacks would not achieve appreciable results against "precision" targets'.<sup>76</sup> The Air Staff's 'Ideal Bomber' project, which ran from 1938 to 1940, professed no faith that even such an aircraft could hit precise targets and nothing else. To calculate the required bomb load for a single, 'ideal' bomber that could fulfil all bombing duties of the Royal Air Force, it multiplied the weight of bombs required to destroy a precise target by ten. Because the project's planners expected 90 percent of bombs dropped on such a target to miss it, bombers had to carry a huge weight of bombs. The practical result of this was that

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<sup>72</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 119-20.

<sup>73</sup> A. Furse, *Wilfrid Freeman: The Genius Behind Allied Survival and Air Supremacy, 1939 to 1945* (Staplehurst: Spellmount, 2000), 70, 119, 339-44.

<sup>74</sup> Denis Richards disputed this, stating simply that rapid expansion had resulted in insufficient attention being available to devote to tactical and design matters. However, Sir John Slessor acknowledged this criticism – perhaps as a way of diverting attention from the Air Staff's understanding that area bombing was the long-term policy for Bomber Command. Richards, *The Hardest Victory*, 19. Slessor, *The Central Blue*, 203.

<sup>75</sup> Richards, *Portal of Hungerford*, 153.

<sup>76</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 216.

bombers were expected to disperse nine 500-pound bombs around a factory in addition to the one bomb that hit it, but unacknowledged was the fact that the nine bombs may kill many civilians.<sup>77</sup> The project was very ambitious in its aims; if it had wanted accurate precise bombing, it would surely have specified such a bomber. Instead, it maintained the Trenchardian idea that attacks on ‘precision’ targets were really a means to the end of killing civilians around it to destroy their morale.

While the Air Staff had little faith in the precision-bombing capabilities of Bomber Command, they were actively considering area bombing in private. In January 1938, Group Captain John Slessor, Deputy Director of Plans at the Air Ministry, wrote a paper on the possibilities of restricting air warfare by international agreement. He was pessimistic as to the value of rules in war: an aggressor would ‘have driven a coach and four through half a dozen international obligations’ just to begin a war in the first place, and so could hardly be expected to begin obeying rules once the conflict had started. He affirmed the Trenchardian orthodoxy that ‘it is a truism that war has become largely an affair between civilian populations’, although acknowledged no air force had succeeded in winning a war through attacking civilians. However, he claimed that the aerial bombardment of cities could succeed with current technology. Slessor stated the unspoken Air Staff doctrine remarkably clearly when he wrote that ‘it may be possible ... for an enemy to obtain the desired result [of destroying civilian morale] indirectly through [bombing] a careful selection of “military” objectives.’ Therefore, ‘not only will it be impossible to rely upon a law prohibiting direct attack upon civil life, but even if there is such a law it may have little value even if observed.’ The logical result of this, he wrote, was that Britain should maintain the capability to attack enemy cities if the enemy did it first:

A direct attack upon an enemy civil population ... is a course of action which no British Air Staff would recommend and no British Cabinet would sanction – except possibly in the last resort as a measure of reprisal; but as long as the possibility remains of such action being taken against us, we must retain the right to adopt what will probably be the main effective means of countering it.<sup>78</sup>

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<sup>77</sup> AIR 41/39, R. Wernham, ‘The Pre-War Evolution of Bomber Command’, AHB Narrative, n.d. Annex, ‘The Ideal Bomber’.

<sup>78</sup> AIR 9/84, J. Slessor, ‘Restriction of Air Warfare’, January 1938, 7-8, 19-22.

This was the type of cynicism that Air Commodore Higgins drew attention to in 1923: the claim that Britain could maintain the moral high ground whilst preparing for an air offensive against civilian morale.<sup>79</sup>

Bomber Command was supposedly preparing to launch precision-bombing operations in the event of war, which they actually did. However, the Air Staff, who expected the Germans to attack British cities eventually, were reserving for themselves the right to attack German civilian morale directly. Denis Richards hinted at this in the Air Ministry's official history, *Royal Air Force, 1939-1945*, when he stated that the highly unfavourable balance of strength between Bomber Command and the Luftwaffe in 1939 meant that "“all-out” air action was obviously against our interests until a more satisfactory balance of forces could be achieved’.<sup>80</sup> While this section requires more research to conclusively show that the period of the Western Air Plans was not a sincere shift in strategy, events before and after the later 1930s suggest that the area bombing mentality persisted at the highest levels of the Air Staff throughout the interwar period, even when Bomber Command was preparing to carry out a precision bombing offensive against Germany. In such a situation, area bombing aimed at civilian morale was sure to replace it as soon as Bomber Command possessed the means to execute it.

## Conclusion

The area bombing mentality still existed in September 1939, even though the Royal Air Force had spent most of the previous fifteen years denying that such a principle underlay its thinking. However, two decades of air control operations had shown the willingness to kill civilians deliberately, and several major air exercises in the United Kingdom had taken place in which cities were the principal targets of bombers. In private, while it remained largely an unspoken assumption, there were occasions when the centrality of civilians and morale to warfare came to the surface in discussion. Even when Bomber Command spent the last two years of peace preparing for a precision bombing offensive against Germany, there are no indications that it placed the same faith in such a strategy as it held in the Trenchardian offensive, directed against towns and cities. Ultimately, there is good reason to believe that these preparations were a medium-term strategy, forced by the realisation that war might begin several years before Bomber Command was ready to

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<sup>79</sup> See Appendix 5(ii): Minute, Higgins to Steel, July 1923. See also 'Area Bombing in Strategy' in Chapter Three.

<sup>80</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, I, 41.

launch a Trenchardian offensive. If Bomber Command did this in wartime, then enough continuity with the 1923 discussions of bombing enemy cities exists to see a clear connection between the two, in spite of the fact that previous historians have not emphasised this. Ultimately, the fact that Bomber Command did launch a Trenchardian offensive shows that the area bombing mentality, still extant in 1939, became an area bombing reality.

## Chapter 5

# Area Bombing in the Second World War

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In February 1942, the Royal Air Force formally adopted a policy of area bombing against German cities. As seen in previous chapters, the concept of area bombing had played a central role in the Air Force's history, ideology and institutional culture since the First World War. However, the Air Staff did not order Bomber Command to launch an all-out assault on German civilian morale until 1942, when the war was nearly two and a half years old. Clearly, this time lag needs addressing if the argument that the idea of area bombing permeated the Royal Air Force during the 1920s and 1930s is to have any relevance to understanding the origins of its wartime application.

This chapter will explain and analyse the delay by splitting these two and a half years into two smaller periods: September 1939 to August 1940, and August 1940 to February 1942. During both phases, there were military and political reasons why Bomber Command could not unleash a Trenchardian bombing campaign upon German cities. In the first year of the war, political factors were paramount in preventing this. However, German bombing attacks on English cities during the Battle of Britain and the Blitz largely removed these. During the period August 1940 to February 1942, it was primarily military reasons that precluded the full-scale adoption of area bombing. However, these did not stop Bomber Command beginning limited area bombing in August 1940. During 1941, as it became more proficient at this, these efforts were expanded as far as possible. By 1942, Bomber Command was at last in a position to fight the war in a way that Trenchard had envisaged twenty-five years before. February 1942 is not a turning point in British bombing strategy, because the formal adoption of area bombing simply recognised that this was already the major focus of bombing operations.

Because it does not acknowledge the existence of an area bombing mentality within the Air Force over the previous two decades, orthodox historiography posits a shallow explanation for the adoption of area bombing. The accepted version of events, it will be recalled from chapter one, sees area bombing as the result of a steady evolution of bombing policy between 1939 and 1942, progressing from precise targets, to precise

targets in urban areas, to urban areas. This fails to account for the Royal Air Force's two-decade-old predisposition to attacking civilians. When the extent of this is appreciated, area bombing can be understood not as a policy of last resort, but as the culmination of twenty-five years of the Air Force's history.

### **Area Bombing Delayed, September 1939-August 1940**

During the first year of the war, political and military factors prevented the War Cabinet and Air Staff from ordering Bomber Command to attack German civilian morale by bombing cities. While this reasoning was logical, area bombing still had its proponents from within the Air Force. By the end of this period, the failure of Bomber Command to successfully execute a precision-bombing strategy lent weight to advocates of area bombing. However, no such bombing occurred during the first year of war.

In September 1939, the top levels of the Royal Air Force and the British Government agreed that it would be politically unwise to attack German civilians. Limited conflict matched Britain's limited rationale for declaring war – the checking of German aggression in the wake of Hitler's invasion of Poland.<sup>1</sup> Soon after this, President Roosevelt pleaded that all belligerent powers refrain from bombing civilians. The experience of the First World War had shown Britain how vital American participation was for victory in a protracted Continental war. If America was to be coaxed out of its isolation, the humanitarian sentiment in the United States that led Roosevelt to issue such an appeal should be respected as far as possible. Domestically, the ethical argument that civilians should not be deliberately attacked in wartime possessed a wide following, evidenced by the strong popular 'ban the bomber' movement in the interwar period. Many decision-makers, up to and including Prime Minister Neville Chamberlain, personally accepted this argument. As long as Hitler was not directly threatening Western Europe, politicians could not seriously contemplate pre-emptive strikes against German cities.<sup>2</sup>

Militarily, also, there were good reasons not to begin city bombing unilaterally. Bomber Command was still deeply involved in the re-arming and re-equipping process that had begun in 1934, and was vastly inferior numerically to the Luftwaffe's bomber force. Webster and Frankland describe the force at this point merely as 'an investment for

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<sup>1</sup> 'At War with Germany: Prime Minister's Broadcast', *The Times*, 4 Sep. 1939, 8.

<sup>2</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 105-6, 134-5. Bialer, *The Shadow of the Bomber*, 12-22.

the future' that needed to be 'conserve[d] and expand[ed]' as much as possible. This would require a contraction of front-line bomber strength, as instructors and aircraft were moved from operational units to build up sufficient reserves for war operations – something that had been neglected in peacetime in the rush to expand the front-line 'shop window' force.<sup>3</sup> In September 1939, German bombers outnumbered British by four to one – 2,130 to 536.<sup>4</sup> Britain did not want to provoke Germany whilst such a massive disparity in offensive capabilities existed. As long as German bombers attacked only military targets, British bombers would do likewise.<sup>5</sup> In fact, the later events of the Blitz suggest that both the British Air Staff and Government overestimated the capabilities of the medium bombers of the Luftwaffe to undertake a Trenchardian offensive against British cities. However, this is understandable because the terrifying bombing of Warsaw (September 1939) and Rotterdam (May 1940) during the German invasions of Poland and the Netherlands reinforced pre-war German propaganda emphasising the strength of the German Air Force.

Not everyone shared the reticence to bomb German cities, in spite of the political and military arguments against doing so. Advocacy of a less restricted bombing policy coincided with the end of the 'Phoney War' and the beginning of German operations in Scandinavia and Western Europe. Air Marshal Portal replaced Ludlow-Hewitt as the head of Bomber Command in April 1940, and Denis Richards, Portal's biographer, suggests that a major reason for this is that the Air Staff saw him as a more vigorous and ruthless leader than his older predecessor.<sup>6</sup> Portal was soon to propose that German civilians become an objective of his bomber force, although the Air Staff rejected this notion.<sup>7</sup> Trenchard shared his protégé's belief. Following the disastrous Norwegian campaign, he expressed regret to Portal that he had not been allowed to use the bomber force 'where I and others think it probably would have ended the war by now', in a transparent reference to the fabled 'knock-out blow' against civilian morale.<sup>8</sup> Nonetheless, even after Germany

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<sup>3</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 66-7, 134.

<sup>4</sup> See 'Precision Bombing Interlude' in Chapter Four. Hastings, *Bomber Command*, 50. Hyde, *British Air Policy between the Wars, 1918-1939*, 519, App. VIII.

<sup>5</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 130-5.

<sup>6</sup> Richards, *Portal of Hungerford*, 139-40. D. Richards, 'Portal, Charles Frederick Algernon, Viscount Portal of Hungerford', in H. C. G. Matthew, Brian Howard Harrison, and British Academy (eds.), *Oxford Dictionary of National Biography: From the Earliest Times to the Year 2000*, 61 vols. (Oxford; New York: Oxford University Press, 2004), vol. 44, 929-30.

<sup>7</sup> Letter, Portal to Air Ministry, 16 July 1940, cited Webster and Frankland, *The Strategic Air Offensive*, I, 150. See below.

<sup>8</sup> Trenchard to Portal, 2 May 1940, cited Richards, *Portal of Hungerford*, 146. Several months later, Trenchard repeated this criticism to Churchill. Trenchard to Churchill, 25 September 1940, cited Furse, *Wilfrid Freeman*, 150.

had conquered Western Europe, the consensus held that a deliberate attack on civilian morale would be a politically unwise move. However, Churchill's replacement of Chamberlain as Prime Minister in May introduced a less morally-inhibited head of the War Cabinet who was much more open to the idea of bringing the war home to the German population.<sup>9</sup>

Between September 1939 and August 1940, Bomber Command carried out three types of limited strategic operations with very limited success. Initially, the only bombing was directed at the German Fleet by day, so as not to run the risk of harming civilians and inviting Luftwaffe reprisal attacks on Britain. Results were extremely disappointing, with the bombers suffering far more damage than their targets. Two of the three major raids that took place in the final months of 1939 saw half of the attacking force destroyed, and one such attack was officially compared to the ill-fated charge of the Light Brigade. Although German fighters were cautious in their attacks on the bomber formations, the defensive armament of the British aircraft was wholly inadequate to ward off attacks. The myth of the self-defending bomber formation, seen in action in the 1928-35 air exercises,<sup>10</sup> was exposed. Long-range fighter escorts, a potential solution, had consistently been viewed by the Air Staff as impractical and unnecessary, despite Ludlow-Hewitt's August 1938 claim that they would be 'absolutely essential' in carrying out daylight bombing operations.<sup>11</sup> Senior officers were optimistic that a variety of tactical innovations and alterations to the bombers could save the situation, but it quickly became apparent that unescorted daylight attacks would be impossible to sustain. The third attack of this type, which took place in December, was the last. Despite the minimal penetration of German airspace these attacks involved, Bomber Command could not survive by day. By the end

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<sup>9</sup> See, for instance, his advocacy of area bombing in a note of 20 October 1940 to Sir Cyril Newall, Chief of the Air Staff. Richards, *The Hardest Victory*, 74.

<sup>10</sup> See 'Air Exercises' in Chapter Four.

<sup>11</sup> Ludlow-Hewitt admitted that he had shared this view until recently, but that his experience with Bomber Command had changed his mind by August 1938. Webster and Frankland, *The Strategic Air Offensive*, I, 96. See also Hastings, *Bomber Command*, 52-3. The bias against fighter escorts went back to Trenchard's time. It was not believed possible that a fighter could be built that would match the long range of a bomber with the performance of a short-range interceptor. Bombers were expected to be able to defend themselves with mutually supporting fire. At worst, escort bombers could be fly with regular bomber formations, being of the same type but possessing more armament at the expense of fewer bombs. See, for instance, AIR 10/1910, *Royal Air Force War Manual. Part 1: Operations* (July 1928), chapter VIII, paragraph 25. AIR 19/92, Minutes of a Conference held in Chief of the Air Staff's room, 13 July 1923, 12.00pm. This was in spite of the fact that Trenchard's Independent Force Despatch (see Appendix 3) acknowledged that his bombers had to destroy enemy fighters on their aerodromes, 'as it was impracticable to deal with them on equal terms in the air'.

of 1939, a mere handful of operations had led it to effectively abandon all daylight bombing plans.<sup>12</sup>

Secondly, Bomber Command dropped leaflets on German cities by night during the winter of 1939-40. Recognising that bombing was likely to be highly restricted upon the outbreak of war, and that Bomber Command stood little chance of survival over heavily defended targets in any case, Ludlow-Hewitt had earlier suggested that bombers might drop propaganda leaflets over German cities in darkness.<sup>13</sup> Losses in these missions were minimal: 4 Group, which carried them out, suffered no battle casualties at all in over four months of operations. However, as had been feared by perceptive officers before the outbreak of war, bombers had great difficulty in finding their targets in adverse conditions. Air Commodore Coningham, 4 Group's Commander, wrote that 'the real constant battle is with the weather', and accurately predicted 'a never ending struggle to circumvent the law that we cannot see in the dark.'<sup>14</sup> Ludlow-Hewitt's declaration two years earlier, that Bomber Command was not 'an efficient weapon of war' in part because its crews lacked 'the ability to navigate the aircraft safely and in all weather conditions', looked as true as ever.<sup>15</sup> While they provided operational experience for bomber crews, the wider impact of the leaflet missions was minimal. Harris later denigrated them in his colourful way, stating that their only achievement was 'to supply the Continent's requirements of toilet paper for the five long years of war.'<sup>16</sup>

Thirdly, Bomber Command bombed land precision targets by night from May 1940, once Hitler's strikes north and west caused the restrictions on bombing to be partially relaxed.<sup>17</sup> British security was now directly threatened, and both Bomber Command and the War Cabinet were headed by more ruthless leaders than had occupied those posts at the start of the war. Bomber Command had to find a way to get past its failings and resume substantial offensive operations. The Air Staff had accepted by this time that

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<sup>12</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 134-5, 190-201. Hastings, *Bomber Command*, 17. Levine, *The Strategic Bombing of Germany, 1940-1945*, 21-2. Robertson, *The Development of RAF Strategic Bombing Doctrine*, xxi-xxvii.

<sup>13</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 105-6, 134-5.

<sup>14</sup> Report, Coningham to Bomber Command, 9 December 1939. Quoted Webster and Frankland, *The Strategic Air Offensive*, I, 201-2.

<sup>15</sup> AIR 14/296, Ludlow-Hewitt, 'Annual Report on the state of Bomber Command for 1937', March 1938, 2-3.

<sup>16</sup> Harris, *Bomber Offensive*, 36.

