Terrorizing the ‘Fortress of London’? German Bombings, Public Pressure, and the Creation of the British Home Defense System in World War I

A thesis

Presented to

The College of Graduate and Professional Studies

Department of History

Indiana State University

Terre Haute, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Master’s of Arts in History

by

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May 2010

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Keywords: Civilian Defense, Total War, Zeppelin, Atrocities, Aerial Warfare
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ABSTRACT

Aeronautical warfare played a greater role in the First World War than initially given credit, forcing the British government over time to develop a competent ‘Home Defence’ system to ward off German bombings and satisfy the British public’s pressure for protection. By juxtaposing early aerial history with the British public’s perceptions and the government’s response, this study reveals a vital transition in the nature and perceptions of warfare during the First World War, providing a socio-military perspective rarely seen in pure military or social histories. Debunking the misconception of the reliance of aerial warfare for just scouting and reconnaissance, this study demonstrates that aerial bombardment, focusing particularly on the German bombing campaign over Britain, had a significant psychological impact on the British people. Moreover, studying these bombings illustrates the rapid technological and tactical advancements that transpired as the war progressed, eventually leading to the creation of the ‘infant’ British Royal Air Force and an aerial defense system that would become the foundation of Britain’s defense system during World War II. The enduring results of these German bombings was Britain’s reunion with the European continent – no longer allowing it to remain in isolation – while simultaneously contributing to the general ‘totalization’ of warfare that occurred in the First World War.
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CHAPTER 1

INTRODUCTION

It was out of this haze that the raiders, about half-past 10, came into sight. From a distance they looked like a score of swallows. In the advance each machine kept its proper station, and as the formation was so accurate, and the altitude of flight so low, people who had received no warning of the raid at first believed that the planes were British carrying out a manoeuvre. This illusion was soon dispelled. Explosion followed explosion. The guns joined in, and for five minutes the noise was deafening. Shells bursting in the air left puffs of black smoke, which expanded and drifted into one another. It seemed impossible that the raiders could escape being hit. Machines were often hidden in the smoke, but always they came through safely. Before the bombing ceased the formation of the squadron had been broken up. For a few exciting seconds, which seemed as minutes to those who watched, there were signs of confusion. The aeroplanes moved like birds alarmed by the firing of a shot-gun. One group held together and still flew towards the west. Other machines began to bank and turn. One or two climbed higher into the sky as though to escape our shells. Hopes went soaring up at this stage but the confusion was more apparent than real. Soon the whole of the enemy had turned, and in an irregular bunch, but taking a direct course, they were seen to start on their return journey. Within a couple of minutes the haze had swallowed them up. For a little while the ground guns continued to fire, and as the last incident of the attack the crowds saw a solitary aeroplane, probably one of our own, speeding at a great height on the wake of the invaders.

—“Story of the Raid, The Spectacle,” The Times, July 9, 1917

“She who is the flying machine war alters its character; it ceases to be an affair of ‘fronts’ and becomes an affair of ‘areas’.”¹ H. G. Wells, in his 1907 novel The War in the Air, points to a key reality in the nature of aerial warfare; with the achievement of longer flight times and the enlargement of weight capacities home fronts and frontlines merged. The British public in World War I became the first victims in history to be the target of a strategic bombing campaign. British civilians became eyewitnesses and victims to the horrifying sights like the one published

by *The Times* on July 9, leaving many initially awestruck at the enemy’s audacity and later angry at the lack of government effort to prevent such endeavors. Few would articulate their experience as well as the article above; most lacked the words to describe the acts of wanton violence brought onto them by their ruthless enemy. Aerial Warfare “ended the relative invulnerability of the British Isles to invasion.”² Beginning in January 1915 and continuing until August 1918, Germany’s efforts at bombing the British Isles eventually forced the British to create a defensive system throughout England designed particularly to thwart such German attacks and protect its civilian population. Yet numerous raids occurred before Britain began this process, and the British struggled to halt them even with new defenses; why did it take the British government so long to establish this complex system? The answer requires an in-depth look at the German bombing campaigns and the British public’s reaction, the latter which eventually forced the British government to take action.

The introduction of aerial warfare in the First World War played a vital role to the gradual transition that took place in the nature and perceptions of warfare that developed in the early twentieth century. Previous European wars were fought on symbolic ‘fields of glory,’ using methods that Stéphane Audoin-Rouzeau and Annette Becker phrase in their work 14-18: *Understanding the Great War* as ‘regulated warfare’ that had a predetermined level of ‘self-containment.’ These generalized perceptions of the nature of warfare began to alter, however, as Europe industrialized in the late nineteenth and early twentieth century, with advancements that resulted in the production of “many atrocious innovations.” Rouzeau and Becker find that there is a “lack of words” to articulate the consequences of such advancements, at best using “ruin, devastation and butchery” to portray the results of World War I warfare. Their point was to

² Quincy Wright, “Inventions and War,” *The Scientific Monthly* 53, no. 6 (December 1941): 530.
provide an imagery of the immense destruction that progressed as a result of hostile nations’ determination to achieve victory by any means necessary. Few nations, if any, remained unscathed as a consequence of this destructiveness, which led many historians to use the term ‘total war,’ or ‘absolute war,’ when attempting to comprehend World War I. Alan Kramer in his work *Dynamics of Destruction* attempts to narrow the definition of ‘total war’ to include: the achievement of the absolute destruction of the enemy, “the unrestricted violation of international law and all principles of morality,” the complete mobilization of the nation for war purposes, and the complete governmental control of all aspects of life.

Roger Chickering, in *World War I and the Theory of Total War*, takes this concept of ‘total war’ further, analyzing how it applies to the First World War. He pinpoints the initiating spark of ‘total war’ to be the massing of immense armies that when brought against each other encouraged operational paralysis on the battlefield. Once this stalemate occurred, the fighting would become a battle of attrition, not concluding until one side either collapsed or was destroyed. Chickering explains that this stalemate of trench warfare would then remove:

… the theater of decision from the battlefield to the home front, where the productive capacities of entire populations were mobilized … [where] commercial warfare, strategic bombing, and the shelling of population centers carried the war to the home front and eroded the last practical distinctions between soldiers and civilians.

In such a case, industrialization and mobilization of entire populations guaranteed not only that the conflict would be drawn out, but also that there would be a slow and degenerating blurring of the lines between civilians and soldiers. The German bombing campaign over Britain provides a

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perfect example then as Germany sought, with the war’s progression, alternative methods of breaking the stalemate on the western front. In doing so, Germany’s hope was not to obtain victory through their bombing campaign alone, but to utilize it as a fraction of their overall strategy to weaken the Entente’s fighting capabilities on the western front.

Chickering illustrates how Britain’s leadership in the prewar era failed to adequately prepare and corroborate between each branch, consequently playing a partial role in the development of ‘total war.’ Britain’s armed services at the time were separated into two distinct branches, the Royal Navy and the British Expeditionary Forces (BEF), in which both were subordinates to a civilian administrated government. He details that “the armed services pursued contradictory visions of war, and the plans of the civilian leadership were geared systematically to neither.”6 The BEF prepared for a short continental excursion; the Royal Navy planned for a much longer campaign in the form of a blockade of the German coastline, while the British civilian leadership made attempts to avoid any disruption of English trading networks. It is clearly seen then why Britain’s initial months of the war were, in a word, ‘turbulent,’ as each branch was forced to adapt their initial plans from what they prepared for to what was actually required. There was little, if any, cooperation between the branches then pertaining to the responsibility of aerial defense or even the thought of the necessity of them. Chickering notes that this initial uncertainty at the war’s opening became a part the concept of ‘total war,’ with each nation struggling to compensate for their lack of knowledge on the newly emerging forms of warfare.7

6 Ibid., 39.
7 Ibid., 38-39.
The war’s reach expanded far beyond just the brutal trench warfare found on the western front, drawing in each belligerent’s home-front as well. ‘Total war’ on the home front meant sacrifice for civilians, through rationing, through the purchase of bonds, through the payment of higher taxes, through the erosion of liberties, and through long hours working in the name of the war effort. But in the First World War civilians also assumed further roles, as targets of direct and indirect attacks. One of most notable forms of these attacks was the indirect method of the blockade, like the British blockade on Germany, or the German use of unrestricted submarine warfare to blockade Britain. It is unfortunate then that historians have placed more emphasis on these forms of indirect assaults on home-fronts than they have on the direct. Civilians faced direct attacks in the form of aerial bombardments. This became a particularly shocking event for those civilians of the British Isles, who in past conflicts had always remained unscathed from direct assaults. Despite this, historians have placed more emphasis on the blockades, partially because the bombings never rose to the same level as those of the Second World War. Yet Germany’s bombing campaign marks an important shift in the nature of warfare, and marked a small, but key aspect of ‘total war.’ The bombing campaign over England is important because it illustrates the beginning of aerial warfare and serves as a foundation as the first-large scale bombing campaign partaken by any nation in history. Furthermore, an investigation of this part of the war in the air illustrates the rapid technological achievements that occurred as a result of the war; moreover, one can look at how the German bombardment campaign forced the development of the British ‘Home Defence’ system and the eventual creation of the Royal Air Force (RAF).