<sup>17</sup> Following Mussolini's declaration of war upon Britain and France on 10 June 1940, aircraft of Bomber Command also raided precision targets in cities of Northern Italy, beginning with the 36 Whitleys sent to attack factories in Turin on the night of 11/12 June. Middlebrook and Everitt, *The Bomber Command War Diaries*, p. 51.

strategic targets in the Ruhr could not be attacked by day, but Portal shared their belief that the German oil industry could be profitably attacked by night. Therefore, the Air Staff instructed Portal to pursue a variety of strategic targets listed in the Western Air Plans in order to determine, by trial and error, the types of precise targets suitable for night attack. These raids did little damage, resulting in several re-allocations of targeting priorities over the following months. No significant damage to the German war machine occurred.<sup>18</sup>

Despite direct and significant threats to Britain during 1940, the Air Staff retained one major Trenchardian principle: that the heavy bomber force was a strategic weapon. It always attempted to keep the majority of Bomber Command's effort turned towards strategic targets in Germany, regardless of the tactical situation. Attacks on Germany's oil could not help France, Belgium and the Netherlands repel invasion, for the Blitzkrieg assaults moved so quickly that the campaigns were over long before the German armed forces had to draw significantly on their fuel reserves. Bombers did attack German troops and communications in an attempt to hold Dunkirk, but then returned to oil targets as soon as the British troops had been evacuated and played a limited direct role in the remainder of the Battle of France.<sup>19</sup> The resulting German occupation of the Low Countries, the Channel and Biscay ports surpassed and combined all the 'worst case' scenarios that had formed the basis of interwar British planning. The Government feared invasion at any moment during the summer of 1940, and if the Germans got ashore, there was little to stop them from advancing through London. Bomber Command played its part in preventing this through attacks on communication links, aircraft bases and factories, and invasion ports and barges. However, even in this situation, it retained the belief that bombing of strategic, not tactical, targets was the key to victory. Bomber Command saw its main contribution to victory as likely to come through strategic attacks on the German aircraft industry, not tactical raids on the Luftwaffe's equipment and bases.<sup>20</sup>

Although area bombing was not carried out during the first year of the war, the head of Bomber Command favoured increasing the importance of German civilians in bombing policy. With the war situation deteriorating and 'precision' bombing a myth, Portal advocated making the most of the de facto area attacks and ensuring that they had some

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<sup>18</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 141-3.

<sup>19</sup> Richards and Saunders, *Royal Air Force, 1939-1945*, I, 133, 144-5.

<sup>20</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 144-54.

impact on civilian morale. He expressed the Air Staff orthodoxy of his mentor Trenchard, enunciated in 1923 by Steel, that the Royal Air Force would ‘attack military objectives in the vicinity of populated areas, which will produce the moral effect we require’.<sup>21</sup> Portal admitted that area bombing was already happening and that its effect should be maximised, just thirty months after Slessor wrote that ‘no British Air Staff would recommend’ area bombing to the Cabinet.<sup>22</sup> Portal argued in a letter of July 1940 that bomber attacks should be dispersed and precise targets located in cities favoured, because ‘almost all of the first priority targets [then aircraft assembly plants, depots and oil refineries] are isolated and in sparsely inhabited districts’. In this case, ‘the very high percentage of bombers which inevitably miss the actual target will hit nothing else important and do no damage’. He recommended attacks be resumed on railway targets – invariably located in cities – which would disperse the moral effect of bombing over a much wider area.<sup>23</sup> Max Hastings has described this paper as ‘the seed of the attack on the morale of the German people’, because Portal explicitly wrote that its adoption would see ‘the moral effect’ of bombing ‘largely increase[d]...by the alarm and disturbance created over the wider area.’<sup>24</sup>

In spite of Portal’s suggestions, Bomber Command did not launch area attacks on German cities during the first year of the war. While Germany was not doing this to Britain, political and military considerations favoured restraint. Technically, British bombers could have attacked German cities. They were little troubled by night defences in the leaflet raids, and even in September 1939, an average of 209 bombers that had the range to reach Berlin from British bases were available on any particular night.<sup>25</sup> However, to risk such a small force for short-term gain, unless in a final effort to avert defeat, would seriously compromise the long-term viability of the strategic bomber force. As long as Luftwaffe bombers were not attacking British cities, Bomber Command restricted its operations.

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<sup>21</sup> See Appendix 5(iv), Minute, Steel to Trenchard, 19 July 1923.

<sup>22</sup> AIR 9/84, Slessor, ‘Restriction of Air Warfare’, January 1938, 19-22. See ‘Precision Bombing Interlude’ in Chapter Four.

<sup>23</sup> Letter, Portal to Air Ministry, 16 July 1940, cited Webster and Frankland, *The Strategic Air Offensive*, I, 150.

<sup>24</sup> Hastings, *Bomber Command*, 95.

<sup>25</sup> This number was made up of 77 Wellingtons, 61 Whitleys and 71 Hampdens. ‘Bomber Command Order of Battle, 27 September 1939’. ‘Average Daily availability in Bomber command of aircraft and aircraft with crews at selected dates 1939-1945’. ‘Principal Aircraft in Bomber Command 1939-1945’. Printed as Appendices 38(a), 39 and 43 respectively in Webster and Frankland, *The Strategic Air Offensive*, IV, 400-2, 428, 446-53.

## Area Bombing Implemented, August 1940-February 1942

Once the Luftwaffe was already bombing British targets in the Battle of Britain and the Blitz, most of the reasons for restricting British bombing disappeared. Between August 1940, when London was first bombed, and February 1942, when area bombing was authorised as Bomber Command's primary objective, bombing policy became progressively broader. Bomber Command's own limitations prevented an immediate switch to an area offensive against German civilian morale as soon as German aircraft bombed London during the night of 24/25 August 1940. However, as these limitations were overcome, area bombing was expanded such that by 1942, it became the primary focus of bombing policy.

The Royal Air Force's success in delaying the German invasion plans through its mere survival in the Battle of Britain pushed the Luftwaffe to break off its war of attrition against Fighter Command and bomb London by night. The first German raid on the city, during the night of 24/25 August 1940, appears to have been a case of bombs mistakenly falling on residential rather than industrial areas – the type of accident that Bomber Command had strenuously attempted to avoid thus far in the war. Thanks to this precedent, the Air Ministry had more ethical freedom and reflected its Trenchardian tendencies in recommending that Berlin be attacked. Churchill readily accepted this advice, for he had already asked the Chief of the Air Staff if it would be possible to use reserve aircraft to 'discharge bombs from a considerable and safe height upon the nearest large built-up areas of Germany which contain military targets in abundance'.<sup>26</sup> Accordingly, Bomber Command raided 'industrial targets' in the city the following night, despite the Air Ministry admitting the following month that 'there are no objectives in the Berlin area of importance to our major [precision bombing] plans'.<sup>27</sup> A furious Hitler in turn responded by accepting the advice of his own air generals and ordered a general bombing attack on London, which began on 7 September. Bomber Command had not launched a city-bombing duel, because it was still aiming at ostensibly 'precise' targets within cities and could legitimately claim that the Germans had bombed civilians first. However, it had responded to German provocation, in turn pushing the Luftwaffe to escalate the bombing duel. Bomber Command, accordingly, was now seeking 'the greatest

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<sup>26</sup> Richards, *The Hardest Victory*, 74.

<sup>27</sup> Bombing directive, Air Vice-Marshal W.S. Douglas (Deputy Chief of the Air Staff) to Portal, 21 September 1940. Printed as Appendix 8(ix) in Webster and Frankland, *The Strategic Air Offensive*, IV, 124-7.

possible disturbance and dislocation both to the industrial activities and to the civil population generally' of Berlin.<sup>28</sup>

Two major impediments held Bomber Command back from fully converting its effort to area bombing. The first was the capability of the force to successfully carry out such an offensive. It had barely expanded in a year; the front-line strength in autumn 1940 consisted of 29 operational squadrons, up from 23 squadrons at the start of the war. In November 1940, the average number of Wellingtons, Hampdens and Whitleys – the bombers capable of striking German targets – available for operations was about 250, up from 209 in September 1939.<sup>29</sup> A year later, in November 1941, this figure had barely expanded.<sup>30</sup> Even in mid-1942, aircraft destined for Bomber Command were still being diverted to other duties, such as Middle East Command and Coastal Command.<sup>31</sup> The lessons of initial forays into area bombing was that a massive bomber force would be required to successfully make it the centrepiece of bombing strategy; the Air Staff estimated in mid-1941 that 4,000 front-line heavy bombers would be necessary.<sup>32</sup> Successful area bombing also required concentration in time and space of aircraft. High-explosive bombs could not destroy large areas unless dropped in massive quantities; only fire could do that. Successfully starting a general conflagration in a town required dispersing thousands of small incendiary bombs (up to 30,000, according to one estimate) throughout a small area in quick succession, requiring accuracy of navigation, bomb aiming, and timing.<sup>33</sup>

In mid-1941, an independent study found that Bomber Command was still incapable of accurate bombing. As seen above, even area bombing required a significant degree of tactical skill. Civil servant D.M. Butt analysed photographs taken by night bombers during operations in June and July. 'For the first time in air force history', summarise Webster and Frankland in discussion of this report, 'the first and paramount problem of night

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<sup>28</sup> Bombing directive, Douglas to Portal, 21 September 1940. Webster and Frankland, *The Strategic Air Offensive*, IV, 124-7, App. 8(ix).

<sup>29</sup> Richards, *The Hardest Victory*, 70.

<sup>30</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 309.

<sup>31</sup> Both Trenchard and Harris complained of this in notes to the Churchill, subsequently circulated by him to the War Cabinet on 9 September 1942 with the disclaimer that 'I do not myself adopt or endorse the views expressed, which I think fall into the error of spoiling a good case by overstatement'. PREM 3/7, 'Note by Lord Trenchard on our War Policy', 29 August 1942; 'Note by Air Marshal Sir Arthur Harris, K.C.B., O.B.E., A.F.C., on the Rôle and Work of Bomber Command', 28 June 1942. See also Webster and Frankland, *The Strategic Air Offensive*, I, 257, 342.

<sup>32</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 177, 180, 254.

<sup>33</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 252-3.

operations was seen at the highest level to be not merely a question of bomb aiming, though that difficulty still remained, but of navigation'. Butt found that two-thirds of bombers dropped their bombs more than five miles away from the target, a proportion that increased to nine-tenths over the Ruhr. 'While the bombers were still not within five miles of the aiming-point, it was a matter only of academic interest as to whether a bomb could be aimed with an error of 300, 600 or 1,000 yards', point out the official historians.<sup>34</sup> Just as Trenchard had under-estimated the difficulty of bombing precise targets in 1923 (a successful bomber simply needed 'to reach the objective and bomb it'),<sup>35</sup> area bombing also required a significant level of tactical organisation and skill.

The second major impediment to area bombing in 1941 was the bombing requirements of the wider war situation. Grand strategy required night precision bombing of first oil, and then naval, targets during the first half of 1941. This was forced upon the Air Force by the War Cabinet, and Portal, appointed Chief of the Air Staff at the end of October 1940, did not believe either objective was a worthy priority for Bomber Command. A bombing directive of 15 January ordered that strenuous efforts be made to continue the attack on German oil supplies, because it was believed that 'the Axis Powers will be passing through their most critical period as regard their oil resources during the next six months'.<sup>36</sup> Portal had, however, lost confidence in the oil plan, both for operational reasons and because he doubted the accuracy of the intelligence estimates behind it.<sup>37</sup> Two months later, Churchill accorded top priority to the Battle of the Atlantic to prevent German U-boats from 'strangl[ing]' Britain by cutting the vital supply link with the United States. Bomber Command was thus instructed to attack submarine and long-range naval aircraft manufacturing facilities, although Portal saw their job as more one of 'pull[ing] the Admiralty out of the mess they have got into'.<sup>38</sup> Given that he had believed that 'mass attacks on industrial areas' would have been preferable to oil attacks, it is hard

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<sup>34</sup> 'Report by Mr. Butt to Bomber Command on his Examination of Night Photographs', 18 August 1941. Printed as Appendix 13 in Webster and Frankland, *The Strategic Air Offensive*, IV, 205-13. See also Webster and Frankland, *The Strategic Air Offensive*, I, 180.

<sup>35</sup> AIR 19/92, untitled and undated manuscript, appears to be notes for a speech by Trenchard, c. 1923.

<sup>36</sup> Bombing directive, Air Chief Marshal Sir Wilfrid Freeman (Vice-Chief of the Air Staff) to Peirse, 15 January 1941. Printed as Appendix 8(xiii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 132-3.

<sup>37</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 165.

<sup>38</sup> Bombing directive, Freeman to Peirse, 9 March 1941. Printed as Appendix 8(xiv) in Webster and Frankland, *The Strategic Air Offensive*, IV, 133-4. Letter, Portal to Peirse, 1 March 1941, cited Webster and Frankland, *The Strategic Air Offensive*, I, 165.

to believe that he approached the prospect of attacks on naval targets with any more enthusiasm.<sup>39</sup>

In spite of these problems, area bombing was expanded as rapidly as possible after August 1940, taking account of both Bomber Command's ability to do this and other calls upon its resources. When city bombing did come, it closely resembled British expectations and the prediction of Air Commodore Higgins in 1923. Admittedly, it was close to a year after the declaration of war before Bomber Command carried out 'bombing attacks with the object of causing panic and alarm among the civil populace of the enemy', not the mere hours that Higgins envisaged. However, the Royal Air Force had indeed 'see[n] to it that the enemy is the first to transgress international laws' and bomb civilians, and thus it retained the moral high ground for the British.<sup>40</sup> Once the Germans had set the precedent of city bombing, the Air Staff quickly followed and Bomber Command expanded its own bombing of cities. By February 1942, Bomber Command's greater strength and sufficient political support allowed Portal to order the full adoption of area bombing.

Beginning with the first Berlin raid, Bomber Command took the intermediate step of adopting the 'profitable [precision] targets in profitable surroundings' approach.<sup>41</sup> In his first bombing directive as Chief of the Air Staff, Portal formally directed his successor at Bomber Command, Sir Richard Peirse, to adopt what was essentially the policy that he had advocated when the roles were virtually reversed, three months before.<sup>42</sup> 'Now that it seems likely that the enemy has, at least temporarily, abandoned the intention to invade this country, the time seems particularly opportune to make a definite attempt with our offensive to affect the morale of the German people', stated a bombing directive of 30 October 1940.<sup>43</sup> Peirse and Portal's effective swapping of roles was also reflected in the advocacies of their new commands, with the Air Staff now advocating area bombing and Bomber Command pushing for perseverance with precision attacks.<sup>44</sup> Under Portal's first directive, Berlin, so recently written off as of only peripheral importance to the bombing

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<sup>39</sup> Minute, Portal to Directorate of Plans, 28 February 1941. Cited Webster and Frankland, *The Strategic Air Offensive*, I, 165.

<sup>40</sup> See Appendix 5(ii): Minute, Higgins to Steel, July 1923. See also 'Area bombing in strategy' in chapter 3.

<sup>41</sup> This phrase is used by Richards, although he sees it as a form of precision, not area, bombing. Richards and Saunders, *Royal Air Force, 1939-1945*, I, 234.

<sup>42</sup> During Portal's leadership of Bomber Command, Peirse served as Vice Chief of the Air Staff and was the main authority on bombing policy under Chief of the Air Staff Sir Cyril Newall.

<sup>43</sup> Bombing directive, Douglas to Peirse, 30 October 1940. Printed as Appendix 8(xi) in Webster and Frankland, *The Strategic Air Offensive*, IV, 128-31.

<sup>44</sup> Frankland, *Bomber Offensive: The Devastation of Europe*, 30.

offensive, was now to be the ‘first aim ... whenever the weather conditions make it probable that the aircraft will get through.’ When such deep-penetration operations were not suitable, Bomber Command would raid closer towns. Critically, apart from the oil targets previously designated (which were to remain the primary aim in the eight to ten days per month when it was believed the full moon allowed them to be attacked profitably), the targets were to be towns in the first instance. The desire to attack civilians determined the choice of ‘precise’ military and industrial objectives in them: a clear application of the area bombing mentality.<sup>45</sup>

Six weeks after Portal’s first bombing directive, Bomber Command made the first area bombing attack of the type that was later to become standard: simply aiming at the town as a whole. Again, the Luftwaffe had opened the way for a further loosening of political restrictions on bombing civilians, this time by launching what appeared to be a similar type of attack on the English city of Coventry in November. On the night of 16/17 December 1940, Bomber Command raided Mannheim and aimed at the town centre. Wellingtons opened the attack by dropping incendiary bombs to set off fires, on which other aircraft then dropped high explosive bombs. The aim, as Peirse later explained, was ‘to concentrate the maximum amount of damage in the centre of the town’. Webster and Frankland describe this as ‘the first “area” attack of the war’, although this was using the term ‘area attack’ in its later meaning, the general area offensive begun in 1942. As they previously admitted, many bombs had missed their targets and killed civilians in previous raids since the first attack on Berlin nearly two months before. However, the results of the attack on Mannheim were disappointing. Photographic reconnaissance later showed great dispersal of the fires, and Peirse wrote to his Group Commanders that although ‘considerable damage’ had been done, the operation had ‘failed in its primary object’.<sup>46</sup> While German actions had largely removed political obstacles to deliberately bombing civilians, operational shortcomings still prevented Bomber Command from launching a Trenchardian offensive on German towns.

As Bomber Command began to acquire the means of causing significant destruction during 1941, area attacks of the Mannheim type gradually made up a higher proportion of

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<sup>45</sup> Bombing directive, Douglas to Peirse, 30 October 1940. Printed as Appendix 8(xi) in Webster and Frankland, *The Strategic Air Offensive*, IV, 128-31. See also Levine, *The Strategic Bombing of Germany, 1940-1945*, 25-6.

<sup>46</sup> Memorandum, Peirse to 1, 2, 3, 4 and 5 Groups, 24 December 1940. Cited Webster and Frankland, *The Strategic Air Offensive*, I, 215, 225-6.

its efforts. A bombing directive of 9 July reflected the growing disillusionment with night precision bombing, and observed that for approximately three-quarters of every month, 'it is only possible to obtain satisfactory results by heavy, concentrated and continuous area attacks on large working class and industrial areas in carefully selected towns'. It alluded to 'a comprehensive review of the enemy's present political, economic and military situation' that showed that 'the weakest points in his armour lie in the morale of the civil population and in his inland transportation system'.<sup>47</sup> Accordingly, Peirse aimed approximately 7,400 tons of bombs at transportation and other precise targets, about 6,400 tons at industrial areas, but nearly 45,000 tons at naval targets, during the six months between July and December 1941.<sup>48</sup> While the belief that attacking civilian morale would have a significant impact on the war was far from a new idea for the Air Staff, Bomber Command still lacked the weapons to launch an all-out assault on German morale. It possessed an average of just 531 bombers available for operations in November 1941, including just a handful of 'heavies': eighteen Stirlings, seventeen Halifaxes and thirty-one Manchesters (the unsatisfactory two-engine forerunner of the Lancaster).<sup>49</sup> Even so, this was a vast improvement upon a year earlier.

During 1941, the argument that bombing should directly target civilians gained force and won over previous doubters. Visiting a meeting of the Air Staff and Peirse in June, Trenchard himself asserted his own orthodoxy and declared that 'German morale should be made the primary target for our bombers.' Although attacking this would have a tangible effect on industrial output, Trenchard advocated selecting the town based on its size and the effect bombing would have on its civilians and the country as a whole. 'The important thing was that no town of any size should consider itself safe', he said, and 'all should know that they were on the list.' Perhaps awed by the charisma of Trenchard, all the serving officers present agreed in principle with their father figure – even Peirse, previously the main spokesman for the precision-bombing camp.<sup>50</sup> Trenchard had also sent a memorandum arguing the same point to Churchill the previous month, to which Portal had responded that 'I agree with Lord Trenchard's main thesis that the most vulnerable point in the German nation at war is the morale of her civilian population under

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<sup>47</sup> Bombing directive, Air Vice-Marshal N.H. Bottomley (Deputy Chief of the Air Staff) to Peirse, 9 July 1941. Printed as Appendix 8(xvi) in Webster and Frankland, *The Strategic Air Offensive*, IV, 135-7..

<sup>48</sup> Richards, *The Hardest Victory*, 88.

<sup>49</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 129..

<sup>50</sup> See Appendix 8: Minutes of a meeting on bombing policy held by Chief of the Air Staff, 2 June 1941.

air attack'.<sup>51</sup> The faith of precision bombing's advocates was wavering in the face of the Air Force's institutional bombing mentality.

By February 1942, Bomber Command was ready to adopt area bombing as its primary objective. Peirse had been relieved of his command the previous month, removing from the scene an officer who had lost the confidence of Portal as the bomber force failed to succeed at either precision or area bombing. Although he had made changes in the organisation that would eventually see its misfortunes reversed, and although radar navigation aids and Lancaster bombers were just about to come into operation, he was judged an inappropriate leader for a new era of bombing operations.<sup>52</sup> In this sense, his fate curiously matched Ludlow-Hewitt's. He was to be replaced by an officer who came to have a whole-hearted commitment to area bombing: Harris.

Before Harris arrived at Bomber Command Headquarters, a new bombing directive was issued. Dated 14 February 1942, this stated that the introduction of the radar navigation aid later known as *Gee* was expected to 'confer upon your forces the ability to concentrate their effort to an extent which has not hitherto been possible', and lead to 'a revolutionary advance in bombing technique'. This time of year enabled 'the best effect from concentrated incendiary attacks' to be obtained, and Russian morale would be increased and German morale decreased by resuming 'our offensive on a heavy scale'. Therefore, the directive stated that 'it has now been decided that the primary object of your operations should now be focussed on the morale of the enemy civil population and in particular, the industrial workers.' Just in case there was any potential for misinterpretation by Harris when he arrived at Bomber Command Headquarters, Portal supplemented the directive a few days later with the note that 'I suppose it is clear that the aiming points are to be the built-up areas, *not*, for instance, the dockyards or aircraft factories'.<sup>53</sup> The policy of area bombing – the operational adaptation of Trenchard's beliefs – was now officially the 'primary object' of Bomber Command. It remained so until the end of the war in 1945.

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<sup>51</sup> 'The Present War Situation Mainly in so far as it Relates to Air', Memorandum by Marshal of the Royal Air Force Lord Trenchard, 19 May 1941. Note by Sir Charles Portal, Chief of the Air Staff, on Lord Trenchard's memorandum, 2 June 1941. Printed as Appendices 10(i) and (iv) in Webster and Frankland, *The Strategic Air Offensive*, IV, 194-200.

<sup>52</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 254-7.

<sup>53</sup> Bombing directive, 14 February 1942, Bottomley to Baldwin. Printed as Appendix 8(xxii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 143-8. Minute, Portal to Bottomley, 15 February 1942. Cited Webster and Frankland, *The Strategic Air Offensive*, I, 324.

Although the gloves were certainly coming off during 1941, the old distinction between what the Royal Air Force said publicly and privately remained. In October, Trenchard chaired a meeting of the Parliamentary Air Committee, a more public forum than those he addressed in May and June. There, he stated that ‘every bomb dropped in Germany and upon Germans damages, or hurts, or kills Germans in Germany’. This was no more than stating the obvious. However, he continued that he ‘would always choose towns [to bomb] in which there was definitely a military objective, because if the military objective could be destroyed then that could help in destroying German morale’.<sup>54</sup> Although he had previously advocated bombing towns purely on the grounds that civilians were concentrated there, he now reverted to giving a military justification for bombing that he did not feel at all compelled to give privately. This pattern continued throughout the war. Max Hastings has noted that while Harris was in favour of being completely open with the British public about what Bomber Command was doing in their name to German cities, ‘the Government was more squeamish. From beginning to end of the war, ministers prevaricated – indeed, lied flatly again and again – about the nature of the bomber offensive.’ In 1946, the official refusal to acknowledge the reality of area bombing led a retired wing commander to ask in the House of Commons for ‘a categorical assurance that the work we did was militarily and strategically justified.’ However, from Churchill down, the politicians appeared determined to brush area bombing under the carpet.<sup>55</sup>

Ironically, the technical justification for the timing of area bombing’s final authorisation confirms the existence of the area bombing mentality, for *Gee* could equally have been used to make a renewed attempt at precision bombing. While area bombing did not require the same degree of accuracy as did the precise targets of the Western Air Plans, it still needed considerable concentration in time and space to be successful. As noted above, the directive of 14 February noted that *Gee* was expected to lead to a ‘revolutionary advance in bombing technique’ through increased concentration of force.<sup>56</sup> Max Hastings writes that Bomber Command’s apparent choice at the end of 1941 has traditionally been presented as an either/or: *either* area bombing, *or* no bombing at all. ‘Yet there was a third choice’, he believes: ‘to persist, in the face of whatever difficulties,

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<sup>54</sup> AIR 8/424, Minutes of a meeting of the Parliamentary Air Committee, 15 October 1941.

<sup>55</sup> Hastings, *Bomber Command*, 170-8, 346-7.

<sup>56</sup> Bombing directive, 14 February 1942, Bottomley to Baldwin. Printed as Appendix 8(xxii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 143-8.

in attempting to hit precision targets, supported by the growing range of radio and radar navigational and bomb-aiming targets that were already in the pipeline'.<sup>57</sup> However, the final abandonment of precision bombing in February 1942 was virtually complete. Although the directive of 14 February contained the proviso that *Gee* might make precision bombing possible once again,<sup>58</sup> Harris subsequently paid little heed to this and concentrated on developing the skills required for general area attack.

### **Area Bombing in History**

Hastings's criticism raises the question of traditional interpretations of area bombing's adoption. These overwhelmingly account for the two-and-a-half year gap between the outbreak of war and the adoption of area bombing by claiming that the latter was a tactic of last resort. Bomber Command entered the war in September 1939 committed to the Western Air Plans, which centred on precise bombing of military, industrial and administrative targets and made no mention of civilian morale or area bombing. However, the Plans were impossible to implement under operational conditions, resulting in a great deal of experimentation to find targets that could be profitably attacked without incurring prohibitive losses. Finally, at the start of 1942, the Air Force arrived at area bombing as the only effective employment of Bomber Command's resources.

On the surface, the traditional interpretation of area bombing's adoption works well, as long as the only period under consideration is the duration of the war. Even Webster and Frankland, who consider the entire history of British strategic bombing in greater depth than most other historians of the Second World War offensive, fail to link the development of the area bombing mentality in the early 1920s with the adoption of area bombing in the early 1940s. More cursory surveys of the pre-1939 period note that Trenchard and his successors ingrained a bombing mentality centred around civilian morale in the interwar Royal Air Force, but the time delay between September 1939 and February 1942 implicitly suggests that this played no active role in the actual adoption of area bombing. The type of bombing envisaged by Trenchard in the 1920s, which coincided with popular fears of future warfare, was a massive duel between opposing air forces that bombed each other's cities. This never occurred. Even while the Luftwaffe was doing its best to bomb Britain into submission during the winter of 1940-41, Bomber

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<sup>57</sup> Hastings, *Bomber Command*, 124-5.

<sup>58</sup> Bombing directive, 14 February 1942, Bottomley to Baldwin. Printed as Appendix 8(xxii) in Webster and Frankland, *The Strategic Air Offensive*, IV, 143-8.

Command concentrated the vast bulk of its efforts on precise objectives. Conversely, the Blitz was largely over by the middle of 1941, as the Luftwaffe redeployed eastwards to support the June invasion of the Soviet Union. By the time Bomber Command made civilian morale in German cities its primary objective, the real threat to British cities was past. The implication is that area bombing was adopted purely in response to developments during 1939, 1940 and 1941.

However, the traditional interpretation of area bombing is, at best, only a partial explanation of events. This work has argued that an area bombing mentality pervaded the Royal Air Force more or less continuously between the final year of the First World War and the end of the Second World War. The thirty-month gap between September 1939 and February 1942 does not undermine this argument, because other dynamics influenced the formation of British bombing policy during this time. These factors, while acknowledged in traditional historiography, are not given sufficient weight in explaining the development of area bombing. By taking them into account, two things become clear. Bomber Command's inability to successfully bomb precision targets during this period was a *result* of the area bombing mentality, because the necessary capabilities were not deemed important enough to develop during peacetime. Secondly, February 1942 was not a turning point in bombing policy. Bomber Command gradually adopted and expanded area bombing in accordance with its growing capabilities throughout the August 1940-February 1942 period. The oft-quoted bombing directive of February 1942 did not mark a new strategy, but rather recognised the existence of a *de facto* one.

The inability of Bomber Command to successfully attack precise targets in 1939, 1940 and 1941 is reflective of the area bombing mentality's pervasiveness throughout the 1930s. Because of the time lag in aircraft development, the capabilities of various British bombers reflected prevailing currents of opinion half a decade before they saw active service.<sup>59</sup> In 1939, therefore, Bomber Command went to war largely equipped with aircraft conceived in the early-to-mid 1930s, when the Air Ministry expected to follow a Trenchardian strategy in wartime that focussed on the destruction of civilian morale. The fifty-three squadrons of Bomber Command in September 1939 consisted of fifteen

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<sup>59</sup> The usual period between the issuing of an Air Ministry specification and the arrival in quantity of operational aircraft was between 5 and 7 years. M. M. Postan, D. Hay, and J. D. Scott, *Design and Development of Weapons: Studies in Government and Industrial Organisation* (London: H.M.S.O.: Longmans Green and Co., 1964), 499.

squadrons of Battles (the result of a 1932 Air Ministry specification), ten each of Wellingtons (1932), Hampdens (1932), and Blenheims (1935), and eight of Whitleys (1934).<sup>60</sup> When war came and precision bombing was the order of the day, these aircraft made up the front line of Bomber Command and were incapable of successfully fulfilling the changed operational requirements emphasising accurate precision bombing. Even though the five years between 1934 and 1939 had seen a massive expansion of the British bomber force, ‘it was some time before the Air Ministry knew exactly what kind of a bombing force it desired to make. Yet even so’, write Webster and Frankland, ‘Bomber Command entered the war with a force inadequate for its tasks and exercised little direct effect on the course of the struggle during its first two years.’<sup>61</sup> In the absence of any firm idea on the Air Staff’s part as to its wartime strategy, the area bombing mentality had sub-consciously shaped the re-equipment and expansion of the bomber force.

Ironically, the very bombers which enabled the area offensive to be so successful originated in 1936 requirement specifications – a time when the Air Staff was beginning to consider a precision bombing strategy. The proposed expansion Scheme ‘J’, even though the Cabinet rejected it in December 1937, marked a firm decision by the Air Staff to concentrate on rearming Bomber Command with the new generation of heavy bombers that were to undertake the area offensive in the second half of the war. All dating from 1936 specifications, these were the four-engine Stirling, Halifax, and Lancaster types.<sup>62</sup> When the earlier generation of medium bombers was found wanting in the first two years of the war, the forthcoming ‘heavies’ were viewed as something of a saviour for Bomber Command. Yet they, too, were designed for massed attacks on large targets, and this capability became a self-fulfilling prophecy. ‘Once having gotten into the war, what should be done with Bomber Command and its coming new four-engined monsters capable of bombing Berlin? This was a major policy dilemma’, wrote Robin Higham in 1966.<sup>63</sup> It had a self-fulfilling answer: ‘bomb Berlin’ in massive area attacks.

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<sup>60</sup> These figures include operational and non-operational squadrons, including ten squadrons of Battles under the command of the Advanced Air Striking Force (based in France) and a further Battle squadron under the control of Fighter Command. See Bomber Command Order of Battle, 27 September 1939, printed as Appendix 38(a) in Webster and Frankland, *The Strategic Air Offensive*, IV, 400-2. Information about the respective aircraft types comes from F. K. Mason, *The British Bomber since 1914* (London: Putnam, 1994), 263-310.

<sup>61</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 65.

<sup>62</sup> The Lancaster evolved from the unsuccessful 2-engined Manchester, designed to a 1936 specification. Webster and Frankland, *The Strategic Air Offensive*, I, 65-76. Information about the respective aircraft types comes from Mason, *The British Bomber since 1914*, 311-61.

<sup>63</sup> Higham, *The Military Intellectuals in Britain: 1918-1939*, 197-9.

Had the Royal Air Force not been imbued with a longstanding area bombing mentality, it is inconceivable that it would have been as poorly prepared to launch precision bombing operations in September 1939 as it was. In 1923, Trenchard had institutionalised his personal views regarding bombing which were ultimately to guide the area offensive in the 1940s: aircraft were fundamentally weapons of offence that could undermine an enemy's war effort by attacking the morale of its civilian population.<sup>64</sup> Trenchard's importance to establishing the framework within which future members of the Air Staff though was such that had he been strongly attached to precision bombing, it is reasonable to expect that Bomber Command would have been much better-placed to undertake by 1939. Even if he had not been so committed as to create a 'precision bombing mentality' in the Air Force, the *absence* of a dogmatic area bombing mentality might have instead instilled the institution with a more enquiring mindset that encouraged rational testing and consideration of its doctrine. It is worth noting that the Mosquito bomber – 'the most efficient and versatile [aircraft] of the whole war', in Webster and Frankland's words – was almost unanimously unwanted by senior Air Ministry officers and its full possibilities not seen for several years by the Air Ministry.<sup>65</sup> However, the initially unwanted and unloved aircraft became a crucial component of Bomber Command's low-level target marking capability. This role was essentially precision bombing: it required very precise dropping of target indicator bombs to indicate the location of a target in the dark for the main force of bombers to aim at.<sup>66</sup> The Mosquito's development and success, in spite of such official indifference, suggests that much greater precision bombing capability could have resulted had precision bombing been seen as a true priority for an extended period of time. This proposition is worthy of considerable further examination.

## Conclusion

Although various factors prevented an immediate application of a Trenchardian aerial offensive upon the outbreak of war, the area bombing mentality remained a guiding force in the formation of British air strategy throughout the Second World War. The same

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<sup>64</sup> See 'Rebuilding the Bomber Force' in Chapter Three, and the accompanying references to AIR 19/92, Minutes of Conferences held in Chief of the Air Staff's room, July-August 1923.

<sup>65</sup> Webster and Frankland, *The Strategic Air Offensive*, I, 72. Both the official disdain initially felt for this aircraft, and the fact that it had virtually a single high-ranking champion, Air Member for Research and Development Sir Wilfrid Freeman, can be seen in its nickname, 'Freeman's Folly'.

<sup>66</sup> Webster and Frankland, *The Strategic Air Offensive*, III, 307. Webster and Frankland go on to state that while more Mosquitoes could certainly have been built, they could never have replaced the heavy bombers, even the Lancasters, in Bomber Command. However, this presupposes that they would have been used in the same area bombing role. The versatility of a large force of Mosquitoes would most likely have opened many other options to Bomber Command.

reasons that led to the adoption of a precision-bombing strategy in the late 1930s – military incapability and political disquiet – resulted in a highly restricted bombing policy during the first year of the war. However, as soon as Germany set a precedent and bombed London in August 1940, Bomber Command increasingly adopted city bombing in accordance with its expanding capacity to do so. Through 1941, as it became evident that successful night precision bombing was impossible under prevailing circumstances, area bombing became the norm as this was the instinctive strategy for the Royal Air Force. In February 1942, area bombing was officially recognised in an Air Staff directive to Bomber Command, and the destruction of civilian morale was made its primary purpose.

Successfully accounting for the delay between the outbreak of war and the adoption of area bombing shows that the area bombing mentality was an active influence upon the formation of bombing policy. Traditional historiography, generally taking up the story when the Air Force was formally devoted to precision bombing, fails to appreciate this. Accordingly, area bombing is interpreted as the result of a long experiment in strategic bombing which showed that massed night attacks upon town-sized targets was the only achievable strategy for Bomber Command. However, this is an unsatisfactory explanation for a policy that was to be persevered with long after alternatives appeared later in the war, such as accurate methods of night precision bombing and Allied daylight air superiority that allowed Bomber Command to return to daytime operations. Although these conditions did not appear until late in the war, it is worth noting that two-thirds of the one-and-a-half million tons of bombs dropped during the war in Europe by British and American strategic bombers was dropped between June 1944 and May 1945.<sup>67</sup> The existence of an unbroken area bombing mentality in the Royal Air Force since the end of the First World War offers the best explanation for the area offensive in the Second World War, and the delay in implementing it can be quite adequately explained.