Aerial warfare, therefore, played a key role in the First World War. Historians have often glossed over the importance of increased flight times and augmented weight capacities, not
realizing that these technical and tactical evolutions did not occur in a vacuum. This unprecedented form of warfare was directed at a literate public, a public who not only witnessed the damages but also read about it in newspapers, and in turn expressed their anger through letters to the editors and cries for action to their members of Parliament. Thus, realizing British inferiority to the German airpower, the civilian population became the victims of the intensification of the violence. This intensification of the violence was similar to that seen by British and German blockades, where both were hoping that the civilian population “would rise up against their own country at war.” Both forms of warfare – the blockade and the bombings – were designed not only to physically hurt their enemy, one through starving the nation of resources and the other through the bombing of industrial facilities, but also cause the civilian population, whether through lack of resources or flat out fear, to rise-up against their government to call for a truce that would end the conflict. The difference here was that Germans – and only later the British – took the next step here in total warfare, by targeting civilian populations directly rather than indirectly.

Few historians have attempted to debunk the perception that aerial warfare in the First World War mostly consisted of scouting and reconnaissance. Ian Beckett’s *The Great War 1914-1918*, for instance, offers a brief, but reasonable investigation into the developments of aerial warfare during the war, coming to the conclusion that “the evolving theories of strategic airpower in which both sides had invested so much hope” proved neither a failure nor a success. Another, more specified, work on the subject of aviation in war, but that soundly covers the aeronautical developments of the First World War, is Williamson Murray’s *War in the*

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8 Kramer, 40 and Audoin-Rouzeau, 61.
9 Audoin-Rouzeau, 62.
Air 1914-45, which attributes the duration of the war for the numerous advancements that occurred in aeronautical technology. Murray concludes that these early “airmen of the First World War had charted the way to the future” and that actions that transpired in the air by 1918, became just as important as what happened on the ground.\footnote{Williamson Murray, War in the Air 1914-45, ed. John Keegan (London: Cassell, 1999), 75.} Yet despite this, other generalized works, such as John Keegan’s The First World War, continue to discuss only the use and effectiveness of aircraft in their supporting roles to the ground forces, failing to detail at all their role in strategic bombing or their use in aerial defenses. Keegan concentrates his observations of aerial warfare on the front lines, stating that “the war in the air … remained during 1917 largely stuck at the level of artillery observation.”\footnote{John Keegan, The First World War (New York: Vintage Books, 2000), 359.} Yet, in spite of his observation, Keegan fails to discuss the clear advancements in aerial warfare, like Germany’s achievements in their use of dirigibles, or airships, over England and the later conflicts that brought out the need for the British ‘Home Defense.’

Attempts to evaluate the importance of the German bombing campaign over England during the First World War, have also been obscured by comparisons to the destructive force of the Luftwaffe during the ‘Blitz’ of the Second World War. This miscalculation has the tendency to produce in general a negative judgment of its efforts, failing to take into consideration two important differentiating factors. The first factor comes down to what historians have termed the First World War’s aeronautical ‘infancy’ in technological development and tactical understanding.\footnote{Two of many historians who term it infancy include Alan Kramer, Dynamic of Destruction, stating that “the technology of aerial warfare was in its infancy,” 334, and David Stevenson, Cataclysm: The First World War as Political Tragedy (New York: Basic Books, 2004), 154, describing the strategic bombing role as being in its infancy.} Alan Kramer stated that “by standards of later wars in the twentieth century, aerial warfare was only at the beginning of its development towards total destructivity,” claiming
that during the Second World War the majority of civilian causalities came either from aerial or racial warfare.\textsuperscript{14} The ratio between British casualties due to bombings during the First World War to those of the Second World War was more than thirty to one, illustrating the drastic difference in mainly the technological capabilities. For this reason, many historians have written off the First World War’s use of aircraft as only playing a minor role in overall outcome of the First World War, and consequently its greater importance in the history of aerial history.\textsuperscript{15} Unfortunately, by doing this, historians have failed to recognize the precedent established by the relative novelty of bombing a civilian population. Moreover, in terms of Britain specifically, there is the precedent of a European conflict coming in direct contact with the British home front. The “island race,” as historian Dudley Saward referred to the British, “had always regarded the separation from the continent of Europe … as their first line of defence.”\textsuperscript{16} 

Formerly shielded by the English Channel and the protection of the British Royal Navy, the civilian population in England during the war experienced for the first time in modern British history the direct effects of war through the bombings of Zeppelin airships and Gotha bombers.\textsuperscript{17} Thus, Saward concludes that Britain, fearful of Germany’s vigorously growing “air force, which could bridge the Channel and bring war to the civilian population as never before,” had to radically change their thinking about home defense.\textsuperscript{18}

“As a sideshow to the slaughter of the Western Front, the German raids were dismissed after the war as being of ‘no real consequence.’ But in the light of still another World War, these

\begin{footnotes}
\footnote{Kramer, 40 and 334.}
\footnote{The actual causalities difference being 146,777 to 4,820, John Terraine, “The Spectre of the Bomber,” \textit{History Today} 32 (April 1982): 5.}
\footnote{David Stevenson, 154 and Richard Hough and Denis Richards, \textit{The Battle of Britain: The Greatest Air Battle of World War II} (New York: W. W. Norton & Company, 1989), 8.}
\footnote{Saward, 90.}
\end{footnotes}
early ‘air invasions’ of England take on an almost awesome significance.”19 The advancements in aerial warfare during the First World War forced the British government to develop a competent ‘Home Defence’ system capable of warding off German bombings and as a way to satisfy the British public pressure for protection. This study thus seeks to juxtapose early aerial history with the British public’s perceptions and the government’s response, to reveal a vital transition that transpired in the nature and perceptions of warfare during the First World War. To accomplish this task, this thesis begins by examining the concept of the British people as an ‘island race,’ with particular interest into how the Anglo-German antagonism was built-up in the prewar era. Next, this project considers briefly the nature, ambitions, and interpretations of the German bombing campaign, specifically concentrating on the general perception of its effectiveness. Then, this project investigates the British public’s perspective of the German bombing campaign, specifically paying attention to the public’s experiences and sensations during their earliest bombardments. By incorporating the nature of the German bombing campaign with the public’s perspective, a better understanding of the British government’s actions that led to the creation of a ‘Home Defence’ can be developed. Finally, this project suggests that the British experience of World War I contributed to interwar conceptions of both offensive warfare and the possibility of defense. This then will illustrate how the government’s gradual progression towards a home defense, hard-pressed by the public and the intensification of the raids that began to a cumulate late 1917 and early 1918, eventually brought about the creation of a competent ‘Home Defence’ system that could be developed further and the British Royal Air Force.

CHAPTER 2

ISLAND RACE: IMAGERY AND AN ANGLO-GERMAN ANTAGONISM

A vital aspect to studying the history of the British Isles is viewing Britain and its people as an ‘island race.’ Britain’s traditional “national policy had been grounded on the principle that the United Kingdom could never allow any single nation to be predominant in Europe, and that in all operations affecting the security of the British Isle the Royal Navy had to have decisive superiority.” In this way the channel acted as “a moat defensive to a house.” However, when the threat of airpower arrived, it challenged Britain’s isolationistic aspirations; no longer could they pick and choose when and where they would be involved in continental affairs. Fortunately this was not the first time the British felt the threat of rejoining the continent, facing a similar scare with the introduction of steam-power to the nature of naval warfare. Henceforth, the nation’s military preparations became a “balancing act on the edge of technological developments” as in both cases the people assumed that the channel would no longer be seen as a barrier. The steamship altered the structural order of the British Empire and with it everything they knew about naval warfare, and everything they relied on for national defense. Initially steam-power offered favorable results for its naval dominance, particularly due to Britain’s natural abundance of iron and coal compared to wood. Yet as European industrialization caught

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20 Clarke, 21.
21 Ibid., 21.
22 Ibid., 22-23.
up to Britain, the British found it increasingly difficult to maintain their naval superiority, and even more difficult to guarantee the security of their vast empire. Consequently, these naval developments caused “regionalization of sea power” reducing, for Britain, its nautical commitment for “unilateral sea control.” Britain, overcoming the fear of the steamship threat, found protection as long as its naval supremacy was maintained and its national security secured. Airpower represented an analogous threat at the beginning of the twentieth-century. Facing European threats to this superiority in the dawning years of the First World War only reignited the question of British security and insularity.

In the prewar years the Anglo-German relationship fluctuated continuously due to numerous sources of antagonism. In the late nineteenth-century Germany challenged the British dominance of economic power, initializing what would be a long progression of Anglo-German frustration and hostility. Germany’s rapid industrialization, paired with its position as the preeminent continental military power, further put it on a collision with the United Kingdom. Well before 1914, Germany surpassed British output in the steel, iron, chemical and electric sectors. Anglo-German relations would worsen as a result, as Britain, once controlling the world markets unchallenged, found Germany as a threat to their own economic well-being. More generally, Germany became a concern for many nations as “a highly centralized, efficient, and militarized state.” In addition, relations between the countries were further strained by extra-European collisions. In particular, Germany’s blustering diplomacy during the Boer War and the Moroccan Crises – largely over Germany’s desire to grab more territory in Africa at the

23 Wright, 528-529.
24 David Stevenson, 27.
26 Heyck, 86.
expense of England’s erstwhile enemy, France – pushed Britain to seek new international partnerships. For example, the 1902 Anglo-Japanese agreement guaranteeing neutrality between the two nations in the event of a Russian-Japanese war, in effect relieving Britain of its naval responsibilities in the Pacific and allowing it to concentrate on its other Asian rival, Russia. Next was the 1904 British-French Entente to settle their disputes in Africa. Finally, in 1907 was their agreement with Russia that promised to lessen their rivalry in Central Asia, securing the defense of the British Empire’s crown jewel, India. The consequence of these delicate agreements was the creation of “an intricate and shifting system of alliance” that were meant to keep the balance-of-power on the continent. In reality the result was the creation of a European power system that, if each nation committed to their alliances, would ignite a European conflict that would and did engulf the whole world.

As for the German naval program Robert Massie suggests that Germany wished to mimic the British Royal Navy. Consequently, Massie portrays the Naval Race with an action-reaction interpretation, where the German naval program forced Britain to increase its production in order to maintain their dominance. To the British, the German naval program was seen as a menace to their livelihood, a “life and death” matter where a large foreign navy was only a few hours steaming distance from the British coast. This to the British public, who witnessed the German naval program expand despite British attempts at arms control, like the 1912 Haldane Mission, was an unacceptable threat. In the meantime, the British government had been under stress

28 Heyck, 86.
29 Massie, 10.
since 1910, wishing at that time to more or less contain the German threat than fight, explaining the creation of understandings with France and Russia. The government, under the leadership of the Liberals, sharing a majority with the Labour Party and Irish Nationalists, was currently working to extricate themselves from international affairs due to domestic strife. As a result, the government was not focused on the Balkan conflict at all, but on their own internal domestic dilemmas like the question of Home Rule for Ireland. These Liberals were facing opposition from antagonized Unionists, trade union militants, staunch suffragettes, and angry Ulster Protestants. Consequently, the British government gave a sigh of relief in 1914 – just as threats of domestic unrest were climaxing - to have a unified governmental decision to uphold Belgium’s neutrality, refocusing the nation’s attention away from domestic issues and onto international ones.

Still, there were other sources of Anglo-German antagonism to be found in the prewar era. The growth of universal literacy and mass journalism exacerbated the Anglo-German relationship; for the first time in the history of international politics the writing of popular fiction furthered what the public saw as an inevitable conflict on the horizon. These increasingly bad relations became, according to Ignatius Clarke, “the largest and most sustained development of the most alarmist and aggressive stories of future warfare ever seen at any time in European history.” Clark’s *Voices Prophesying War, 1763-1984* details that the course changing work that began the gradual transition to a new form of literature was Lieutenant-Colonel Sir George Chesney and his 1871 work *Battle of Dorking*. This work “provided both the form and technique for most of the tales about imaginary wars of the future that began to appear throughout Europe

31 David Stevenson, 29.
32 Clarke, 138 and 143.
after 1871.”33 But the difference between Chesney’s work and other imaginary war stories was that no author prior had ever projected the use of new weaponry as the decisive factor, instead projecting into the stories only the known tactics and technologies of their own days. The importance here is that people found interesting the stories that utilized the advancing technologies for warfare and began to comprehend that usually the more technologically advanced side won. After the 1870 Franco-German War, and the shifting of the power system in Europe, most writers took for “granted that the next war would be fought more or less after the style of the last, and that war would continue to be conducted in a relatively restrained and humane manner.”34 Few imagined that the rapid development from industrialization would increase the destructive capabilities of weaponry and draw out a conflict’s conclusion in the form of a battle of attrition, not even the most prophetic writer of the time H. G. Wells. But changes and new dimensions to the public’s imagination were already under way, starting with the first air balloons ascent helping “to develop the sense of a human capacity for great achievements.”35

These prophetic writers began a well depicted, long anticipated imagery of a future Anglo-German conflict in the post Franco-Prussian War era, seeing Germany assume the traditional place of Britain’s arch-enemy that France had retained for so long. These works depicted the grand-militaristic army of Germany crossing the channel to face its ancient brethren, only to be defeated by a defiant British people. This was not the only type of imagery being produced though, as a few “perceptively foresaw that a major European war would be a calamity.”36 Norman Angell’s work *The Great Illusion* for instance argued against a conflict,

33 Ibid., 1.
34 Ibid., 2-3.
believing that the economic consequences of such an event as a World War would not only put the loser in harm but also the victor. In the rapidly developing industrial world with each nation becoming economically and materialistically attached to the other, a war with other nations would be a form of financial suicide, like the cutting off of one’s own limbs. Angell established that the inter-reliance of each nation on the other would therefore keep the balance-of-power in Europe, therefore, making arms control and arms races a thing of the past. In this manner, elaborate interdependence upon each other prevented conflict, or as Niall Ferguson interprets Angell’s argument, “that a German military challenge to Britain would be irrational.”

Ferguson explains Angell’s pacifist attempt to extinguish any embers of frustration and distrust by detailing that he was writing at the peak of Anglo-German antagonism of the Naval Race, and was writing particularly “to encourage the Germans to halt their challenge to the British Naval supremacy.”