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<sup>67</sup> 1,054,221 tons of bombs were dropped during this period, out of a total war amount of 1,578,482 tons. Calculated from 'Tonnes of Bombs Dropped by the R.A.F. Bomber Command and the U.S. Eighth Air Force 1939-1945', printed as Appendix 44 in Webster and Frankland, *The Strategic Air Offensive*, IV, 454-7. See also chapter XIII, 'New Operational Skills', covering the period March 1944-May 1945, in Webster and Frankland, *The Strategic Air Offensive*, III, 121-205.

## The Roots of Area Bombing

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The area bombing policy adopted by the Royal Air Force in 1942 had roots a quarter of a century deep. Its earliest origins are to be found in British long-range bombing during the latter part of the First World War. In the early 1920s, the mentality of Trenchard was institutionalised with the formation of a large Home Defence Air Force, designed to defeat a European enemy by bombing its cities and breaking the morale of its civilian population. For the remainder of the interwar period, the area bombing mentality was sustained through operations, exercises, and development of strategy within the Air Force. Ironically, Britain went to war in 1939 with a bomber force committed to the attack of precise industrial and military targets, but this was a temporary anomaly. Bomber Command was designed to attack urban areas, and could not successfully attack the smaller targets forced upon it during the first year of the war. Even once external constraints on bombing were not as strong, however, the bomber force was still too weak to launch a Trenchardian offensive against German cities. During 1941, it gradually developed the capability to do this, and area bombing became the primary focus of its operations by the beginning of 1942. The Royal Air Force's predisposition to this type of bombing was realised in the strategy of Bomber Command between 1942 and 1945.

Such an interpretation runs counter to sixty years of historiography. While historians have long debated the achievement of area bombing and its moral justification, the field has shown a surprising lack of interest in the origins of area bombing. However, the suggestion that the origins of this offensive go back to the First World War, and were sustained in the intervening two decades, has significant implications for the debate. Area bombing was adopted, not only in response to the war situation in 1940, 1941 and 1942, but also as the result of a mentality that was created on the back of a handful of long-range bombing missions in the First World War. This mentality was sustained by the bureaucratic imperative for the Royal Air Force to have an independent mission befitting its independent status. The fact that historians have not found this worthy of comment, even after consulting the same documentary evidence that is the basis of this dissertation, is astonishing.

Some authors have suggested that Anglo-American airpower historians share an uncommonly narrow background. Frequently, this features a personal connection to the subject and results in overly-favourable historical evaluation. ‘A long standing difficulty in air history is that most air historians have also been air protagonists, not inclined to tarnish the image the various air forces have so carefully cultivated to strengthen their credibility as independent entities’, writes one author.<sup>1</sup> Decades on, bureaucratic reasons for advocating area bombing still appear to be clouding the judgement of professional historians when considering that its origins may have been slightly less straightforward than has traditionally been acknowledged.

Area bombing is still a controversial topic, both because hundreds of thousands of people died as a result of it, and because it was a major part of a war effort that led to a victory which is central to British national identity. Even in the 1990s, a new statue of Sir Arthur Harris in London was daubed with red paint to signify the blood of German civilians supposedly on his hands.<sup>2</sup> In this sense, perhaps not enough time has passed since Bomber Command’s area bombing campaign for a definitive evaluation of it to be made. However, full understanding of the campaign is impossible without being aware of its origins. Hopefully, this initial study will lead to a comprehensive examination of these origins that enables the area bombing debate to be fully informed.

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<sup>1</sup> S. Harris and B. Greenhous, 'British and Commonwealth Air Forces', *Aerospace Historian*, 31/1, 1984), 51, cited Robertson, *The Development of RAF Strategic Bombing Doctrine*, xxv. See also J. R. Ferris, 'The Air Force Brats' View of History: Recent Writing and the Royal Air Force, 1918-1960', *The International History Review*, xx/1 (Mar. 1998), 119.

<sup>2</sup> R. J. Overy, 'Harris, Sir Arthur Travers, First Baronet', in H. C. G. Matthew, Brian Howard Harrison, and British Academy (eds.), *Oxford Dictionary of National Biography: From the Earliest Times to the Year 2000*, 61 vols. (Oxford; New York: Oxford University Press, 2004), vol. 25, 405.

## Appendix 1

### Smuts Report on Air Organisation, August 1917.

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#### ***Second Report of the Prime Minister's Committee on Air Organization and Home Defence against Air Raids, 17 August 1917.<sup>1</sup>***

1. The War Cabinet at their 181<sup>st</sup> Meeting, held on 11<sup>th</sup> July 1917, decided –  
‘That the Prime Minister and General Smuts, in consultation with representatives of the Admiralty, General Staff and Field-Marshal Commanding-in-Chief, Home Forces, with such other experts as they may desire, should examine –

- (1) The defence arrangements for Home Defence against air raids.
- (2) The air organization generally and the direction of aerial operations.’

[...]

5. The time is, however, rapidly approaching when that subordination of the Air Board and the Air Service could no longer be justified. Essentially the position of an Air service is quite different from that of an artillery arm, to pursue our comparison; artillery could never be used in war except as a weapon in military or naval or air operations. It is a weapon, an instrument ancillary to a service, but could not be an independent service itself. Air service on the contrary can be used as an independent means of war operations. Nobody that witnessed the attack on London on 11<sup>th</sup> July could have any doubt on that point. Unlike artillery an air fleet can conduct extensive operations far from, and independently of, both Army and Navy. As far as can at present be foreseen there is absolutely no limit to the scale of its future independent war use. And the day may not be far off when aerial operations with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale may become the principal operations of war, to which the older forms of military and naval operations may become secondary and subordinate. The subjection of the Air Board and service could only be justified on the score of their infancy. But that is a disability which time can remove, and in this respect the march of events has been very rapid during the war. In our opinion there is no reason why the Air Board should any longer continue in its present form as practically no more than a conference room between the older services, and there is every reason why it should be raised to the status of an independent Ministry in control of its own war service.

6. The urgency for the change will appear from the following facts. Hitherto aircraft production has been insufficient to supply the demands of both Army and Navy, and the chief concern of the Air Board has been to satisfy the necessary requirements of those services. But that phase is rapidly passing. The programme of aircraft production which the War Cabinet has sanctioned for the following twelve months is far in excess of Navy and Army requirements. Next spring and summer the position will be that the Army and Navy will have all the Air Service required in connexion with their operations; and over and above that there will be a great surplus available for independent operations. Who is to look after and direct the activities of this available surplus? Neither the Army nor the Navy is specially competent to do so; and for that reason the creation of an Air Staff for planning and directing independent air operations will soon be pressing. More than that: the surplus of engines and machines now being built should have regard to the strategical purpose to which they are going to be put. And in settling in advance the types to be built the operations for which they are intended apart from naval or military use should be clearly kept in view. This means that the Air Board has already reached the stage where the settlement of future war policy in the air war has become necessary. Otherwise engines and machines useless for

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<sup>1</sup> Raleigh and Jones, *The War in the Air*, Appendices, 8-14, app. II.

independent strategical operations may be built. The necessity for an Air Ministry and Air Staff has therefore become urgent.

7. The magnitude and significance of the transformation now in progress are not easily realized. It requires some imagination to realize that next summer, while our Western Front may still be moving forward at a snail's pace in Belgium and France, the air battle-front will be far behind on the Rhine, and that its continuous and intense pressure against the chief industrial centres of the enemy as well as on his lines of communication may form an important factor in bringing about peace. The enemy is no doubt making vast plans to deal with us in London if we do not succeed in beating him in the air and carrying the war into the heart of his country. The questions of machines, aerodromes, routes, and distances, as well as nature and scope of operations require careful thinking out in advance, and in proportion to our foresight and preparations will our success be in these new and far-reaching developments. Or take again the case of a subsidiary theatre; there is no reason why we may not gain such an overpowering air superiority in Palestine as to cut the enemy's precarious and limited railways communications, prevent the massing of superior numbers against our advance, and finally to wrest victory and peace from him. But careful staff work in advance is here in this *terra incognita* of the air even more essential than in ordinary military and naval operations which follow a routine consecrated by the experience of centuries of warfare on the old lines.

The progressive exhaustion of the man-power of the combatant nations will more and more determine the character of this war as one of arms and machinery rather than of men. And the side that commands industrial superiority and exploits its advantages in that regard to the utmost ought in the long run to win. Man-power in its war use will more and more tend to become subsidiary and auxiliary to the full development and use of mechanical power. The submarine has already shown what startling developments are possible in naval warfare. Aircraft is destined to work an even more far-reaching change in land warfare. But to secure the advantages of this new factor for our side we must not only make unlimited use of the mechanical genius and productive capacity of ourselves and our American allies, we must create the new directing organization, the new Ministry and Air Staff which could properly handle this new instrument of offence, and equip it with the best brains at our disposal for the purpose. The task of planning the new Air Service organization and thinking out and preparing for schemes of aerial operations next summer must tax our air experts to the utmost and no time should be lost in setting the new Ministry and Staff going. Unless this is done we shall not only lose the great advantages which the new form of warfare promises but we shall end in chaos and confusion, as neither the Army or Navy nor the Air Board in its present form could possibly cope with the vast developments involved in our new aircraft programme. Hitherto the creation of an Air Ministry and Air Service has been looked upon as an idea to be kept in view but not to be realized during this war. Events have, however, moved so rapidly, our prospective aircraft production will soon be so great, and the possibilities of aerial warfare have grown so far beyond all previous expectations, that the change will brook no further delay, and will have to be carried through as soon as all the necessary arrangements for the purpose can be made.

[...]

9. To secure efficiency and smooth working of the Air Service in connexion with naval and military operations, it is not only necessary that in the construction of aircraft and the training of the Air personnel the closest attention shall be given the special requirement of the Navy and the Army. It is necessary also that all Air units detailed for naval or military work should be temporarily seconded to those services, and come directly under the orders of the naval or army commanders of the forces with which they are associated. The effect of that will be that in actual working practically no change will be made in the air work as it is conducted to-day, and no friction could arise between the Navy or Army commands and the Air Service allotted to them...

[...]

11. In conclusion, we would point out how undesirable it would be to give too much publicity to the magnitude of our air construction programme and the real significance of the changes in organization now proposed. It is important for the winning of the war that we should not only secure air predominance, but secure it on a very large scale; and having secured it in this war we should make every effort and sacrifice to maintain it for the future. Air supremacy may in the long run become as important a factor in the defence of the Empire as sea supremacy. From both these points of view it is necessary that not too much publicity be given to our plans and intentions which will only have the effect of spurring our opponents to corresponding efforts. The necessary measures should be defended on the grounds of their inherent and obvious reasonableness and utility, and the desirability of preventing conflict and securing harmony between naval and military requirements.

## Appendix 2

### Sykes Report on Air Strategy, June 1918.

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#### ***Review of Air Situation and Strategy for the Information of the Imperial War Cabinet by the Chief of the Air Staff, 27 June 1918.<sup>1</sup>***

##### I. General conclusions and recommendations in regard to Air Force possibilities and requirements.

[...]

The superior industrial resources, and consequent powers of munitionment [*sic.*] of the Allies, have now brought within reach the possibility of definitely changing the character of air strategy from the defensive to the offensive by adding the direct long-range offensive to the present defensive role. It is the intention of the Air Staff to bring about this change with the least possible delay, and to carry out a vigorous offensive against those root industries upon which depend the entire naval and military endeavour of the Central Powers. This strategy will in fact be a form of “strategic interception”. This consists in holding down the enemy’s forces in the field, while simultaneously striking at his lines of communication, bases of supply well in rear, and in addition aiming to break down the moral of his nation.

“Strategic interception” has not been frequent in history owing to the great relative skill demanded of the leader, combined with great mobility and efficiency of the troops under his command. It is the ideal strategy for the new arm – the Air Force.

The present war certainly can only finally be won on land. Territory must be occupied, and towns held by troops. The necessity of maintaining adequate air forces to co-operate with our navy and armies is not lost sight of. That is an essential component of the strategy outlined. But it is urged that we have it within our power to ensure sufficient defensive air strength and to build up at the same time a strong long-range arm, a striking force to carry out such an offensive as may indeed pierce into the moral and physical centres of the enemy’s being.

[...]

A review of the possibilities of strategic attack by long-range striking forces of aircraft results in the inevitable conclusion that such attacks, if carried out in sufficient strength, will achieve the following results in the shortest time:-

- (a) Dislocate the Munition industries which lie at the root of all German military endeavour, and thus paralyse the German military machine.
- (b) Deal a heavy blow at the submarine, and so afford a tremendous assistance to a more complete sea supremacy.
- (c) Bring about far-reaching moral and political effects in Germany, the heart and brain of the Central Powers.

The conclusions arrived at are:-

That the development of air power affords the best and most rapid return for the expenditure of national resources of man-power, material, and money.

That, as the offensive is the dominant factor in war, so is the strategic air offensive the dominant factor in air power.

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<sup>1</sup> AIR 9/8. Chief of the Air Staff: Major-General Sir Frederick Sykes.

That the air power of the Allies, if developed, organised, and co-ordinated, can be accepted even now as the most probably determining factor for peace.

Recommendations.

1. That priority shall be given to men and material for the Royal Air Force.
2. That Naval and Military Air requirements shall be cut down to a minimum consistent with the maintenance of air supremacy in the battle zones, in order that the long-range Striking Force of air power shall be developed as rapidly as possible.
3. That every effort shall be made to induce the Allies to fall into line with this policy.

II. Employment of Air Force attached to Armies.

The supreme necessity of aircraft to an army, whether in attack or defence, in modern warfare, is a point which does not at this time require to be reviewed.

The Royal Air Force is called upon to co-operate with armies in an ever-increasing number of roles – Reconnaissance, photography, observation of artillery fire, location of hostile batteries, contact patrols with infantry, counter-attack patrols, bomb attacks on communications, and - a role which has recently much increased in importance - machine-gun and bomb attacks on enemy troops and transport by large concentrations of machines flying at low heights, anti-tank defence, inter-communication – these duties are indispensable to an army in the field, and are regularly carried out.

It is not possible within the scope of this paper to describe in any detail the large and ever-increasing work of the Royal Air Force co-operating with the armies in the field. A fuller review of this aspect is given in Appendix “A.”

Aircraft are at present co-operating with our armies in France, Italy, Salonica, Palestine, and Mesopotamia. In India there is a small nucleus of air force consisting of about 1 1/2 squadrons available to co-operate on the frontier. It is interesting to glance at the growth of the Air Service in these various theatres. In 1914 we had in France a total of four squadrons, today there are 74, with their innumerable necessary auxiliary units. Elsewhere in 1914 there was nothing except a single flight of aeroplanes which was collected locally in Egypt. Egypt has formed the nucleus of expansion for the Middle East. There are 11 training squadrons and flying schools in that country, and this number is now being increased to a total of 21. There are also large repair bases, a considerable aircraft depot, two aircraft parks, and three wing repair sections. In Palestine there are five squadrons, in Salonica three squadrons, and in Mesopotamia three squadrons. With the exception of Palestine, which is dependent upon Egypt for supply, these theatres have their own aircraft parks and other echelons of supply and repair. Egypt has also detached flights during the past two years to co-operate with the King of the Hedjaz in Arabia, with the Egyptian Army in Darfur, and with troops operating against the Senussi in the Western Desert.

The squadron which carried out so much useful work in East Africa was withdrawn last summer. The greater part of the personnel for this squadron was supplied by South Africa.

Italy is a comparatively new theatre. A brigade of the Royal Flying Corps accompanied the British troops which were sent there last September. This brigade was shortly afterwards reduced to a wing of four squadrons. It has been of the greatest value to the Italian armies and to our own troops in Italy during the present fighting.

III. Employment of Air Force attached to Sea Forces.

At the outbreak of war, the total strength of the Naval Wing, R.F.C., was a heterogeneous collection of 41 aeroplanes and 51 seaplanes, located at six different stations in Great Britain. Bases were shortly after established at Ostend, Antwerp, and Dunkirk, but with the exception of

fitting out five makeshift seaplane carriers, which carried out one or two raids, no serious co-operation with the Navy was attempted in 1914.

Numerous additional stations were, however, established along the coast for patrol purposes, and a number of inland stations were provided for training and for the defence of London.

It was not until the Dardanelles Campaign, where the whole of the air work was carried out by Units of the Naval Wing, that any serious aircraft co-operation with the Fleet was attempted.

Turning to the present, as regards the Fleet, aircraft are now recognised as an essential auxiliary.

It may be laid down that already the importance of aircraft in a Naval action is that the Fleet provided with the more efficient and larger force may, although numerically weaker in surface vessels, at least escape defeat and possibly gain a victory.

There are now 14 aircraft carriers, and an ever growing number of battleships and cruisers are being fitted to carry one or more aeroplanes for reconnaissance or fighting work. The machines fly from the decks or tops of turrets. The total number of aeroplanes and seaplanes allotted to the Grand Fleet is 350. In addition, large flying boats are employed from Bases on the North and East Coasts for reconnaissance of the Heligoland Bight, or on patrol work over the northern barrage. At present 52 kite balloons are employed with the fleet in anti-submarine work and spotting for gun-fire, and this number is increasing.

The second great function of aircraft with sea forces is to assist in the anti-submarine campaign. The successful results obtained have led to the establishment of some 45 aeroplane and seaplane stations around the British Isles. The aggregate strength of those is 43 Flights of seaplanes, and 30 of aeroplanes.

There are also 9 large and 7 small airship station, with a total of 76 airships of all types. These, except for the provision of personnel, are not under the control of the Air Ministry. It is the intention of the Admiralty to try and increase considerably the number of airships employed.

In the Dunkirk-Dover group eight aeroplane squadrons are at present employed: their work consists principally in bombing the submarine bases on the Belgian coast and in assisting to maintain the Dover barrage.

The present strength in the Mediterranean amounts to a total of six squadrons of aeroplanes and seaplanes. These are employed mainly on anti-submarine work, but reconnaissance and attacks on the Austrian bases and Dardanelles are also carried out. An airship station is established at Cassandra, and one is projected for Malta. A certain number of kite balloon stations have been established and more are projected with a view to the development of convoy escort work.

As regards the future it would appear that, owing to minefields and submarines, fleet action is very much hampered. It is hoped that the development of aircraft co-operation will give the fleet greater power of manoeuvre and thus facilitate its offensive role. The development of long range bombing attacks upon the enemy fleet bases will also have far-reaching results.