Not all works though were meant as ways to dissuade war, and more often than not were pure forms of entertainment that were meant to carry with them a chilling sense of realism of the future. H. G. Wells, in *The War in the Air*, offered an apocalyptic vision different from other technologically ignorant images, where the Europeanized civilizations of the world were ‘blown-up’ by bombardments from airships. Consequently, “only ‘ruins and unburied dead, and shrunken yellow-faced survivors in a mortal apathy’” remain on the earth. Wells veered away from the scientific romance to embrace fiction in a time when the great powers controlled the world and the threat of a great war was imminent. Britain in this case had set the standard, never

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38 Ferguson, 22.
39 Ibid., 22.
40 Ibid., 7 and 9.
really being threatened, until recently, by any foreign rival. But “Wells saw things more clearly. He may not have been alone in his insights, but he could command an audience as few others could.”41 His story, while grossly overestimating the bombing capabilities of the Zeppelin and choosing in the process the wrong destined bringer of destruction in future conflicts, haunted the century to come of “irresistible aerial destruction.”42 Wells’ pen spoke beautifully as the great powers transitioned to war; and meanwhile, the people listened to the buildup, the secrecy, the climax, and the end:

So it came about that in every country a great and growing proportion of its energetic and inventive men was busied either for offensive or defensive ends, in elaborating the apparatus of war, until the accumulating tensions should reach the breaking-point. Each power sought to keep its preparations secret, to hold new weapons in reserve, to anticipate and learn the preparations of its rival. The feeling of danger from fresh discoveries affected the patriotic imagination of every people in the world.43

The beginning of the end was the German titan sweeping the horizon with their tremendous air fleet, unmatched by any other nation.44 Wells’ work was meant as a warning of his vision to come, writing on the borderline of fiction and journalism. When the war actually came, however, he found himself split between the two. The journalist side found himself supporting the war in very ‘official’ manner, while the fiction side was upset with the lack of responsibility taken by the Edwardian age of British society for allowing things to degenerate as they did. “Wells hated the idea that war might be considered natural, or even beneficial.”45 As such, Wells’ works touched on different present features in British society at the time of their conceptions.

42 Ibid., ix.
43 Ibid., 67.
44 Ibid., 233.
For instance, Germany’s recent rise in European status, in areas of education, technology, and industry, plus Britain’s recent struggles in the Boer War incident, sent surges of the fear of degeneration throughout England. Wells’ work *The Time Machine*, from 1894, became a “blueprint of degenerationist concerns” as they developed in Britain.\(^46\) Wells’ dealt with “the very extinction of humanity,” meaning worlds to the British public, as it “retained a deep interest in evolutionary theories and racial anthropology and an increasingly apprehension about the future of British society.”\(^47\) Furthermore, the book’s general outcome, with the separation of two distinctly different evolved peoples, predicted that the working class would descend into violent anarchy, while the “ruling class slide into the cloistered world of fantasy, decadence, neurosis.”\(^48\) These new social relationships brought fear to the British public about regression, relapse, transgression, and their decline within the European social structure. This fear subsided at the outbreak of the war, as people’s attention shifted from “internal degeneration to focus on the degeneration of their enemy instead.”\(^49\) Even so, concerns of degeneration remained, as this glimpse of David Lloyd George’s opinion in October 1914 illustrates:

… in spite of his cautiousness, L. G. does not believe it is at all possible for the Huns to invade England … if we are not able to keep out the Germans under these conditions – then the Germans are the best men, and it is essential for the welfare of the world that men who have reached such a pitch of perfection should govern the world for the next century. But he does not think they have reached the pitch of perfection … \(^50\)

So the British public at the start of the war was very open to the fears of the German dominance of Europe and western civilization with particular fear of their own degeneration as a

\(^47\) Ibid., 157.
\(^48\) Ibid., 158.
\(^49\) Ibid., 2 and 232-233.
predominant race in western history. Unfortunately for the Germans, as it will be shown, their campaign at the start of the war was not extensive or intensive in any way. Moreover there is some evidence that even if it had been, there were a few influential people located in the right positions, like David Lloyd George, who would have stood firm to calm and reassure the public’s fears.

Finally, adding one more form of fear to the Anglo-German antagonism, and as if to verify these prophetic authors’ calls for a future conflict, were the recent aeronautical achievements of the Wright Brothers in 1903, Santos-Dumont in 1906, and the ever-frightening dirigible airship that reached the public’s mind through the popular literature. Images of the nerve centers of a nation laid entirely to waste circulated constantly as a warning to the people. Before the war the British people lived a life of seclusion except for their many economic endeavors on colonies and transoceanic trade networks, paying little attention to their continental neighbors. “The sea acted as a psychological expansion of the island; never having to transverse another nation’s territory to connect land masses” they controlled. By 1914 the British, and not just the government but the public as well, had noticed that their once coveted island status was gone. Similarly, by January 1915, Germany too was aware of it, printing in their papers that “the legend that England was invulnerable owning to her insularity” had

51 The Wright Brothers in 1903 flew their aircraft the Wright Flyer I a distance on 852 feet for 59 seconds on December 17, 1903, while Alberto Santos-Dumont became the first to successfully attempt the flight of a heavier-than-air aircraft in Europe on October 23, 1906 reaching a distance of 200 feet.
54 Ribbons, 47.
ended. Hence, the development of aerial power marks the beginning of the end of the island story for England. With the coming of the Second World War, the ‘Battle of Britain’ would be seen as the “last version of the island story as a safe fortress,” in effect, ending Britain’s immunity because aerial warfare lacked the physical boundaries found in land and sea warfare.56

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56 Beer, 266 and 279.
CHAPTER 3

GERMAN BOMBINGS: AMBITIONS AND INTERPRETATIONS

The development of a ‘Home Defence’ system in Britain was of course grounded in the German decision to conduct a bombing campaign against the home islands. This section evaluates the origins and evolution of the Germans’ efforts. Of particular interest were the basic nature, ambitions, and interpretations of Germany’s campaign, examining both the use of lighter-than-air aircraft, the Zeppelin, and their heavier-than-air aircraft, the Gotha bomber. At the outbreak of the War in 1914, Germany’s air force centered on the Zeppelin, which was initially deployed early in the war for observation, not for bombing. It is interesting to note, then, that its early observation failures – because such missions required low-flying passes that allowed them to be easily shot-down by frontline troops – led to the German Navy’s interest in its use as a night bomber over England. Here, these airships “achieved some success in material damage, both to property and civilian moral,” according to the British Air Ministry’s attrition reports of Germany’s aviation, because there were few altitude limitations for bombardment, unlike in observation, and they were able to partially cloak their journey in the darkness. Still, while admitting to the flaws in their defense systems, and by doing so crediting the German airship for

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57 The term ‘heavier-than-air aircraft’ was a contemporary term used in the prewar era to distinguish the difference between an airship and airplane for the public. ‘Lighter-than-air’ literally meant that the machine depended on its ability of being lighter than air to lift itself off the ground, while ‘heavier-than-air’ meant that the aircraft was literally heavier than air and required some form of forced motion to propel it forward in order to it to operate.  
58 Air Ministry, Handbook of German Military and Naval Aviation (War) 1914-1918 (London: The Imperial War Museum, 1918), 42.
some success in its endeavors, the Air Ministry questioned whether the German airship program was worth the expenditures placed into it.  

Aerial warfare during the war was pursued by all nations, but none more enthusiastically and consistently than the Germans with their interest in strategic bombing. This interest surged especially high in overcoming, as historian Williamson Murray describes it, “the difficulty in moving from the ability to kill or maim relatively small numbers of individuals to the ability to inflict substantial damage that would interfere with the enemy’s capacity to wage war.” This particular interest and success was built on one man’s obsession, Count Ferdinand von Zeppelin, whose namesake ships would be used to terrorize Britain throughout the war. He first encountered ballooning on a trip to the United States during the American Civil War, when he witnessed their use for observation on the battlefield. This technology eventually took hold in both the Army and the Navy thereafter as both encouraged private manufacturers in the production of separate designs. This competition, which was predominately dominated by Count Zeppelin’s company, was able to produce about 35 airships of numerous designs and quality before the war, including the Schüttle-Lanz, the Parsevals, and of course the Zeppelin (See Figure 1).

During the war, German engineers built upon such expertise to design and construct larger airships which both allowed greater bomb capacity and increased the airship’s maximum elevation ceiling. However, these technological advancements in airships also had flaws, mainly

59 Ibid., 94.
60 Murray, 72.
62 McKenna, 174, and “The German Airship Fleet, Distinguishing Features, The Zeppelin of To-Day,” The Times, January 20, 1915, sec. 8e.
centering on the airship’s general size and its structural integrity. Due to its structural material, initially wooden and then aluminum framed with fabric stretched tightly over the skeleton, the weather would often alter the airships flying capabilities in altitude or direction, mainly because the wind or moisture in the air. Thus, weather conditions limited Zeppelin raids to clear moonlit nights. Additionally, while these engineers attempted to enlarge the airships for combat efficiency, they were also stymied in their efforts because the growing Zeppelin size made the
airships increasingly difficult to manage on the ground.\textsuperscript{63} But Germany’s early successes in developing airships before 1914 allowed the German Navy, which led Germany in the utilization of the aircraft, to extend its reach further than any airplane in use. Unlike the airplanes of the times, an airship’s range was not limited to short distances and was be able to venture far behind enemy lines, often for many hours, before being forced to return to its aerodrome to refuel (see Figure 2). Due to the early German advances in 1914 into Belgium and Northern France, then, Germany’s air force found itself strategically located within easy range of a majority of Britain’s and France’s industrial facilities and cities, including both London and Paris, while Germany’s

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image}
\caption{Map of Zeppelin’s Range, \textit{The Illustrated London News}, August 15, 1914. The caption read: “With regard to the map reproduced above, it may be said that the possibility of a German bomb-dropping raid by air has been a good deal under discussion. Germany possesses 17 first-class air-ships – of which 11 are long-range craft – capable of carrying from 2 to 4 tons of ammunition; also 6 smaller and slower dirigibles. The newer vessels have a speed of more than 50 miles an hour, and an effective range of action of about 1000 miles. They are, however, very dependent on weather conditions, and are believed to be vulnerable by aeroplane attack and high-angle fire.”}
\end{figure}

\textsuperscript{63} Captain-Lieutenant Freiherr Treusch von Buttler-Brandenfels, \textit{Airship Attacks on England} (London: James Selwyn & Co Ltd., 1919), 7-16.
industrial facilities, located deep within the Rhineland, and Berlin were not within the range of their enemies.\textsuperscript{64}

As the British defenses adapted to meet these airships, aerial warfare entered into its next phase of development with the introduction in 1917 of Germany’s new Gotha bomber. This “methodical character” offered a new threat to the British home front appearing in the form of Bombengeschwaden 3 [Bomber Squadron 3], whose “methods differed in detail from those of other [bomber] squadrons” by specializing in raiding England in early 1917.\textsuperscript{65} Its overarching goal, combined with Germany’s recent turn to unrestricted submarine warfare, was “to attack British morale and reduce it to a point where the British government would have to surrender.”\textsuperscript{66}

These attacks consisted of anywhere from ten to thirty-four aircraft whose objective was not only bombing British shipping and naval facilities, but also performing reconnaissance of fortified naval bases and aerodromes.\textsuperscript{67} As most early raids into England between May and August 1917 seemed to go unhindered for Bombengeschwaden 3, the German High Command, whose directly controlled orders for the squadron, may have by this time felt that a direct attack on London was feasible. The result was two daylight raids on June 13 and July 7, which consisted of eighteen bombers in the first raid and twenty-one in the second, that became easily the most important events of the German bombing campaign for both the Germans and the British. For the Germans it would mark the high point in the war in terms of successful bombings; the British would finally respond by creating an adequate defense system, not only to protect its military installations, but also its civilian population. While the total British casualties accumulated

\begin{footnotes}
\textsuperscript{64} Murray, 73.
\textsuperscript{65} Air Ministry, 66-67.
\textsuperscript{67} Air Ministry, 67-68.
\end{footnotes}
during the war as a result of German bombings amounted to only 1,413 killed, of which 1,117 were civilians, and 3,407 injured, including 2,886 civilians, they were still considered atrocities at the time – simply because they were targeting the British civilian population. Afterward, the British seriously attempted to establish their defenses, thereby forcing Germany to execute their raids on moonlit nights that continued from September 1917 to August 1918, when raids on England finally came to a halt.

Taking into consideration the fairly low losses of civilian life, and the relatively limited physical damage, one must ask how successful was the German aerial campaign? Some historians believe that Germany missed their chance to seriously damage Britain’s industrial production and score a major morale blow. Historian Alfred Gollin, author of “A Flawed Strategy: Early British Air Defense Arrangements” and “A Flawed Strategy: Early British Air Defense Arrangements,” argues for Germany’s lost opportunity, suggesting the Germans missed a “significant military opportunity when they failed to launch a serious bombing offensive against England in the early days of World War I.” Gollin hints at, but fails to follow through with the argument, that a German aerial campaign in the first six months of the war could have made a drastic difference in the morale of the British public. Examining this argument can provide valuable insight into why it took the British government so long to develop their defense system, and therefore requires a more in-depth look at two factors: Germany’s technological ability to perform such a task and a deeper investigation into the British public’s mind-set as the war progressed.

68 Terraine, 5.
69 Air Ministry, 70.
71 Ibid., 198.
Technologically speaking, the Zeppelin performed adequately in its bombing role at the outbreak of the war, taking part in the siege and capture of Liège in Belgium against frontline troops in 1914. Bombing was not its primary task, though, which was the scouting and reconnaissance of troop movements and directing artillery barrages close to the enemy’s front line. This task required the airship to slowly pass along the front at low altitudes to gather information that made it an easy target. As a result, the Germany Army lost three within the first forty-eight hours of the war before transferring a majority of its remaining airships to the German Navy. The German Navy eventually determined that despite the primitive targeting abilities, a few raids on England could be useful by setting off irrepressible panic by the targeting of war material, military installations, and docks. The only restraining factor was the permission to do so. The “stumbling block in the realization of the ‘policy of frightfulness’ was the Kaiser, who at first more than the Chancellor, deprecated any military course that would mean attacks on women and children, or on priceless landmarks and treasures of art and architecture.” Kaiser Wilhelm II insisted on maintaining a “civilized war.” Wilhelm’s reasoning was partially a result of the poor image Germany received from invasion of Belgium, referring specifically to the atrocities that were committed, and to his kinship with the British royal bloodline, which he greatly admired. Yet above all else, was Wilhelm’s wish “to spare Germany the onus of killing defenseless civilians.” Nevertheless, Wilhelm would ultimately buckle under the pressure of his military advisors; he authorized the initiation of Zeppelin

72 McKenna, 175.
74 McKenna, 176.
76 Ibid., 51.
bombing on England’s industrial zones on January 10, 1915, and on May 31, 1915 the bombing of London.\textsuperscript{77}

There were supporters, then, of this new form of aerial warfare. One, that admittedly had a certain bias in his evaluation of the usefulness of the Zeppelin, was a Zeppelin commander Capitan-Lieutenant Freiherr Treusch von Buttlaar-Brandenfels who possessed exceptional experience and knowledge of the inner-workings of Zeppelins, as well as the Zeppelin strategic command. Von Buttlaar-Brandenfels, one of the few remaining distinguished pilots left in 1918, would eventually command Germany’s largest and most developed models, the Super-Zeppelin L71.\textsuperscript{78} While much of von Buttlaar-Brandenfels’ lecture to The Marine Institute in 1919 at the University of Berlin must be taken with a grain of salt, von Buttlaar-Brandenfels does offer insight into the inner-workings of the Zeppelin bombing campaign. One of the key points in the lecture focuses on the comparison of the weight capacity for bomb-loads and range limitations between the Zeppelin and the airplane. Von Buttlaar-Brandenfels considered the destructive capability of the Zeppelin to exceed that of the airplane. His second major justification for the continued use of Zeppelins was the amount of material and manpower that the British were forced to keep on their Eastern Coast for the adequate defense against the raids, making it a point to remind his listeners of the Triple Entente’s need for more manpower on the western front.\textsuperscript{79}

Dudley Seward in \textit{Victory Denied: The Rise of Air Power and The Defeat of Germany 1920-1945} agrees, detailing that by the end of 1916 alone 17,340 officers and service men, about two divisions, were kept from the front to manage Britain’s anti-aircraft guns, along with 12

\textsuperscript{77} Ibid., 51 and 53.  
\textsuperscript{78} Buttlaar-Brandenfels, 3.  
\textsuperscript{79} Ibid., 13 and 33-34.
squadrons of the army’s Royal Flying Corps (RFC) despite the urgent need for them on the Western Front.\textsuperscript{80}