#### IV. Employment of Air Force as a Strategic Striking Arm.

The first strategic striking force came into being in October last in the shape of three squadrons. It was established in response to a popular demand for air raid reprisals. These squadrons have been used chiefly against the German ironworks in the Lorraine basin and against the German chemical industries in the vicinity of Mannheim. The force is still too small to achieve important material results, but the moral effects of these reprisal raids has been considerable. It is also to be noted that these attacks have caused a marked increase in anti-aircraft defence, entailing the immobilising of personnel and materiel. This small force has been taken as one nucleus upon which, in accordance

with the new policy of the Air Staff, it is proposed to build up a proportion of a great strategic striking force. Arrangements are also being made to form, as soon as possible, a second portion of this striking force which will operate from a base in Norfolk and will have a still wider range. It is hoped that considerable results will be obtained by the first of these forces by the end of this year and that both will be in really effective operation by June 1919.

The objectives of these forces may be classified as follows:

- (A) Attacks on sources of munition supply, with the object of crippling the enemy's land forces operating in every theatre of war, but firstly and more particularly on the Western Front.
- (B) Attacks on the submarine equipment factories and submarine shipbuilding yards, with the object of striking the submarine menace at its root.
- (C) Numerous attacks by small forces on all the larger cities of Germany with the object of obtaining the most widespread dislocation of municipal and industrial organisation.

Although it is convenient to bear in mind these three aims, the means of carrying them out will necessarily interact, and it will be difficult to assign any particular operation wholly to one or another.

As regards (A)...

[...]

With regard to (B)...

[...]

As regards (d)<sup>2</sup> Widespread attacks to obtain dislocation. The aim of such attacks would be to sow alarm broadcast,<sup>3</sup> set up nervous tension, check output, and generally tend to bring military, financial, and industrial interests into opposition. For instance, the destruction of mercantile shipping and of the vast accumulation of merchandise at Hamburg would probably result in considerable pressure being applied to the military authorities. The wholesale bombing of densely populated industrial centres would go far to destroy the morale of the operatives. The bombing of Berlin would plunge the whole of Central Germany into darkness, and would result in a widespread and far-reaching demand for anti-aircraft defences, –anti-aircraft guns, machine guns, balloon barrages, searchlights, &c., a demand which could only be complied with at the expense of the armies at the front. Such an operation would also entail a national outburst of criticism against the military air service administration.

After careful study of all the above considerations, and the present programmes of production and personnel supply, the following lines of action for the strategic bombing of Germany have been decided upon.

A certain amount of strength is necessary before a radical dislocation of industries is possible, and although this amount cannot be made available before the spring of next year, it is urged that much may and must be done this year. The advantages of attacking this year may be summarised as follows:- The approach of winter will bring about a decline in the moral of all belligerents. Strategic attacks upon Germany will have their maximum moral effect at such a period, and will react favourably upon the Allies. If the present German effort fails the reaction in Germany will be very great. We should aim to synchronise strategic air attacks with this reaction.

The greatest effort will therefore be made to speed up in every possible way the development of the striking force in order to be able to strike before the winter.

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<sup>2</sup> Presumably, referring to (C).

<sup>3</sup> *sic*.

It is proposed broadly that at first the Ochey force shall operate against the chemical industrial groups of Mannheim and Frankfort, and against the steel industries in the Lorraine basin. When the long-distance bombers begin to operate from England, attacks will be made on Hamburg and Berlin, and possibly upon Hannover, Cassel, and Madgeburg. These attacks will continue until sufficient strength is forthcoming to undertake systematic attacks upon root industries.

[...]

V. Employment of Air Force for Home Defence.

[...]

VI. Methods necessary to develop Air Power.

[...]

If properly organised and developed, there is no doubt whatever that the Air Forces of the Empire will remain the dominant factor in aerial warfare during 1919. We must also aim at a co-ordination of effort of all the Allies and help America in every possible way to develop her air power. Our resources, as well as those of our European Allies, are to a large extent limited by the size of the armies already in the field, and by the amount of man-power and warlike material necessary to maintain them. America on the other hand is still largely unfettered regarding her policy for the future, she has already enrolled large numbers of men, but the inevitable commitments of replacing wastage are not yet within measurable distance of hampering her expansion in other directions. Potentially, America may represent 50 per cent of the Allied Air Force in 1919. It must be our aim to help to bring this force into being so that the Allies will be in a position to deliver by June 1919 a really smashing aerial offensive against the Germany vitals.

## Appendix 3

### Trenchard Despatch on the work of the Independent Force, December 1918.

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***Despatch on the work of the Independent Force, 5<sup>th</sup> June to 11<sup>th</sup> November 1918. Major-General Sir Hugh Trenchard (Commanding Independent Force) to Lord Weir, Secretary of State for Air, 12 December 1918.<sup>1</sup>***

My Lord,

I have the honour to submit the following report on the work of the Independent Air Force from the 5<sup>th</sup> June to the signing of the Armistice on the 11<sup>th</sup> November, 1918.

I have also mentioned in the earlier part of this report the work done in the attack on Germany by the squadrons from a base South East of NANCY before the establishment of the Independent Air Force.

In May 1918, you informed me that you considered it advisable to constitute an Independent Force to undertake the bombing of the industrial centres of Germany.

You further intimated to me that you intended to place the whole of the British effort in attacking Germany from the air under my command and that it would be probable that squadrons would be available to carry out this work from England as well as from the Eastern Area of France.

On the 20<sup>th</sup> May, 1918, I proceeded to the NANCY Area where the 8<sup>th</sup> Brigade R.A.F., under the local command of Brigadier General C.L.N. Newall, consisting of :-

No. 55 Squadron.	De Hav.4.	275 h.p. Rolls Royce.
No. 99 Squadron.	De Hav.9.	200 h.p. B.H.P.
No. 100 Squadron.	F.E.2b.	160 h.p. Beardmore.
No. 216 Squadron.	Handley Page	375 h.p. Rolls Royce.

was already established under Field Marshal Sir Douglas Haig.

With the exception of No. 99 Squadron this Force had been in this area since the 11<sup>th</sup> October 1917.

I took over from Field Marshal Sir Douglas Haig the tactical command of this Force on the 5<sup>th</sup> June, and the administrative and complete control on the 15<sup>th</sup> June, 1918.

From the 11<sup>th</sup> October 1917, to the 5<sup>th</sup> June 1918, this small Force had in spite of a very severe winter carried out no less than 142 raids. 57 of these raids were made in Germany and included night and day attacks on COLOGNE, STUTTGART, MANNHEIM, MAINZ and COBLENZ. Long distance raids had also been carried out against NAMUR, CHARLEROI and LEIGE in order to help in attacking the enemy's communications to the Western Front.

[...]

My first work was to at once push on and arrange for the accommodation of a Force in the neighbourhood of 60 squadrons. This was a much larger task than may appear at first sight.

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<sup>1</sup> AIR 6/19.

The country is throughout hilly and woody and where there are any level places they consist of deep ridge and furrow, there being as much as three feet six inches between furrow and ridge.

The aerodromes had to carry heavy machines and heavy bomb loads; in order to enable this to be done, draining work on a large scale had to be very carefully carried out, and arrangements had to be made for a large installation of electrical power for workshops and lighting and petrol in order to save transport.

This work was practically completed by the 1<sup>st</sup> November, 1918.

It will be within your recollection that in the past I had referred to the necessity for equipping the British Expeditionary Force on the Western Front with sufficient aircraft to hold and beat the German Aerial Forces on the Western Front; that the bombing of Germany was a luxury till this had been accomplished, but that once this had been accomplished it became a necessity. That is to say it became necessary to attack what I may call the German Army in Germany and to strike at its most vital point, its sources of supply, and the Independent Force was formed with this object.

The question I had to decide was how to use this Force in order to achieve the object, i.e. the breakdown of the German Army in Germany, its Government and the crippling of its sources of supply.

The two main alternative schemes were :-

1. A sustained and continuous attack on one large centre after another until each centre was destroyed and the industrial population largely dispersed to other towns, or
2. To attack as many of the large industrial centres as it was possible to reach with the machines at my disposal.

I decided on the latter plan for the following reasons :-

- (i) It was not possible with the Forces at my disposal to do sufficient material damage so as to completely destroy the industrial centres in question.
- (ii) It must be remembered that even had the Force been still larger it would not have been practical to carry this out unless the war had lasted for at least another four or five years, owing to the limitations imposed on long range bombing by the weather.

The weather during June, July and August was extremely favourable for long distance bombing, but during September, October and the first ten days of November it could have hardly been worse for this particular work. Day after day attempts were made to try to reach the long distance targets but the wind was generally too strong, or if there was no wind heavy rain and fog prevailed by day and dense mist by night which lasted often until 10 or 11 o'clock the next morning. Often the nights were perfect, but dense white mist completely obliterated the ground making it impossible for machines to ascend.

Besides this there are always a large number of technical difficulties to overcome which still further interfere with the continuity of long range bombing.

By attacking as many centres as could be reached the moral effect was first of all very much greater, as no town felt safe, and it necessitated continued and thorough defensive measures on the part of the enemy to protect the many different localities over which my force was operating.

At present the moral effect of bombing stands undoubtedly to the material effect in a proportion of 20 to 1, and therefore it was necessary to create the greatest moral effect possible.

I also recommended, as you will recollect, that the proportion of day bombing squadrons in the Force should be slightly larger than that of night bombing squadrons, as I considered that although day bombing squadrons suffer higher casualties than night bombing squadrons, at the same time if day bombing is excluded at least four fifths of the value of night bombing must be necessarily be wasted owing to the fact that the enemy can then make his arrangements to work by day and live and a distance by night, and take many other similar defensive steps.

Also, if the bombing had been carried out exclusively by night it would not have caused the enemy to make such a large use of his men and material in defensive measures, and therefore it would not have affected the Western Front to such an extent as it did.

Though night bombing is the safer, many mistakes are made at night in reaching the locality it has been decided to bomb.

My Intelligence Department supplied me with the most thorough information on all targets such as gas factories, aeroplane factories, engine factories, poison gas factories, etc., each target having a complete detailed and illustrated plan, and maps were prepared of every target that was within reach. These were supplemented in a large way by the aerial photographs taken by reconnaissance machines.

Before it was possible to attack Germany successfully it was necessary to attack the enemy's aerodromes heavily in order to prevent his attacking our aerodromes by night and by destroying his machines to render his attacks by day bombers efficacious. I considered that it was probable during the Spring and early Summer of 1919 that at least half my Force would be attacking the enemy's aerodromes whilst the other half carried out attacks on long distance targets in Germany.

It was also necessary several times during the period the force operated to carry out attacks in conjunction with the Armies on the enemy's communications.

I also had to decide when it was impossible for squadrons to reach their objectives well in the interior of Germany what alternative objects should be attacked and which attacks would have the greatest effect in hastening the end of hostilities. I decided that railways were first in order of importance and next in importance the blast furnaces.

The reason of my decision was that the Germans were extremely short of rolling stock and also some of the main railways feeding the German Army in the West passed close to our front and it was hoped that these communications would be seriously interfered with, and the rolling stock and trains carrying reinforcements or reliefs or munitions destroyed. They were also fairly easy to find at night.

I chose blast furnaces for the second alternative targets as they were also easy to find at night although it was difficult to do any really serious damage to them owing to the smallness of the vital part of the works.

On my arrival in the NANCY Area the 8<sup>th</sup> Brigade consisted of those squadrons shown on page 1.<sup>2</sup> Additional squadrons arrived on the dates as shown :-

No. 104 Squadron.	De. Hav. 9.	B.H.P.	23 <sup>rd</sup> May.
No. 97 Squadron.	Handley Page.	Rolls Royce.	9 <sup>th</sup> August.
No. 215 Squadron.	Handley Page.	Rolls Royce.	19 <sup>th</sup> August.
No. 115 Squadron.	Handley Page.	Rolls Royce.	31 <sup>st</sup> August.
No. 110 Squadron.	De. Hav. 10.	Liberty.	31 <sup>st</sup> August.
No. 45 Squadron.	Sopwith Camel.		22 <sup>nd</sup> September.

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<sup>2</sup> i.e., page 128 above.

It must be remembered that new squadrons could not be used for work over the line until three weeks after their arrival, as during this period they were receiving their final training.

No. 45 Squadron was intended to attack the enemy's scouts many miles over the line. It was necessary to re-equip this squadron with longer range scouts after I received it, but as these machines did not arrive before the Armistice was signed the squadron was only used for attacking individual hostile machines which crossed our lines.

During August No. 100 Squadron which was armed with F.E.2b. short distance machines commenced re-equipping with Handley Pages. While it was being re-equipped, which process took nearly the whole month, scarcely any work could be carried out by the squadron.

Below are a few interesting figures :-

The total weight of bombs dropped between the 6<sup>th</sup> June and the 19<sup>th</sup> November was 550 tons of which 160 tons was dropped by day and 390 tons by night. Of this amount no less than 220<sup>1</sup>/<sub>2</sub> tons were dropped on aerodromes. This large percentage was due to the necessity of preventing the enemy's bombing machines attacking our aerodromes, and in order to destroy large numbers of the enemy's scouts on their aerodromes as it was impracticable to deal with them on equal terms in the air. I think this large amount of bombing was thoroughly justified when it is taken into consideration that the enemy's attacks on our aerodromes were practically negligible and not a single machine was destroyed by bombing during the period 5<sup>th</sup> June to 11<sup>th</sup> November.

[...]

(sd.) H. Trenchard.

Major General,  
Commanding Independent Force,  
Royal Air Force.

## Appendix 4

### Air Staff Papers for the Committee of Imperial Defence, 1921.

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***(i) The part of the Air Force in the future of Imperial Defence. Paper by the Air Staff for the Committee of Imperial Defence, March 1921.<sup>1</sup>***

A. Defence on the Sea.

[...]

B. Defence on Land.

[...]

C. Defence in the Air.

1. The predominating influence of sea power in the past naturally led to the question of national security being mainly considered by regard to the proportionate strength of the British Navy as compared with that of the next strongest naval Powers. By that standard, the disappearance of the German Fleet would be equivalent to a sufficient assurance of immunity from attack by any continental Powers. But to consider the problem of security from this point of view alone is to ignore the vital change in conditions which has been brought about by the introduction of air power. *The continental menace of the future will be from the air and not from the sea; not from a landing on these islands by armed forces; but from repeated incursions on a large scale by hostile aircraft operating from the sky and returning to their own bases.* This danger cannot be judged by our experience of aerial attack in the last war.

Concentrated and sustained bombing carried on day and night under almost all weather conditions cannot be compared with the spasmodic attacks experienced in the last war. *Unless we can put up an adequate defence we must be prepared for the dislocation of national life to a degree unthought of in the past, and, if our defence is powerless, the national morale will be severely shaken.* The Navy and the Army cannot materially assist us to face this attack, and no improvements in guns or other passive defences will ensure our security. In attack is our best defence, and we must have powerful air squadrons to carry the war into the enemy's country, to attack his forces in the air and his personnel and establishments on the ground, and thus establish our aerial supremacy.

For considerations of war Great Britain is no longer an island, and we are compelled to adjust our views and develop our aerial resources accordingly. In times of peace we cannot contemplate maintaining large striking air forces in England, but equally we cannot rely entirely on these being raised from cadres to meet a threatening situation; such an action would be tantamount to mobilisation and would merely precipitate the conflict. We must have a considerable standing Air Force, and this can only be economically considered if air units are utilised in the more disturbed portions of our Empire in peace; their distribution being altered from time to time in accordance with possibilities of trouble. The safety of our Empire is, to a larger extent than is generally thought, bound up in the existence of air forces and the necessary air routes, and in aircraft development in range and power so that they may be rapidly concentrated in any probably theatre of operations.

[...]

Summary.

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<sup>1</sup> CAB 5/4. Committee of Imperial Defence Paper 135-C.

1. The primary function of the Air Force in the future will be the defence of these islands from invasion by air from the continent of Europe. This defence would largely take the form of counter-offensive from the air, assisted by a ground organisation which should be co-ordinated by the Air Ministry.
2. There are certain responsibilities at present assigned to the Navy and Army which the Air Force is *already* technically capable of undertaking, and for which it may be found economical in the near future to substitute to a greater or less extent Air units for military or naval units. Among these are—
  - (a.) The maintenance of order in certain areas liable to disturbances, such as Mesopotamia, Transjordan and the Indian Frontier.
  - (b.) The protection of the British Islands from overseas invasion.
  - (c.) Coast defence.
  - (d.) Protection of merchant shipping in certain areas.
3. Under present conditions the strength of the Royal Air Force is entirely absorbed by its functions as an auxiliary to the Navy or Army for reconnaissance, observation of fire, intervention in battle, and communications. The proper discharge of these functions, while of vital importance to the effectiveness of the naval and military forces, affords little opportunity for testing the efficacy and comparative cheapness of the Air Force as an independent arm used not as an auxiliary, but as a substitute for naval or military forces.
4. The efficacy of the Royal Air Force as an independent arm should be put to proof by the transference to it of the primary responsibility for the maintenance of order in some area of the Middle East, preferably Mesopotamia. This should be carried into effect without delay.

***(ii) The moral effect on the population of air attacks and the extent to which such attacks would dislocate public business. Memorandum by the Air Ministry for the Committee of Imperial Defence Sub-Committee on the Continental Air Menace, 23 December 1921.<sup>2</sup>***

Moral effect.

1. The moral effect of air attack is out of all proportion to the material effect which it can achieve. The mere sight or sound of an hostile aeroplane [*sic.*] inspires those on the ground with exaggerated forebodings of the damage, in itself considerable, which it is capable of inflicting. It is, therefore, in the moral effect which it can create that the real strength of air attack lies. It is, however, difficult to predict in writing the extent of this effect.

In making provision for the future on the experiences of the past, two points must be taken into consideration:

- (a) the weight of bombs projected on the capital and industrial centres at a moderate estimate will be three hundred and twenty times greater than in the past.
- (b) the attack will be without cessation.

In the latter point lies the important difference. During the late War raids were spasmodic, and often at intervals of over one month. The populace knew that at the end of a raid lasting one hour they could emerge from their places of temporary refuge with the prospect of a week or more free from attack. With the maintenance of continuity in attack, on the other hand, no one will ever feel safe; no “all clear” warnings can be given, for at any moment the next stage of the attack may develop. With this condition of affairs maintained indefinitely by day and by night, with the dislocation of railway traffic and the consequent irregularity of food supplies, it is difficult to imagine that after three weeks or a month of such strain the populace would be in anything but a most demoralised and dangerous condition. In the words of Marshal Foch (Jany. 1920) “Such attack owing to its crushing moral effect on a nation, may impress Public opinion to the point of disarming the Government, and thus become decisive”.

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<sup>2</sup> CAB 16/39.

In any event, even the small and spasmodic air attacks during the late war created considerable moral effect; but, with the exception of a panic in the Midlands on January 1<sup>st</sup>, 1916, which lasted several days, such effect was local and momentary.

Some idea of the moral effect of a raid by a single Zeppelin on Hull in 1915 may be obtained from the extracts from letters to Mr. Balfour written by certain prominent men shortly after the raid. See Appendix A.

Again, an Intelligence Circular, issued by G.H.Q. Home Forces, dated August, 1916, states – “There is little doubt that in certain parts of the country the Zeppelin is now dreaded out of all proportion to what is justified by its achievements in the past”.

The moral effect of the bombing of the Rhine towns by the Independent Air Force in 1918 may be gleaned from the extract from a letter contained in Appendix B.

## 2. Dislocation of Business.

[...]

3. No mention has been made to the use of gas bombs or bombs charged with disease carrying bacilli, all within the bounds of possibility, and the moral effect of which can be easily imagined. It may be mentioned that the development of the incendiary bomb has made vast strides since the close of the late war, and that therefore the threat of fire on a large scale must be added to the terrors which the population would encounter.

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### Appendix “A”

#### Extract of letter to Mr. Balfour from Mr. T.R. Ferens, M.P., 21<sup>st</sup> June, 1915, at Hull.

“The citizens of all classes are in a state of great alarm the night after the raid (6<sup>th</sup> instant) a further warning was given and tens of thousands of people trooped out of the city into the fields and parks until the danger was over. The screams of the women were distressing to hear. It would allay this evident nervousness if you could let us have half-a-dozen aeroplanes”.

#### Extract of letter to Mr. Balfour from Mr. Gelders of Hull, 21<sup>st</sup> June, 1915.

“Since the raid we have had two scares, the result of which is having a very serious effect in the city. On each occasion both young and old, for about three hours at midnight trooped out of the city to the open country in tens of thousands on every main road, in sheer terror, after their former experience, taking with them blankets and wraps and sleeping out in the open fields.....and we claim that we have equal rights of protection here; surely we are entitled to some consideration and immediate relief.”

I beg of the Admiralty to take immediate action and thus save another calamity.

The Members of the Eastern Counties have refrained from bringing the matter before the House in loyalty to the Government, recognizing their difficult task, but I feel bound to say that unless the Admiralty take some adequate steps it will be the duty of some member to raise the question and I for one shall feel it my duty to do so unless some provision be made to meet this great emergency.”

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Note. These letters were addressed to Mr. Balfour, who at that time was First Lord of the Admiralty. From 1914 to 1916 the Admiralty were responsible for Air Defence.

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Appendix “B”

The following extracts are some examples of the moral effect:-

From a “reliable source” – “At the risk of continually repeating the same thing, I would like once more to emphasise the fact that all information I obtain from Germany goes to prove the excellent moral effect from the Allied point of view of the recent air raids into Germany. The panic created at Cologne, in especial [*sic.*] was intense, and if we had only continued these bombing expeditions for a few days consecutively the result would have surpassed expectations. Those of our Dutch friends who take an interest in our winning the war are more than puzzled at the fact that our raids are not more continuous and more powerful. There was a rumour here the other day that some of our people are weakening on these raids and might come to some agreement with Germany as to stopping them mutually behind our respective fronts. Shortly after this rumour reached the Hague, I had the opportunity of a long discussion with a Dutch officer who has recently been in Germany, and he very frankly told me that he thought our people would be mad to give up this weapon. He is one of the increasing number of persons who begin to believe that we can still win the war this year, providing we can spare sufficiently large bombing squadrons to raise hell generally in Germany.

“From my knowledge of the Boche, I feel very much inclined to agree with him, as it is the one form of punishment which the civil population cannot stand.

Police regulations or no police regulations, the fact remains that after each raid there has been a very nasty moment for the local authorities. If these raids were sufficiently continuous, the amount of dissatisfaction and panic in Germany would be such that great events might follow”. (11<sup>th</sup> June).

***(iii) The retaliatory measures which could immediately be directed against a continental attacking Power by the Navy and Air Force. Memorandum by the Air Ministry for the Committee of Imperial Defence Sub-Committee on the Continental Air Menace, March 1922.***<sup>3</sup>

1. Taking the units in Great Britain on the basis of the 1922-23 programme little defence can be made against air attack. [...]

We may hope, however, to delay and hamper in some measure the enemy offensive by vigorous attack with such units as are available on his air bases and other military objectives. Although the strength of air forces available for the offensive is inadequate to achieve considerable results, experience of the late war affords grounds for the belief that the Power which can get in the first blow against the enemy air bases has gained a very real advantage: the enemy’s plans are inevitably dislocated and some portion, at least, of his energies are likely to be devoted to defensive measures such as abandoning certain exposed aerodromes and the construction of dug-outs, etc. for personnel. The weakness of our local defence renders it imperative that we should conceal it by an early and vigorous offensive.

[...]

3. For active operations there will remain a single (night bombing) A.A. Defence squadron, but to this may be added one experienced squadron armed with day bombers. Provided that the reserve squadrons are not employed outside the country at the outbreak of war there will be two further day bombing squadrons available. There may thus be a maximum of 3 day bombing and 1 night bombing squadrons available for the offensive; there will be no difficulty in locating these squadrons on aerodromes from which Paris may be reached.

Attacks will be carried out by these squadrons on air bases and other military objectives in the North of France with a considerable concentration on the neighbourhood of Paris: the dislocation

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<sup>3</sup> CAB 16/39.

of business and of normal conditions of life will thus be brought home to the maximum number of people and it is to this moral effect that we must, under those circumstances, chiefly trust as affording the best prospect of results.

[...]

***(iv) The additional measures, if any, required to meet the existing situation. Memorandum by the Air Ministry for the Committee of Imperial Defence Sub-Committee on the Continental Air Menace, March 1922.<sup>4</sup>***

[...]

2. The problem of the defence of these shores against aerial attack must be considered under two separate headings:-

- (a) The air offensive against the enemy.
- (b) The local defensive.

In war in the air, even more than in other forms of warfare, it is accepted that a vigorous offensive against the enemy is the surest form of defence, for in a medium of three dimensions passive defence is more than ordinarily inefficient and only by means of an offensive can the air forces of the enemy be satisfactorily contained: in addition, such offensive is a powerful means of influencing the morale of the enemy population, who may compel their Government, as a result, to sue for peace in order to secure relief from the constant presence of hostile aircraft.

On the other hand, the enemy will undoubtedly make every effort in the early stages of hostilities himself to assume the offensive, and, to meet such attempts on his part, it is essential for the maintenance of our national morale that a defensive organization be set up at home.

### 3. The Offensive.

The ultimate object of air attack on an enemy country is largely achieved by influencing the morale of the enemy population and the maximum effect will be gained by the aerial bombardment of legitimate objectives in his great centres of population. It will be important, therefore, to make a strong raid on the enemy capital in the very early days of the war. The losses which will be sustained at the hands of the undefeated enemy air forces will be more than balanced by the moral effect of the attack and still more by the anticipation of further attacks whenever the coast line is crossed by our air forces.\* But it is necessary to recognize that it will be impossible to carry on such bombardments with the continuity essential for success until a degree of ascendancy over the enemy air forces has been secured: superiority in the air is both material and moral and can only be obtained by attacking the enemy forces wherever they can be reached both in the air and in their bases. The effect of such a policy will be increased if his factories engaged in the manufacture of aeronautical material can also be attacked; those factories which are situated in the neighbourhood of his capital will be especially favourable targets, in view of the moral effect simultaneously produced on the neighbouring populace. When some measure of aerial ascendancy has been secured by this means, it will be possible to release a part of our air forces for the continuous attack of objectives not directly connected with air power. The chief objectives of such attacks will be the enemy's capital and if they can be maintained by day and night it is legitimate to assume that such an effect will be affected that pressure by the populace, which is ignorant of strategy, will force the enemy to improve his defensive measures and thus have an increased and cumulative effect on his power to sustain an aerial offensive against this country, and may finally compel his Government to sue for peace.

\* Note: The German town of Bous had 293 Alarms in 1918, and was only bombed 7 times.

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<sup>4</sup> CAB 16/39.

4. It is therefore necessary that our offensive organization should include both long range fighting aircraft and bombing machines suitable for operation by day and night. The attack must be continuous; a great percentage of its value disappears if continuity is not maintained. The moral effect of night bombing is greater than that of day attacks and this effect can therefore be created with smaller numbers of aircraft; the proportion of day bombing to night bombing units may therefore be 2 to 1. It is, however, desirable that night bombing should be even more continuous than in the case of day bombing, since the maximum disturbance of the rest of our opponents will thus be achieved. If for example, there were only one squadron available for night bombing operations, a greater moral effect would be gained by attacking with two machines per hour for a considerable portion of the night than by the whole unit at one time.

The minimum strength of the force ultimately necessary for offensive defence must approximate to equality with that of our potential enemy. Equality is not merely a matter of numbers, but of training, material and morale: It must not be forgotten that conscription will give our enemy advantages by the possession of numbers of skilled mechanics who will have served in the technical grades of the Air Service during their period of military training. A further point is that the extent of hostile country which our forces must travel to reach the enemy capital will tend to react adversely on our morale.\* A total of 8 Squadrons is suggested as the minimum force from which this offensive organization should be built up; that it would require considerable expansion when circumstances permit will be obvious when it is realised that if 50% of the force were available daily it would be capable of projecting 14 tons per diem on its objectives, or less than one-fifth of the corresponding capacity of the French Air Force.

\* Note: This offensive organization both in its nucleus and its final form would be partly raised on a territorial basis.

Since the enemy's aerial tactics will be similar to our own these offensive forces should be based on aerodromes behind the close defence line referred to in the succeeding paragraphs: refuelling aerodromes near the coast will be utilised as required.

#### 5. Close Defence Measures.

It is in the vigorous prosecution of the offensive that the true defence lies, but at the same time in order to re-assure public opinion, and in order to meet those attacks which will develop before the full effect of our offensive materialises, it is necessary that a force should be organised on local defence lines.

6. An attack on our capital is likely in the early days of the war and such attacks will be continuous if the enemy succeeds in establishing a measure of aerial supremacy; the defensive organization must therefore be designed primarily for the protection of London; It is probable that many other important objectives, naval, military, and industrial will also be attacked Some defences must be provided for the country in general. Since the inhabitants of places in the neighbourhood of such objectives will not acquiesce in being bombed without bringing pressure on the Government to provide local protection (e.g. extracts from letters from local Members of Parliament to the Admiralty when Hull was raided in 1915 quoted in Appendix A to Paper S.S.(A.H.)4.).<sup>5</sup> These divergent claims will be best met by a system based on a zone or belt of defence designed in the first instance to cover London from attack from the South and East and extended as far as possible in Northerly and Westerly directions; such extensions will afford simultaneous protection to the main industrial districts of England in as much as it will necessitate attacks on these districts crossing the zone of defence, since to evade it would involve a prohibitively wide detour being made.

[...]

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<sup>5</sup> Appendix 4(ii) above.

8. Six squadrons of fighting aircraft with their necessary complement of searchlights and sound locators are considered to be the minimum force which can serve as a nucleus for the close defence of the country. Only two of these will be in existence in 1922-23.

[...]

## Appendix 5

### Air Ministry correspondence file, covering the War Objective of the Royal Air Force, July 1923.<sup>1</sup>

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**(i) Enclosure 4A by Air Vice-Marshal J. M. Steel, Deputy Chief of the Air Staff, 12 July 1923: Some Notes on Air Strategy in its Application to Home Defence.**

7. Lastly and most important is the fact that air attack on military objectives exposes enemy nationals to the inconveniences and trials of actual war with the certain effect which this will create on their morale.

The only factor which would support them in their misfortunes is the possible knowledge that the action of their own air forces would bring some measure of relief, and it is this consolation which it is the business of our air forces to remove. When it is no longer possible to convince a nation that its air forces are likely to mitigate the trials which it endures, and when it is faced, as it will be, by the impotence of its Army and Navy, the form of attack advocated can only result in an overwhelming desire for peace.

**(ii) Minute 5 by Air Commodore T. C. R. Higgins, Director of Training and Staff Duties, to Steel, July 1923.**

Herewith my remarks on Enclosure 4A:-

[...]

4. Page 4, paragraph 7. I think we should openly state that, as, in future wars, air warfare will devolve into a struggle between the two combatants to obtain moral superiority over the opposing civil populace, it is almost inevitable that a direct attack will be made by each side on the civil populace of the other. No doubt, with our usual skill at putting our enemies in the wrong in the eyes of the world, we shall see to it that the enemy is the first to transgress international laws. But it is certain that in any national war in which we become involved we shall find ourselves within a few hours of the declaration of war carrying out bombing attacks with the object of causing panic and alarm among the civil populace of the enemy. Let us therefore face facts.

Enclosure 5A is a paper which was prepared in this Department some weeks ago. I think that some of the points which it brings out might be embodied in Enclosure 4A.

**(iii) Enclosure 5A by Higgins, July 1923: The correct objective for an Air Force at the outbreak of a major or national war.**

[...]

5. [...]

If the enemy took no steps to move his Squadrons from their well-known peace-time aerodromes, or to scatter his aircraft away from the hangars, then it would very likely pay us best to devote at first a large proportion of our bombing squadrons to a vigorous attack on the enemy's aerodromes.

But if, as is probable, indeed almost certain, he takes the precautions outlined above, then it will not pay us to attack his aerodromes, since the results achieved will hardly be commensurate with the effort put forth. Instead, it is submitted, we should attack the centres of his civil population with every bombing squadron we possess, thereby not only achieving tangible results in the

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<sup>1</sup> AIR 5/328.

lowering of the enemy nation's morale, but at the same time forcing the enemy fighters into the air to fight us.

If however we decide to carry out this policy, it would seem essential that we should possess considerable numbers of long distance fighters, able to carry out offensive patrols in the vicinity of the targets which our bombers will attack. For it is here that the majority of the enemy fighting aeroplanes will be found, striving to protect from harm the civil populace, on whose morale ultimately depends the issue of the war.

**(iv) Minute 6 by Steel, to Sir Hugh Trenchard, Chief of the Air Staff, 19 July 1923.**

[...]

4. Paragraph 4.- I cannot possibly agree to this. As a matter of face<sup>2</sup> there is little difference between D.T.S.D. and myself as to the value of moral effect, but he wants to lay it down that we are to attack the civil population to produce the moral effect; I insist on laying it down that we adhere to the rules, and attack military objectives in the vicinity of populated areas, which will produce the moral effect we require.

With reference to enclosure 5A, which I have read with considerable interest, it is not possible to introduce any parts of it into the original 4.A, as it is almost diametrically opposed from every point of view.

**(v) Minute 7 by Trenchard, to Steel, 25 July 1923.**

I cannot agree with 5.A. I want 4.A. re-written in the light of my discussion with you. I also very much want Air Vice Marshal Game's points to be brought in which, to a great extent, are a précis of yours.

There is, however, one point to be remembered and that is if you kill a soldier with 100 rounds of ammunition you do some good. If you kill 100 soldiers with 100,000 rounds of ammunition you do more good. But if you destroy or prevent the provision of armies, in other words the nation, the army is bound to perish and does not matter. This point must somehow be brought in.

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<sup>2</sup> sic.

## Appendix 6

### Trenchard Memorandum on the War Object of an Air Force, May 1928.

*Memorandum by the Chief of the Air Staff for the Chiefs of Staff Sub-Committee on The War Object of an Air Force, 2<sup>nd</sup> May 1928.*<sup>1</sup>

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The Secretary,  
Chiefs of Staff Sub-Committee.

I forward a memorandum that I would ask to be circulated to the Chiefs of Staff Sub-Committee. It will be remembered that at the 65<sup>th</sup> Meeting on February 23<sup>rd</sup>, when we discussed the report of the Commandant of the Imperial Defence College, I drew attention to the fact that I thought there was some diversity of view on the part of the Navy and Army with reference to the contention of the Air Staff that in future wars air attacks would most certainly be carried out against most vital centres of communication, and munition centres, no matter where they were situated. Therefore I would ask that this subject might be discussed, and my paper is intended as a basis for that discussion. I suggest that the proceedings can be informal at the start, so as to have a very frank discussion. Then it would be for the Committee to decide what its procedure should be, in future on this subject.

(Sgd.) H. TRENCHARD,  
Marshal of the Royal Air Force,  
Chief of the Air Staff.

#### ENCLOSURE

At a recent meeting of the Chiefs of Staff Sub-Committee the Report of the Commandant of the Imperial Defence College for the 1<sup>st</sup> Course (1927) was discussed. In that report the Commandant recommended that the principles of war should be described in identical terms in the Manuals of all three Services. He also expressed the view that at present the situation as regards air warfare was indeterminate. I suggested that this view had arisen from an unwillingness on the part of the other Services to accept the contention of the Air Staff that in future wars air attacks would most certainly be carried out against the vital centres of communication and of the manufacture of munitions of war of every sort no matter where these centres were situated.

It seems to me that the time is now ripe to lay down explicitly the doctrine of the Air Staff as to the object to be pursued by an Air Force in war.

The doctrine which in the past has determined and still determines the object to be pursued by Navies and Armies is laid down in the respective Service Manuals in these words:

- (i) *The Navy*: The Military aim of a Navy is to destroy in battle or to neutralise and to weaken the opposing navy including its directing will and morale.
- (ii) *The Army*: The ultimate military aim in war is the destruction of the enemy's main forces on the battlefield.

I would state definitely that in the view of the Air Staff the object to be sought by air action will be to paralyse from the very outset the enemy's productive centres of munitions of war of every sort and to stop all communications and transportation.