Nonetheless, for the experts who participated in the aerial attacks first hand, like the officials of the Air Ministry, there seemed to be a question of the Zeppelins’ value “as instruments of destruction” or whether they “justified the enormous expenditure lavished upon them.”\textsuperscript{81} In such a case, the Air Ministry weighed the financial cost over the destructive capability of the Zeppelin to that of other instruments of war, such as the ‘Dreadnought’ class battleship, which happened to be twenty times the cost for one Zeppelin.\textsuperscript{82} Historians have concurred about the relative weakness of the Zeppelin; Gerard De Groot, argues its “propaganda value to the British heavily outweighed” any form of significant strategic value for the Germans. In this regard, De Groot believes that the news and spread of gossip of such events alone gave birth to strong German animosity and British nationalism, therefore reinvigorating the public’s willpower to resist atrocious German actions.\textsuperscript{83}

Contemporary newspapers offer tentative confirmation of De Groot’s observations, especially during the month of September 1916 when newspapers had an in-depth coverage of the first British victory over the raiding airships. \textit{The Illustrated London News} in particular depicted the first downing of a German airship, but not a Zeppelin, on the night of September 2-3 with vivid illustrations of the burning aircraft as “thousands of people in the Home Counties” became witnesses to the scene (see Figure 3).\textsuperscript{84} The captions of the numerous photographs,

\textsuperscript{80} Saward, 12.
\textsuperscript{81} Air Ministry, 94.
\textsuperscript{83} De Groot, 200.
\textsuperscript{84} This downed airship was not of the Zeppelin design, but of the similar design known as the Schütte-Lanz. There was very little exterior difference, but its internal skeleton was constructed of wood because the airship was
designed by a competing airship company. However, the British would fail to comprehend the internal secrets of the airship until late in the war. “Like a New Incandescent Gas-Mantle When it is First Lit: The Burning Zeppelin- An Impression,” The Illustrated London News, September 9, 1916.
which displayed the scattered wreckage over a field at Cuffley, described the different identifiable portions of the Zeppelin as the Royal Flying Corps mechanics attempted to remove them for future examination. Furthermore, one caption in particular, which supports De Groot’s theory of the spread of news and gossip, read: “Later, thousands of sightseers and souvenir-hunters arrived.” These pictures that display Britain’s long awaited victory over the terrorizing airships boosted morale and reinvigorated support for the war. But this is just one glimpse into the past that gives just one perspective on the event at hand, on a subject that requires a more holistically, in-depth examination.

CHAPTER 4

THE PUBLIC’S PERCEPTION AND GOVERNMENT APATHY

If contemporary observers disagreed about the effectiveness of Germany’s bombing campaign, the public impact of Germany’s ambitions is clearer. Any glimpse at the British public’s reactions reveals a populace embracing an increasingly deep anti-German sentiment. Indeed, the German bombings – paired with the German blockade and the more general war – was built on a foundation of anti-German sentiment dating back to the Boer War and the subsequent Anglo-German ‘Naval Race.’

Gerard De Groot in Blighty: British Society in the Era of the Great War insists that the public’s prewar mood towards Germany resembled “bigotry…not completely absent, but in most cases it was safely hidden beneath a veneer quickly cracked.” This hatred would finally materialize in 1914 with the British entry into the war, feeling a sense of responsibility to uphold the “existing arrangements” of the continent and subdue the “mad, irresponsible modernism” of the German people.

As the expeditionary forces clashed on the continent, the home front became a battlefield for any descendent of German nationality, especially as anti-alien hysteria and espionage scares heightened. With news of the German atrocities in Belgium, the constant threat of unrestricted

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88 De Groot, 12.
89 Ibid., 10.
submarine warfare, and the beginnings of the bombing campaigns early in the war, the British public responded with numerous anti-German riots that only worsened the German alien’s experience.\(^90\) Riots broke out throughout England when angry mobs sought revenge for the German atrocities by destroying German-owned property and harassing people of German nationalities. The climax of these riots occurred in mid-May 1915 as “the hatred engendered by the Zeppelin raids, the gas attacks, and the sinking of the *Lusitania*, now rose to the pitch of fury: anti-German rioting and looting reached serious proportions.”\(^91\) Reverend Andrew Clark, in his war diary, received a letter from a Margaret S. Lilley describing the situation as “turbulent. Rioting was going on quite near here. It is a mercy that they have interned the Germans at last. It ought to have been done long ago. It is a pity that our fold descended to lawlessness, but it was the only way our people could show their feelings in the matter.”\(^92\) News of this particular incident reached the frontlines as reflected in General Louis Botha’s letter to the *Times*. Botha deplored the ruthless destruction of property, in spite of the inhumane methods used against Britain, arguing that it was not the proper way to show one’s patriotism for the “honest and clean” fight British soldiers were conducting. Finally, he called for a halt of such actions despite how victimized the people felt.\(^93\) Regardless, further reports in newspapers illustrates that these riots continued for at least another month after Botha’s letter, depending mainly on the public’s mood, and “probably as a consequence of the air raid acute anti-German feeling.”\(^94\) As a consequence of this anti-German sentiment, the government’s Alien Restriction Act and the alien

\(^90\) Ibid., 157-158.
\(^94\) “The Zeppelin Raiders, About 90 Bombs Dropped, Anti-German Riots,” *The Times*, June 2, 1915, sec. 6d.
The internment camps became more or less a protection for their captives, rather than a governmental way to handle espionage fears.\textsuperscript{95}

Providing a source of further deterioration to the public mindset was an order by the government that censored newspaper publications. Events that occurred on the home front, especially within a certain radius of London or on particular subjects, became censorable material from newspapers, in order to keep valuable information from reaching Germany. The consequence of this was an escalation of tensions in the British public’s mood as the war progressed, due particularly to their own lack of knowledge on current events. Newspapers, wishing to give their readers some glimpse of the war were, therefore, left to publish exaggerated accounts of bombings so that, in combination with the public imagination, there became a sense of either wonder or terror to the sighting of a Zeppelin bombing.\textsuperscript{96} These accounts were restricted from detailing exact information such as precise locations reached or the route taken by an airship, in the government’s attempt to secure the public’s safety and keep from giving the enemy desirable information on the results of their raids.\textsuperscript{97} Here again Reverend Clark provides valuable details describing the results of a raid that was forbidden from being published on August 17, 1915:

\begin{quote}
Leytonstone station has been laid flat, and forty-nine people killed. This news is prohibited because it is within six miles of London and it is not wished that the Germans should know how nearly they reached the capital.\textsuperscript{98}
\end{quote}

\textsuperscript{95} De Groot, 157-158.
\textsuperscript{96} Ibid., 184, and 188-189.
\textsuperscript{97} An exception was made for this raid in the newspaper as an active reminder to the public of the regulations and because it was the largest raid by airships yet witnessed. It is an interesting point that the government was trying to make the point that these raids were futile, attempting to display that they lacked any destructive purpose for the German war effort. “Zeppelins Near London, Raid Last Night, Detailed Reports Forbidden,” \textit{The Times}, June 1, 1915, sec 8c, and “Damage in the Raid, Exposure of German Statements,” \textit{The Times}, February 5, 1916, sec. 7f.
\textsuperscript{98} Clark, 77.
The government believed publication of such results would have confirmed the German raiding attempts. However the Reverend also shows signs of contempt for the censorship placed on the press, stating that “the Government is treating the people of Great Britain as if they were incompetent children.” In this case he refers to the restriction on publishing news about events that had long since appeared in continental newspapers. Hence, it is understandable to imagine how tensions rose as minimal amounts of information acted as a tease to the British public’s overall thrust for knowledge rather than as a sense of relief.

These feelings are empathized by the illustrations of newspapers like *The Illustrated London News*, which frequently portrayed the sightings of airships either caught in searchlights or as the war progressed falling from the skies engulfed in flames. These illustrations seemed to evince a curiosity about the airship, depicting them as mysterious thieves in the night, which brought acts of ‘wanton vandalism’ and “senseless fatality” to the public. It seemed “to follow that the monster airship is a bogey calculated to frighten rather than hurt.” Similarly, descriptions and interpretations of airship attacks appeared in the *Times* following the more destructive air raids providing tragic stories of the results of their raids. One story entitled “The Cry of a Child” described the results of a father on “hearing the whirr of the engines, was on the point of going to his garden to watch the airship, when a bomb fell at his feet.” The father’s son, not far behind him, was blown off his feet losing both his father and one of his arms. It was not uncommon for the subscribers of the papers to read such stories, or similar depictions, like

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99 Ibid., 106.
“in the darkness the screams of the injured could be heard, and many people were trampled on in the confusion which prevailed.”\textsuperscript{104} Despite these awful stories the effect on England’s morale “may be gauged by the attitude of the crowds who hurried into the streets, despite all warnings, to see the fight.”\textsuperscript{105} This became especially true in the months approaching the end of the airships free-reign over England, as a Zeppelin spotting became a “scene of enthusiasm” for the civilian population.\textsuperscript{106} Many would rush to catch a glimpse of one, fascinated by its majesty while simultaneously fearing the horror it brought (see Figure 4).