In the new Royal Air Force War Manual this object will be stated in some such general terms as the following – the actual terms have not been defined:

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<sup>1</sup> Webster and Frankland, *The Strategic Air Offensive*, IV, 71-6, App. 2(i).

‘The aim of the Air Force is to break down the enemy’s means of resistance by attacks on objectives selected as most likely to achieve this end.’

I will now proceed to examine this object from three viewpoints:

- (i) Does this doctrine violate any true principle of war?
- (ii) Is an air offensive of this kind contrary either to international law or to the dictates of humanity?
- (iii) Is the object sought one which will lead to victory, and in that respect, therefore, a correct employment of air power?

*Does this doctrine violate any true principle of war?*

In my view the object of all three Services is the same, to defeat the enemy nation, not merely its army, navy or air force.

For any army to do this, it is almost always necessary as a preliminary step to defeat the enemy’s army, which imposes itself as a barrier that must first be broken down.

It is not, however, necessary for an air force, in order to defeat the enemy nation, to defeat its armed forces first. Air power can dispense with that intermediate step, can pass over the enemy navies and armies, and penetrate the air defences and attack direct the centres of production, transportation and communication from which the enemy war effort is maintained.

This does not mean that air fighting will not take place. On the contrary, intense air fighting will be inevitable, but it will not take the form of a series of battles between the opposing air forces to gain supremacy as a first step before the victor proceeds to the attack of other objectives. Nor does it mean that attacks on air bases will not take place. It will from time to time certainly be found advantageous to turn to the attack of an enemy air base, but such attacks will not be the main operation.

For his main operation each belligerent will set out to attack direct those objectives which he considers most vital to the enemy. Each will penetrate the defences of the other to a certain degree.

The stronger side, by developing the more powerful offensive, will provoke in his weaker enemy increasingly insistent calls for the protective employment of aircraft. In this way he will throw the enemy on to the defensive and it will be in this manner that air superiority will be obtained, and not by direct destruction of air forces.

The gaining of air superiority will be incidental to this main direct offensive upon the enemy’s vital centres and simultaneous with it.

There is no new principle involved in this attacking direct the enemy nation and its means and power to continue fighting. It is simply that a new method is now available for attaining the old object, the defeat of the enemy nation, and no principle of war is violated by it.

*Is an air offensive of this kind contrary to international law or to the dictates of humanity?*

As regards the question of legality, no authority would contend that it is unlawful to bomb military objectives, wherever situated. There is no written international law as yet upon this subject, but the legality of such operations was admitted by the Commission of Jurists who drew up a draft code of rules for air warfare at The Hague in 1922-23. Although the code then drawn up has not been officially adopted it is likely to represent the practice which will be regarded as lawful in any future war. Among military objectives must be included the factories in which war material (including aircraft) is made, the depots in which it is stored, the railway termini and docks at which it is loaded or troops entrain or embark, and in general the means of communication and transportation of military *personnel* and *material*. Such objectives may be situated in centres of population in which their destruction from the Air will result in casualties also to the neighbouring civilian population, in the same way as the long-range bombardment of a defended coastal town by a naval force results also in the incidental destruction of civilian life and property. The fact that air attack may have that result is no reason for regarding the bombing as illegitimate provided all reasonable care is taken to confine the scope of the bombing to the military objective. Otherwise a belligerent would be able to secure complete immunity for his war manufactures and depots merely by locating them in a large city, which would, in effect, become *neutral* territory – a

position which the opposing belligerent would never accept. What is illegitimate, as being contrary to the dictates of humanity, is the indiscriminate bombing of a city for the sole purpose of terrorising the civilian population. It is an entirely different matter to terrorise munition workers (men and women) into absenting themselves from work or stevedores into abandoning the loading of a ship with munitions through fear of air attack upon the factory or dock concerned. Moral effect is created by the bombing in such circumstances but it is the inevitable result of a lawful operation of war – the bombing of a military objective. The laws of warfare have never prohibited such destruction as is ‘imperatively demanded by the necessities of war’ (Hague Rules, 1907) and the same principle which allows a belligerent to destroy munitions destined to be used against him<sup>2</sup> would justify him also in taking action to interrupt the manufacture and movement of such munitions and thus securing the same end at an earlier stage.

*Is this object one which will lead to victory, and a correct employment of air power?*

Before I deal with the above heading I would like to state here that, in a war of the first magnitude with civilised nations, I do not for a moment wish to imply by the following remarks that the Air by itself can finish the war. But it will materially assist, and will be one of the many means of exercising pressure on the enemy, in conjunction with sea power and blockade and the defeat of his armies.

In pursuit of this object, air attacks will be directed against any objectives which will contribute effectively towards the destruction of the enemy’s means of resistance and the lowering of his determination to fight.

These objectives will be military objectives. Among these will be comprised the enemy’s great centres of production of every kind of war material, from battleships to boots, his essential munition factories, the centres of all his systems of communications and transportation, his docks and shipyards, railway workshops, wireless stations, and postal and telegraph systems.

There is no need to attack the enemy’s organised air forces as a preliminary to this direct assault. It will be just as necessary in the future, as it has been in the past, for the Army, assisted by aircraft, to seek out and attack the enemy’s Army, but the weight of the air forces will be more effectively delivered against the targets mentioned above rather than against the enemy’s armed forces. These objectives are more vulnerable to the attack and generally exact a smaller toll from the attacker.

It will be harder to affect the morale of an Army in the field by air attack than to affect the morale of the Nation by air attacks on its centres of supply and communications as a whole; but to attack – let alone do serious damage – an Air Force in the field is even more difficult. Air bases can be well camouflaged; they can be prepared so that the personnel and material are well protected against bomb attack and their lay-out can be so arranged and spaced as to present a difficult target. An attacker can be induced to waste his strength by deception, such as by dummy aerodromes. Air units can be widely dispersed over the country-side so that it will be difficult to find them and do them extensive damage.

To attack the armed forces is thus to attack the enemy at his strongest point. On the other hand, by attacking the sources from which these armed forces are maintained infinitely more effect is obtained. In the course of a day’s attack upon the aerodromes of the enemy perhaps 50 aeroplanes could be destroyed; whereas a modern industrial state will produce 100 in a day – and production will far more than replace any destruction we can hope to do in the forward zone. On the other hand, by attacking the enemy’s factories, then output is reduced by a much greater proportion.

In the same way, instead of attacking the rifle and the machine gun in the trench where they can exact the highest price from us for the smallest gain we shall attack direct the factory where these are made.

We shall attack the vital centres of transportation and seriously impede these arms and munitions reaching the battlefield and, therefore, more successfully assist the Army in its direct attack on the enemy’s Army. We shall attack the communications without which the national effort cannot be co-ordinated and directed.

These are the points at which the enemy is weakest. The rifleman or the sailor is protected, armed and disciplined, and will stand under fire. The great centres of manufacture, transport and

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<sup>2</sup> sic.

communications cannot be wholly protected. The personnel, again, who man them are not armed and cannot shoot back. They are not disciplined and it cannot be expected of them that they will stick stolidly to their lathes and benches under the recurring threat of air bombardment.

The moral effect of such attacks is very great. Even in the last war ten years ago, before any of the heavier bombers of bombs had really been employed to any extent, the moral effect of such sporadic raids as were then practicable was considerable. With the greater numbers of aircraft, the larger carrying capacity and range, and the heavier bombs available to-day, the effect would seriously impede the work of the enemy's Navy, Army and Air Forces. Each raid spreads far outside the actual zone of the attack. Once a raid has been experienced false alarms are incessant and a state of panic remains in which work comes to a standstill. Of one town in the last war it is recorded that although attacked only seven times, and that by small formations, no less than 107 alarms were sounded, and work abandoned for the day. Each alarm by day brings the day's work to an end – while by night the mere possibility of a raid destroys the chance of sleep for thousands.

These effects, it must be remembered, were produced by occasional raids by very minor forces. The effect on the workers of a Nation of an intensive air campaign will again be infinitely greater than if the main part of that air attack was launched at the enemy's aerodromes and aeroplanes which may be many miles away from the vital points, and, if this air pressure is kept up, it will help to bring about the results that Marshal Foch summed up in the words 'The potentialities of aircraft attacks on a large scale are almost incalculable, but it is clear that such attack, owing to its crushing moral effect on a Nation, may impress the public opinion to a point of disarming the Government and thus becoming decisive.'

*This form of warfare is inevitable*

I have stated above the object which an Air Force should pursue in war, and the reasons on which the Air Staff base their contention that this object is in full accord with the principles of war, is in conformity with the laws of war, and is the best object by which to reach victory.

There is another side to the matter upon which I must lay stress. There can be no question, whatever views we may hold in regard to it, that this form of warfare will be used.

There may be many who, realising that this new warfare will extend to the whole community the horrors and suffering hitherto confined to the battlefield would urge that the Air offensive should be restricted to the zone of the opposing armed forces. If this restriction were feasible, I should be the last to quarrel with it; but it is not feasible. In a vital struggle all available weapons have always been used and always will be used. All sides made a beginning in the last war, and what has been done will be done.

We ourselves are especially vulnerable to this form of attack; and foreign thinkers on war have already shown beyond all doubt that our enemies will exploit their advantage over us in this respect and will thus force us to conform and to counter their attacks in kind.

Whatever we may wish or hope, and whatever course of action we may decide, whatever be the views held as to the legality, or the humanity, or the military wisdom and expediency of such operations, there is not the slightest doubt that in the next war both sides will send their aircraft out without scruple to bomb those objectives which they consider the most suitable.

I would, therefore, urge most strongly that we accept this fact and face it; that we do not bury our heads in the sand like ostriches; but that we train our officers and men, and organise our Services, so that they may be prepared to meet and to counter these inevitable air attacks.

(Sgd.) H. TRENCHARD  
C.A.S.

## Appendix 7

### Staff exercise, Wessex Bombing Area, March 1933.<sup>1</sup>

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***(i) An appreciation of the employment of the Air Defence of Great Britain bomber formations against the Western European Confederation during the first month of operations.***

Written for the Chief of the Air Staff by the Air Officer Commanding-in-Chief, Air Defence of Great Britain at UXBRIDGE at 1000 hours on 12<sup>th</sup> March, 1943.<sup>2</sup>

[...]

Review of the situation.

1. The Western European Confederation may be expected to commence intensive air attacks on LONDON at 1600 hours on the 14<sup>th</sup> March.
2. It is essential that a protracted war should be avoided. A speedy decision must therefore be reached.
3. The air striking force is the only weapon at our immediate disposal.
4. The objectives in hostile territory which have been approved by the Cabinet for air bombardment include centres of Government and a number of industrial areas. Such objectives are in thickly populated areas and the moral effect of air attacks will be considerable.
5. The confederacy adjoins two first class European Powers, GERMANY in the north and ITALY in the south. Initially these countries are likely to remain neutral, but their future action is highly problematical and will cause the Confederacy much anxiety.
6. Economically the Western European Confederation is a single entity, but politically the three constituent parts are entirely separate and air bombardment may well cause different reactions in each country.

Aim.

7. To break the enemy's national resistance in the shortest possible time.

Factors affecting the achievement of the aim.

8. The defence of LONDON.

An overwhelming and persistent attack on LONDON might easily have disastrous results and deprive us of the ability to continue the war. Whatever course of action is ultimately decided upon the great importance and vulnerability of LONDON must be kept in mind and our offensive effort must include features designed to afford assistance in the defence of the Capital.

9. Comparison of forces

A detailed comparative analysis of our air forces and those of the Western European Confederation is set out in Appendix A.<sup>3</sup> The outstanding points to be noted are:-

- (a) Mobilization will be complete by the date of expiry of the ultimatum. Both forces will therefore be in a position to strike at once.
- (b) Initially the striking force of the Western European Confederation will be supplemented by the addition of 18 Army Co-operation Squadrons fully capable of carrying out bombing. It is unlikely that these squadrons will be withdrawn from the enemy's striking force until such time as the Army is required for active operations. The Western European Confederation will therefore start the war with 432 bomber

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<sup>1</sup> AIR 2/675.

<sup>2</sup> *Sic.* Presumably 1933. The covering note in the file is dated 7 June 1933.

<sup>3</sup> Not included.

aircraft compared with our 390, representing 330 tons of explosives as opposed to 220. There may, however, be a possibility of reducing the range of a proportion of our bombers and utilizing the weight saved to carry heavier loads.

(c) The above totals include 96 night bomber aircraft in the possession of the Western European Confederation as opposed to 150 British.

(d) Our bomber aircraft are superior in range and speed, but inferior in the bomb load carried.

(e) The Western European Confederation have 320 fighter aircraft (excluding Fleet Fighters) to our 204. The major part of this force is now concentrated in the vicinity of PARIS.

#### 10. Availability of bombing objectives.

A schedule showing all the available objectives in the Western European Confederation within range and considered suitable for attack is attached (Appendix B).<sup>4</sup> It will be seen that the most important objectives are situated in the North of the Confederacy and that there is a marked scarcity of really vital targets South of the line joining REIMS and ANGERS. Further, the objectives lie in a general N.E. and S.W. direction approximately parallel to a line drawn through ANDOVER and CAMBRIDGE. Depending upon the targets ultimately selected for attack the present disposition of our forces may well prove convenient and eliminate any necessity for moving units. The range of our aircraft is such that there will be no great difficulty in reaching the important points.

#### 11. Security.

Our permanent aerodromes are within comparatively easy range of the enemy and may be subjected to bombing attacks. While such action on the part of the Confederacy would reduce the pressure on LONDON it is important that adequate measures should be taken to ensure that our only available striking weapon is not seriously impaired.

#### 12. Time and Space.

The time and space factors are somewhat complicated and set out in detail in Appendix C.<sup>5</sup> The main points to be noted are :-

(a) The location of our established aerodromes and the ranges of our bomber aircraft are such that a permanent move to more forward landing grounds could not increase the intensity of the attacks on the most suitable objectives and there is, therefore, no real advantage in changing their present locations. Advanced landing grounds will be required for re-fuelling and re-arming.

(b) The locations and ranges of the enemy bomber aircraft are such that few of their established aerodromes would be available for operations against ENGLAND, even with the use of advanced landing grounds near the coast, and many of their squadrons would have to be permanently located much nearer to ENGLAND than they are at present.

The Western European Confederation will be more dependent on advanced landing grounds than we shall be and their organization will be correspondingly more complicated.

#### 13. Weather.

The prevailing weather conditions over the operational area during the last half of March and early April are likely to be typical English April weather; scattered cumulus clouds and frequent showers with south-westerly wind of 15 m.p.h. at ground level and approximately 35 m.p.h. at 10,000 feet. Depressional weather will probably render about 50% of the days eminently suitable for the employment of cloud-flying tactics. At the commencement of the war there will be 11 hours of darkness and 13 hours of daylight available for operations each 24 hours.

#### 14. Our Defensive Organization.

Our defensive organization, covering as it does the whole of the E. and S.E. approaches to LONDON, will cause some difficulty in routing our bomber raids. It is important that the organized defended zone should, as far as possible, be avoided by the bomber aircraft.

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<sup>4</sup> Not included.

<sup>5</sup> Not included.

### 15. Neutrals.

Indecision regarding the attitude of GERMANY and ITALY may induce the Confederacy to retain a proportion of their bomber squadrons in the vicinity of the two neutral frontiers, and so diminish the strength of the attack on ENGLAND. This is, however, considered to be improbable in view of the great mobility of air forces given the existence of properly equipped bases.

### Enemy courses of action that affect the attainment of the aim.

16. If the enemy can succeed in breaking the national resistance or in permanently crippling our striking force, ability to achieve our aim will disappear. He may attempt to do so by :-

- (a) Concentrating against our aircraft industry and bomber aerodromes.
- (b) Concentrating on our industrial areas, including LONDON.
- (c) Concentrating on LONDON alone.
- (d) In addition to the bombardment of LONDON, diverting a portion of his forces against our fleet as being the main obstacle to his sea blockade and to any hope of invasion.

17. The adoption of course (a) is considered to be unlikely. Although, if successful, it would give the Confederacy virtual immunity from air attack, it is, as is well known and universally recognised, extremely difficult to achieve and would not in itself bring about a cessation of hostilities.

18. The adoption of course (b) would undoubtedly cause great inconvenience to the normal life of the civil population and an indeterminate amount of material damage. When applied, however, to a highly industrialised country such as ENGLAND it would entail considerable dispersion of effort and at best would be a slow means of achieving decisive results. If there exists any other method capable of achieving decisive results without undue dispersion and within a reasonable period of time it may be expected that that course will be adopted by the enemy. LONDON presents such an opportunity. It is, in fact, a unique target, possessing every desirable feature from the point of view of an attacking air force. It may confidently be anticipated that the enemy will concentrate his effort against LONDON (course (c)). This supposition is strengthened by the statement of our Air Attache in PARIS that LONDON is to be the main objective. It is probable that concurrently with the bombardment of LONDON raids will be made on a number of our aerodromes and supply depots, with the object of lessening the intensity of our attacks on targets in the Confederacy. LONDON presents such a unique opportunity that a serious diversion against our Fleet is unlikely.

### Courses of action open to us to achieve the aim.

19. It is not considered possible to break the enemy's power of national resistance within a reasonable time by causing material damage alone, irrespective of where the damage may be caused or its extent. Our effort must therefore be directed against the morale of the civil population with the object of disorganizing the normal daily life of the individual that a continuance of such conditions becomes intolerable. This postulates striking primarily at targets located in thickly populated areas.

20. The necessity for affording assistance to the defence of LONDON demands some action being taken against the enemy's air striking force.

21. Bearing in mind these two postulates the following courses of action present themselves for consideration:-

- (a) To concentrate the whole of our effort against PARIS. Not only is PARIS the centre of the French Government, thickly populated, and enjoying a high standard of living, but it so happens that over 90% of the French aircraft industry and the two main depots of the French Air Force are situated in the environs of the city.

This course, however, fails to take into consideration the important populated areas in FRANCE outside the PARIS district, and the two weaker members of the Confederacy – BELGIUM and HOLLAND. The total destruction of PARIS – were this possible – would not necessarily end the war.