Such sentiments seemed to be shared by those who witnessed these attacks. “Indeed, the description of imperturbable London suggested curiosity rather than excitement, although, of course, there were, later, resentment and regret for the lives lost and the damage done.”\textsuperscript{107} The Zeppelin airship raids early in the war were meant to launch a new style of warfare on the general public that aimed both to hit military targets and to provoke a form of mass hysteria within the British public. On this point, while the effectiveness of strategic Zeppelin bombing may be up for debate, Grant Newman argues that the airships left an unmistakable psychological impact on the British population.\textsuperscript{108} This psychological impact and the emotional transitions that each witness experienced was not detailed better than the Times Special Correspondent from Staffordshire did after the raid on February 1 1916:

> It is not easy to describe all the feeling with which the outrage has filled the people, for they vary according to the vividness of the individual recollection and the nearness of personal loss … But grief is not paraded in the streets … Townspeople, if you press them on the point, will not deny that while the Zeppelin was dropping its bombs they felt a

\textsuperscript{104}“Stories of the Raid, Wanton Slaughter of Civilians, 20 Women, 6 Children, Woman Missionary Killed,” \textit{The Times}, February 3, 1916, sec. 9e.
\textsuperscript{105}“The Raid of Thirteen Zeppelins,” \textit{The Times}, September 4, 1916, sec. 9a.
\textsuperscript{106}“The Burning Raider, A Swift End, A Neutral’s Impression,” \textit{The Times}, September 25, 1916, sec. 10c.
Figure 4 – Costumes For Zepps, *Punch*, October 11, 1916. *Punch* comically illustrated the different ‘type’ of spectators that could be found on the streets during an air-raid.
dread akin to the terrors of a nightmare. When morning came and the first shock had passed, horror and anger took the place of fear.109 Each raid evoked a spectrum of emotions for its witnesses, sometimes attracting numerous sightseers to the southeast side of England in hopes of catching even a glimpse of the vicious murderer.

Ian Beckett argues that the real fright came with the daylight Gotha raids in 1917 that left the people “mesmerized by the appearance of so many aircraft” or huddled hysterically in basements.110 Examining the reaction to the first of the two daylight raids, June 13, the Times described it as the most audacious and most murderous the British public had yet to witness, still maintaining the wanton level of indiscriminate ferocity known from its airship brethren. “It made London quiver, not with fear, but with sorrow and anger … [and] horror at the outrage” to which they had been subjugated.111 Reverend Clark notes in his diary that he received a note from a Mr. Caldwell, who experienced the raid firsthand. Caldwell detailed that he wanted to go out to see the aircraft but found it “impossible because shrapnel was flying about everywhere,” as the buildings around the neighborhood came crashing down. Furthermore, he stated that “the women all went mad, shrieking and yelling,” providing some evidence to Beckett’s interpretation.112 The second daylight raid, on July 7, produced a similar reaction. One soldier, home on a ten day leave from the front, described the raid as a “strange experience” seeing a

112 Clark, 197.
familiarity to raids over the frontlines. His description is the clashing of two familiar but distinct worlds, one of home, the other a nightmare, that held him spellbound at the spectacle:

There was something sinister in the deliberateness with which they flew and kept their fine formation above the great city. It reminded one of our own flights going out across the battlefields of the Somme and over the Messines Ridge in the pale light of the battle morn of only a few days ago. But one had never seen the Germans engaged in so big an exploit before, even on the battlefields. It was truly magnificent. Evidently their slow deliberateness meant that they were out to terrorize “the Fortress of London”.

But there was also provided this time a sense of reinvigorated resistance. The Times published letters to the editor calling for “more restraint on word … less excited jabber and more purposeful action.” This ‘civilian’ felt that Germany had “been encouraged by the impunity with which these raids have been conducted and the hubbub in newspapers, which is to them evidence of perturbation and alarm here.” Instead of detailed news on the raids this civilian believed times called for restraint of word and the creation of an efficient defense.

Part of this efficient defense the war-weary public called for was the provision of warning signals and shelters. Thousands of people had left the East End of London in search of safer housing because of the constant threat of raids. Others found refuge in underground stations and tunnels, despite official regulations prohibiting such actions. The population sought shelter whenever they felt the need, not being able to rely on the Government’s warnings, and in doing so often disrupted everyday activity. These disruptions, therefore, became challenges to the social order of British society as “the air raid menace, more, perhaps, than any other aspect of the

113 “Germans’ Biggest Air Exploit, London on the Battle Front, A Deliberate Attack,” The Times, July 9, 1917, sec. 10c.
114 Ibid.
116 Ibid.
war, was responsible for a temporary revolution in English social and general life.”

The Gotha raids offered a new challenge to the Government, forcing them to deal with public discontent over the lack of warnings. The June 13th raid caught thousands in the streets unaware of the danger until it was too late. Furthermore, “the temptation to see what was happening overcame their sense of precaution,” as people indoors surprised by the sudden commotion rushed to see what was transpiring. Afterwards the paper’s letters to the editors posed tough questions: “why is it that apparently in London alone warnings found in other cities to be necessary in the interests of public safety are not given?”

The Government explained their reluctance for warnings on two levels. First, giving warnings would allow the public to safely take proper shelter, but it was also believed that warnings would draw the people into the streets to witness the spectacle, in the process placing them in danger from not only the bombing but the falling fragments of anti-aircraft shells as well. Despite this fear the Government succumbed, deciding to offer warnings by firing signals into the air or sounding sirens, while special constables circulated throughout the streets with ‘Take Cover’ signs. When the immediate danger was over these same constables would circulate again, signaling ‘All Clear’ by blowing whistles or bugles, or sounding bells (see Figure 5). Regardless of these warnings, there continued to be instances in which the public exited their homes to witness the spectacle. For examples people of Great Leighs in October 1917 stood in groups on the road to witness the wonderful sight of “the ceaseless ascent of star-shells” over

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119 “Air Raid Warnings,” The Times, June 14, 1917, sec. 8c.
Figure 5 – The ‘All Clear’ Signal, The Illustrated London News, October 27, 1917.
A sketch of a Special Constable, accompanied by a Boy Scout and his bugle, circulating the ‘All Clear’ after a night raid on London.
Lyons Hill Camp in the distance despite being warned of the possibility of fragments of shrapnel from anti-aircraft guns falling in the area.  