- (b) To disperse our effort widely over a large number and variety of objectives in all three countries. There is no difficulty in finding sufficient and suitable targets of economic

and military importance, and the recurrent presence of hostile aircraft over widespread parts of the Confederacy would constantly keep before the civil population the threat of attack and undoubtedly interfere very considerably with the normal life of the people and with factory production. With a limited air force it would not be possible to apply sufficient intensive pressure to particular areas. The adoption of this course, although it has many attractive features, is therefore not considered completely satisfactory.

(c) To concentrate the major part of our striking force against the centres of Government (PARIS, BRUSSELS and AMSTERDAM) and the aircraft industry and depots at PARIS, and to deploy the remainder against the LILLE-DOUAI industrial area. This should render the daily life of masses of the Public intolerable, should drive the Governments from their Capitals, and quickly destroy the immediate resources of the Air Force.

Selected course of action.

22. It is therefore proposed to adopt course (c) in principle. As our chief object is the application of moral pressure (material damage being a secondary consideration, except in the case of the aircraft industry and depots at PARIS), the plan will be flexible – the intensity of the attacks being temporarily varied while great thrusts are made elsewhere. In addition it is proposed to set aside one night bomber squadron for operating continually against suitable objectives other than the four selected, so as to disturb as wide an area as possible.

Plan

23. I shall attack the following targets:-

(a) PARIS: 60%: (170 tons per 24 hours).

Houses of Parliament, Government Offices, Aircraft and Engine Depots and Factories and Electric Power Stations.

(b) BRUSSELS & AMSTERDAM: 10% each: (30 tons each).

Government offices.

(c) LILLE-DOUAI Area: 15%: (45 tons).

Coal, coke, iron, steel and electric works, in particular those located at places which are centres of more than one industry.

(d) Miscellaneous Targets: 5%: (10 tons).

Including oil reserves and refineries and docks with a view to disturbing the widest possible area.

24. As few suitable targets exist for making use of the full radius of action of the Ranger its petrol load will normally be reduced to enable a 50% increase in the bomb load to be carried (i.e. to a total of 3000 lbs. per aircraft.)

25. In view of the greater precision to be expected by day and to maintain a balance between the weight of day and night attacks, Strideland Squadrons will be used for day bombing in the initial stages of the operations.

[...]

29. These dispositions outline my plan of action at the commencement of hostilities. In my opinion it is not possible to say whether this plan will or will not remain unchanged for a month. This must depend upon the situation.

T. I. Webb-Bowden  
Air Vice Marshal,  
Air Officer Commanding-in-Chief,  
Air Defence of Great Britain.

***(ii) Remarks by AVM Sir Tom Webb-Bowden ("A" Syndicate) at the final conference on 15.3.33.***

The two essentials of my plan were: the attack of four main targets in enemy territory, namely, PARIS, the LILLE-DOUAI district, BRUSSELS and AMSTERDAM, and the fact that I proposed

to operate from normal war stations. There were, of course, a good number of subsidiary points, many of them interesting and controversial, but I am going to deal only with these two.

First of all, my reasons for selecting PARIS, LILLE, BRUSSELS and AMSTERDAM as the objectives which I was going to attack. My aim was to 'break the enemy's national resistance in the shortest possible time'; that and that alone was given to me by the C.A.S. quite definitely. And here I would emphasize the five words "IN THE SHORTEST POSSIBLE TIME". Having examined closely all the available targets I came to the conclusion that it would be quite impossible to achieve the aim by considering material damage alone. That would imply continuous and sustained attack on one objective after another until each was thoroughly destroyed. With scattered objectives and a small force, and taking into consideration the incalculable factors of weather and human nature, to say nothing of bombing accuracy and enemy action, the time which would be taken to break down any particular service essential to the continued existence of the nation, would be altogether excessive. I decided that the aim must be achieved by exerting moral pressure on the enemy, in other words, by making the normal existence of masses of the population intolerable. That postulates attacking targets situated in the most thickly populated areas, and a glance at a population map of North Western Europe indicates where these areas lie. The incidental fact that over 90 per cent of the French aircraft factories and their two main air force depts happen to be situated in PARIS, was most convenient. It meant that the primary resources of the French Air Force could be dealt with very effectively without any deviation from my aim. I therefore selected PARIS for my main attack. In actual fact I put 60 per cent of my available explosive on to that target. I would like to make it quite clear that this decision was in no sense arrived at by any consideration of the importance of PARIS in comparison with LONDON. In my opinion there is little similarity between the two places. The integrity of LONDON is essential to our continued national existence. The total demolition of PARIS would not, I think, necessarily cause the French nation to throw their hand in. You will remember that on two separate occasions during the 1914/18 War PARIS was evacuated by the Government without any disastrous results on the morale of the French population.

I selected the LILLE-DOUAI Area as a target for a portion of my force, in fact about 15 per cent, because it was a thickly populated area and contained a large number of industrial concerns the inaction of which would seriously interfere with the normal life of the people.

I considered that the most important centres in BELGIUM and HOLLAND, namely BRUSSELS and AMSTERDAM, could not be entirely neglected; although the Confederacy is economically a single entity, politically it is composed of three separate countries. Air attacks on the two weaker members might be calculated to cause considerable embarrassment to the primary member, FRANCE. I therefore allocated 10 per cent of my available explosive to each of those two centres.

The remaining 5 per cent, one night bomber squadron, was to be used for making sporadic attacks on a large number of well separated targets of economic importance, with the object of disturbing a wide area of enemy country. You will appreciate the moral effect, out of all proportion to the energy expended, which the recurrent threat of air attack has on civilians. The obvious criticism of this disposition is that it is dispersal of effort. This may possibly be true from one point of view, but I would ask you to bear in mind these two considerations:-

First, that my aim, as I have already said, was to break down the national resistance by moral pressure, and second that the actual diversion from PARIS amounted to this: If all day bomber squadrons attacked PARIS it would represent 9 tons of explosive every hour throughout the day. Only 1 ton per hour of this has been diverted to targets other than PARIS. The 9 night bomber squadrons directed against PARIS represent just over a ton and a quarter of bombs every eight or nine minutes throughout the night. If all night bomber squadrons were to attack PARIS it would represent the same amount of bombs every 5 minutes throughout the night. I have some doubt whether this increased intensity could be achieved satisfactorily with our existing tactical methods and training of night bomber squadrons; I think it would entail night bombing in formation, which is not at present practical politics.

[*Marginal note:*] 60% on PARIS means 24 day bomber raids and 90 individual night bombers per 24 hours (185 tons per 24 hours).

And now for the second point to be discussed, the location of my forces.  
[...]

## Appendix 8

### Bombing policy, 1941.

#### *Minutes of a meeting held by C.A.S. on Monday, 2<sup>nd</sup> June 1941 to discuss bombing policy.<sup>1</sup>*

Present:-

Air Chief Marshal Sir Charles Portal	C.A.S. <sup>2</sup>
Air Chief Marshal Sir Wilfrid Freeman	V.C.A.S.
Air Marshal Sir Richard Peirse	A.O.C. in C. Bomber Command.
Air Vice-Marshal N.H. Bottomley	D.C.A.S.
Air Vice-Marshal C.E.H. Medhurst	A.C.A.S.(I).
Air Commodore W.F. Dickson	D. of Plans.
Air Commodore J. W. Baker	D.B.Ops.
Group Captain F.F. Ingils	D.D.I.(3).
Group Captain R. Ivelaw-Chapman	D.D.Plans.
Group Captain W.M. Yool	S.O. to C.A.S.
Mr. R.S. Crawford	P.S. to C.A.S. (Secretary).

Marshal of the Royal Air Force Lord Trenchard was present for the first part of the Meeting.

C.A.S. asked Lord Trenchard if he would state his views on what our bombing policy should be.

Lord Trenchard said:

- (i) In his opinion, everything turned on the difference between the German and British mentality. Reports from all sources, in particular from men of Continental countries with an intimate knowledge of the German character, emphasized that the German civil population stood up, in general, very badly to the strain of repeated bombing attacks. Their morale was noticeably reduced by these. On the other hand, the inhabitants of British towns that had been badly bombed had shewn a remarkable capacity for enduring repeated bombing.
- (ii) Weakening of morale had an important effect on industrial output. Experience in this country had shewn that the effect of this, aided by the damage to essential services caused by indiscriminate bombing in a town, was far greater than that caused by the aimed bombing of factories. The disruption of industrial life caused by this eventually affected the whole country by lowering the output of essential goods; this reinforced the direct effect of the attack on morale. The Germans were far more susceptible to this than the British. Further, the effect of these attacks would reach even the members of the Army, a large proportion of homes and surrounded by a hostile population, and were particularly liable to be affected by the sufferings of their families at home.

<sup>1</sup> AIR 20/2795.

<sup>2</sup> C.A.S.: Chief of the Air Staff.

V.C.A.S.: Vice Chief of the Air Staff.

D.C.A.S.: Deputy Chief of the Air Staff.

A.C.A.S.(I): Assistant Chief of the Air Staff (Intelligence).

D. of Plans: Director of Plans.

D.B. Ops.: Director of Bomber Operations.

D.D.I.(3): Deputy Director, Intelligence (third-ranked member of Directorate).

D.D.Plans: Deputy Director, Plans Directorate.

S.O. to C.A.S.: Staff Officer to Chief of the Air Staff.

P.S. to C.A.S.: Private Secretary to Chief of the Air Staff.

(iii) His recommendation was therefore that German morale should be made the primary target for our bombers. The best way to attack it would be to deliver a heavy attack on one town and follow this up with several nights of widespread raids by small numbers of machines on all the neighbouring towns. The important thing was that no town of any size should consider itself safe; all should know that they were on the list. Also, since morale recovered fairly soon after a raid, attacks would have to be repeated at frequent intervals. The effect would be increased through the stringency of the German A.R.P. measures. In Germany the population were forced to go into shelters on the sounding of the siren. This would happen whenever aircraft were flying near the town, so that aircraft raiding one town would probably send into their shelters the inhabitants of many other towns on the route. A constant sounding of sirens, firing of A.A. guns and sound of bombers all had a depressing effect on people, even though they were not directly attacked, and there was the further point that he had always heard the average German took the opportunity of grumbling about the Regime when he was in a shelter.

Lord Trenchard said that the primary plan for attacking morale could be combined with a secondary military plan for attacking particular types of targets, but when a choice presented itself an attack on morale and not the precise target should determine which town was selected.

Air Commodore Baker said that he entirely agreed with the choice of morale as the best object, but that our ability to attack it was affected by tactical limitations. Since our bomber force was not yet sufficiently large and since we were confined to night attacks, which in Summer prevented our penetrating far into Germany, it was not possible to deliver widespread and repeated attacks on all the main towns in Germany. At the same time, he agreed with much of what Lord Trenchard had said about the smallness of the effect of bombing precise targets and the relatively greater effect of bombing of populous areas, which reduced the morale of the workers and interrupted essential services. Since the latter could not at present be achieved throughout Germany, it had been decided to seek a more restricted aim which could be pursued while at the same time getting the maximum effect on German morale. Oil had at first been chosen, but owing to the difficulty of precise bombing at night, the oil plan had proved unsuccessful. The object which at present seemed best was the German transportation system. German railways in particular were already badly stretched and constituted one of the weakest points of their economic structure. Damage to railways had an immediate effect on the distribution of goods and so on the standard of living of the people throughout Germany. It also affected the strategic mobility of the German armed forces. At the same time the layout of the German railway system provided excellent targets within reach of the bomber force at all times of the year and targets moreover which the average crew could find and attack. Finally, many of the best targets were located in populous areas so that the large proportion of bombs which missed the railway centres would hit the people. The proposed plan was accordingly to go for the principal railway centres and other important transportation objectives on moonlight nights and to carry out area bombing on towns of importance in the main railway systems on the rest of the nights. Both types of attack ought to affect both the transportation system and the civil population.

In seeking how best to carry out this plan they had come to the conclusion that the best targets were the railway centres situated round the Ruhr through which all goods had to pass when leaving or entering this area, which contributed more to the German war effort than any other of comparable size. These constituted bottlenecks which might be seriously interfered with by bombing attack. Certain of the railway centres were however situated away from the main centres of population, but it would be necessary to attack these and accept the waste of effort that might be involved if the attacks were not successful, in order to achieve the maximum effect on the whole transportation system. Whatever happened, the targets chosen, and the bombing tactics used would be selected to get the maximum effect on morale.

There was general agreement that morale and the transportation system were the best available combination but there was a considerable discussion as to which should be regarded as the primary

one. On the one hand it was said that morale would only be decisively affected if it were possible to carry out frequent attacks on each town, and this could not be done with the present bomber force. Next year it should be possible to adopt morale as the primary target.

On the other hand D.C.A.S. pointed out that some of the effort exerted on railway targets would be completely wasted, since some of these were comparatively isolated; he would prefer that all attacks should be delivered on targets in populous areas where nothing would be wasted.

A.O.C. in C. Bomber Command said that he did not believe in the value of nuisance raids; to get the maximum moral effect material damage had to be done. The Germans had only begun to squeal when our concentrated attacks had started. News of this had quickly spread throughout Germany, and he was sure that the effect on the morale of the country was far greater than that obtained previously by spreading the attacks. He agreed with D.C.A.S. about going as far as possible for targets in populous areas.

C.A.S. summed up by saying that the discussion had shown that they were all in general agreement with Lord Trenchard's views; the only difference was that of emphasis caused by the tactical considerations which, particularly in Summer, limited the ways in which we could employ the bomber force. He thanked him for his very interesting and valuable remarks.

(At this stage Lord Trenchard left the Meeting.)

A.O.C. in C. Bomber Command pointed out that, whether morale or the transportation system was regarded as the primary target, the actual effect of the policy would be much the same. What would happen would be that the railway centres and similar objectives would be attacked as precise targets on the six or so nights a month when good visibility could be expected; on the other nights, the bombs would simply be dropped into the area around the selected aiming point. Also if a pilot found that visibility was so poor over a precise target that he could not be sure of finding it, he would not guess at its whereabouts, but would ensure that his bomb went into the middle of the populous area. The only real point of difference concerned the few railway centres which were not in large populous areas. He would propose to deal with these by concentrated attacks under conditions of good visibility when he could hope that a large proportion of bombs would hit the target. The effect of a concentrated attack should be such that the centre would be dislocated for a long time to come.

C.A.S. agreed that this was what was wanted and should ensure that bombs were not wasted.

D.B.Ops. pointed out that the actual selection of targets would be varied from time to time according to the best information available, and would include suitable water transportation targets. The list would give the A.O.C. in C. a sufficiently wide choice to provide reasonable targets on all nights. He proposed to introduce also into the directive, the synthetic rubber works at Huls and Schopau. If these could be destroyed, the present shortage of rubber in Germany would be greatly accentuated; the road transport system would be particularly affected. He would also add related targets, such as Magdeburg in the centre of Germany to exploit the tactical value of the new heavy bombers which could penetrate further.

Certain advantages of the transportation plan were then pointed out:

- (a) If it were embarked upon in the near future, it might seriously hamper the German concentrations on the Eastern Front.
- (b) The efficient working of any railway system depended on the experience of those few specialists who were concerned in its direction. Constant breakdowns throughout the system would lead to a great strain being placed upon these men with the result that they might be worn out.

(c) Railway hold-ups would affect all commodities and so the plan would find support in all sections in this country. It did not have the disadvantage possessed by e.g. the oil plan, of appealing particularly only one section.

C.A.S. asked D. of Plans to draft a paper for submission to the Chiefs of Staff and the Defence Committee asking for approval of the plan. This should bring out that the Battle of the Atlantic had overriding priority when a suitable target presented itself, but that the principal objective of the bomber force should be the morale of the German people linked with the attack of suitable transportation targets, particularly in the neighbourhood of the Ruhr. The paper would have to be carefully drafted to secure political support in the Defence Committee. If the plan were adopted the presentation of news concerning the results of the attacks would have to be carefully handled to ensure a favourable reception in this country and to avoid undue disclosure of our intentions to the enemy.

## Appendix 9

Summary table of Royal Air Force expansion schemes, 1922-1939.<sup>1</sup>

Scheme	Date approved by Cabinet	Date to be complete	Number of home-based squadrons			Proportion of fighters in combined bomber-fighter total
			Bomber	Fighter	Total (includes all types)	
Twenty-Three Squadron	1922	1925	11	9	23	0.45
Fifty-Two Squadron	1923	1928 (then 1935, then 1938)	35	17	57	0.33
<i>Existing strength at March 1934</i>			28	13	50	0.32
‘A’	July 1934	March 1939	41	28	84	0.41
‘C’	May 1935	March 1937 (home part only)	68	35	123	0.34
‘F’	Feb. 1936	March 1939	68	30	124	0.31
‘H’	Feb. 1937 (partially approved)	As soon as possible after 1939	90	34	150	0.27
‘J’	Dec. 1937 (not approved)	March 1941	90	38	158	0.30
‘K’	March 1938 (not approved)	March 1941	77	38	145	0.33
‘L’	April 1938	March 1940	73	38	141	0.34
‘M’	Nov. 1938	March 1939	57	40	124	0.41
		By March 1941	82	50	160	0.38
<i>Operational strengths of Bomber and Fighter Commands, September 1939</i>			53 <sup>2</sup>	39 <sup>3</sup>		0.42

<sup>1</sup> Based largely upon a fuller table in Webster and Frankland, *The Strategic Air Offensive*, IV, App. 7, 103-4. with AIR 41/39, ‘The Pre-War Evolution of Bomber Command’, app. 3. Missing letters are Schemes that were not submitted for Government approval. The existing 1939 strengths come from Webster and Frankland, *The Strategic Air Offensive*, IV, 399-402, app. 38. and J. R. M. Butler et al., *Grand Strategy* (London: H.M.S.O., 1956), 36.

<sup>2</sup> Webster and Frankland comment that there were 33 operational squadrons in Bomber Command in September 1939, but 10 of these were Battles and 6 Blenheims. The ten operational Battle squadrons were in France as part of the Advanced Air Striking Force, administratively part of Bomber Command but operationally supporting the British Army in the field. Both Battles and Blenheims were unable to take part in the strategic offensive due to insufficient range and carrying capacity. ‘There were, in fact, only 17 operational squadrons in Bomber Command which could contribute to the strategic air offensive’.

<sup>3</sup> Butler notes that four of these squadrons immediately left for France upon the outbreak of war, leaving 35 squadrons forming the main part of Fighter Command.

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