This call for warnings and shelters was not the only request, or demand, made by the public. As early as October 1915 there began a growing sympathy for “organised reprisals by aeroplanes upon German cities.” The frustration in the government over these raids rose so high that one official “seriously proposed, by way of reprisals, to shoot all the German prisoners” so far detained in England. The issue was not, in the government’s mind, a moral question of whether they should or should not execute reprisal raids, but more a lack of the ability to execute them. Commenter ‘H. W.’ in the *Times* comprehended this and explained this to the rest of England in his letter to the editor, stating that “the reason why we do not habitually drop bombs on German towns containing military establishments is simply because we have not got the aircraft with which to do it.” However, this is not to say that reprisals did not occur. The French for example on June 15, 1915 bombed Karlsruhe, a city in western Germany, killing thirty people and injuring another sixty-eight, as a form of revenge for German raids on Verdun and Nancy, as well as the extensive raiding campaigns being executed over Southeast England. Christian Geinitz suggests that it is hard to judge the relative success of these

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120 Clark, 213.
121 “Again, Who is Responsible,” *The Times*, October 15, 1915, sec. 9b.
122 This proposal was made by Jacky Fisher and when Churchill refused Fisher sent in a formal letter of resignation. Later Churchill told Fisher that he considered Fisher’s letter as an expression of his feelings over the lack of reasonable actions available and allowed Fisher to recover his letter. Asquith, 359.
124 These French reprisal raids were “little more than symbolic,” only really having propaganda value. At the start of the war the French and German’s almost immediately turned to aerial bombardment of each other’s military installations and industrial facilities. However, Germany’s geographical and technological advantages, particularly the “unrivaled range and bomb-carrying capacity” of the airship, allowed the German Air Service to far outreach their counterparts in the French Air Service. The result was a chaotic situation for the French military, well aware that they lacked the resources to inflict significant damage on the German war effort, organized reprisal raids in order to manage the public opinion. Lee Kennett, *The First Air War 1914-1918* (New York: The Free Press, 1991), 55-57, and Christian Geinitz, “The First Air War Against Noncombatants: Strategic Bombing of German Cities in
reprisal raids due to the lack of their specific aims other than retaliation. Judging from the small number of casualties from these raids, it does not appear that the British or French had much more success in bombing attempts than their German counterparts did. These reprisal raids expanded the “scope of warfare” significantly though and “contributed to its totalization.”

Many in Britain, despite the urge for revenge, felt similar to one mother, who had willingly given her two sons to fight German tyranny with no regrets. In response to a call for retaliation in the same ‘hellish’ manner brought down upon England, she wrote: “But should I live to see Englishmen sent to murder in cold blood German women and children and harmless civilians, then indeed I should begin to ask, ‘Have my sons died in vain?’.”

Hence, these calls for reprisals and the inability to carry them out added to the already tense feelings of frustration and anger building throughout England.

From the British perspective the question of the legality of air raids on civilian populations in terms of international law was thrown aside when the Germans initiated their air raids. According to Article 25 of The Hague Convention the open bombing of undefended or unfortified towns was forbidden, and even though Germany had not ratified it, was broken by the German airship bombings over unfortified towns in Southeast England from the start of 1915 onward. The British and French turn to strategic bombing campaigns later in the war made the definition of the term ‘open towns’ obsolete, forcing both sides to adapt international law to the developments of modern warfare. The result was that the “barriers that had long separated the civilian and military realms were no longer valid,” forcing the victor at the end of the war to

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125 Geinitz, 212-214.
126 A Mother, “Safety in Air Raids, The Question of Reprisals, To the Editor of the Times,” The Times, June 18, 1917, sec. 10c.
reestablish the standard of ‘civilized warfare.’ As a part of this, a post-war British Committee of enquiry in 1920 wanted to place on trial a selected group of German Officers for their participation in particular air raids over England that had concentrated their attacks on undefended or largely populated civilian locations. This attempt was halted by Winston Churchill, who felt that it was “necessary to emphasise the peculiar reverberation of such contemplated prosecutions upon the R.A.F.” These German officers were going to be tried by their ex-enemies based on orders given to them that in reality were similar to those given and carried out by members of the R.A.F. Originally attempting to bomb industrial facilities, and weaken the morale of the civilian population in doing so, German airmen often lost their way in poor weather, causing them to bomb areas they thought to be their right targets, of which similar instances could be said about their British counterparts. Churchill then asked. “Is it justice, therefore, to charge these German pilots, who for the same reasons and considerations, did to us what we did to them?” Pilots going into the next war would then be “liable to be ordered to carry out acts which his own Government have in the last war punished as crimes when committed by enemies, and justified as either legitimate military operations or reprisals when committed by themselves.” Finally, Churchill made the point that if at the end of the next conflict they were defeated, based on their precedent would their pilots be tried as war criminals as well. This one instance then demonstrates fully how far the conflict of the air war helped in the degeneration of ‘total war.’

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127 Geinitz, 214 and “Air Raids on London Justified, German Official View,” The Times, April 2, 1915, sec. 6c.
128 CAB 24/98, Demands for Surrender of German Airmen for Trial, 16 February 1920.
129 Ibid.
130 Ibid.
CHAPTER 5

A NEW THREAT: PROGRESSION TO ‘HOME DEFENCE’

Why did the bombings of pre-1917 not cause the government to establish a sufficient ‘Home Defence’ system, and what dramatic change occurred in 1917 that finally initiated action? Perhaps the honest answer to this question, as far as the government was concerned (at least until 1917), was that aerial warfare through the use of the Zeppelin was not seen as a sufficiently damaging threat. Evidence points to this sentiment time and again. In the same Parliamentary Debate over the two-Power system, Sir Arthur du Cros, a strong supporter of military aeronautical development, states in terms of airplane supremacy that the position of the need for aeronautical defenses had “been explained, but I do not think it is yet fully realized.”

To further his argument, du Cros details Germany’s airship program’s progression, including its effective range, ceiling, speed, and weight capacity, by comparing it to their own present failures in aerial advancements and more importantly their overall lack of interest in such matters. While du Cros did overestimate Germany’s early production capability and their actual number of airships, estimating twenty-four by 1912, he nevertheless felt its importance should not be ignored. In addition to du Cros’s clearly unheeded concerns by the Members of Parliament were also the warnings of Lord John Montagu, who in 1916 was considered by the *Times* to be

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131 Sir Arthur du Cros, 108.
“one of the very few men who can claim to have been wise in this connexion before the event.”

In 1909, he warned of the possibility of flying becoming a common event with the development of airships evolving into an obvious weapon. A year later he would repeat his beliefs to the House of Lords, further warning them that “Germany had sufficient dirigibles to meet those of all other Powers.” Finalizing his ‘prophetic role,’ in 1913 he concluded that “there had been rapid development in aviation and new problems had arisen … for the destruction that might be brought about by these aircraft would be more nerve-shattering and do more to shake the confidence of the people than a definite defeat on sea or land.”

Unfortunately there was a lack of interest and comprehension of the possible threat that hand as the Home Air Committee’s concluded that an “invasion of Great Britain in air-ships on a large scale may be dismissed as unlikely for many years to come,” but that attacks by dirigible balloons could not be dismissed. As such, at the outbreak of the war it is only understandable to perceive how unprepared the British were in terms of aerial defenses as England slowly developed as part of the warfront.

As a result of the lack of government and military interest before 1914, the army concentrated on aerial warfare for the frontlines, sparing little attention to the defense of England, while the navy’s focus was on defending the Channel and only attempted to pick off the bombers on their return flights. Realistically both the army and navy were poorly equipped to manage an effective form of defense against any type of aerial attack that the Germans threw against them. This was particularly true due to the lack of resources available to both service branches as a result of the War Office’s prewar failure to adequately invest in the development of

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133 “Air Debate To-Day, Lord Montagu Among the Prophets,” *The Times*, March 9, 1916, sec. 9e.
aerial research. Yet, each service felt a sense of responsibility for the protection of the home front; under First Lord of Admiralty Winston Churchill, the admiralty in particular accepted the responsibility of the defense of London.\textsuperscript{135} But responsibility did not equal preparedness; when the first airship raids occurred on the night of January 19-20, 1915, “the enemy took advantage of poor British defences and roamed the industrial areas...bombing factories, military installations and the civil population.”\textsuperscript{136} These raids caused fear for the future, demonstrating the capability of imposing devastating property damage and loss of life, dramatically impacting the civilian population.

After a raid on October 14, 1915, questions of who was responsible for the defenses started to be asked. One villager’s cynical opinion on the matter was that the Zeppelins “didn’t know their business. Why don’t they drop their bombs on Parliament – When the MPs are there? A lot of them could be spared.”\textsuperscript{137} Other people shared these same feelings questioning not only who was responsible, but what the government was doing in general to halt the every-widening targeted area.\textsuperscript{138} On October 18, the people learned that these duties were shared by the “authorities, and that the centralization of organization and control which is so essential was still wanting.”\textsuperscript{139} This ‘wanting’ remained until February 1916 when the widespread airship attacks caused an outburst of activity by various departments.\textsuperscript{140} The public at the time was enraged at the damage caused by the Zeppelins and could not understand why the government did not do something to prevent the extensive damage. France Stevenson, secretary to David Lloyd George

\begin{footnotes}
\textsuperscript{136} Ibid., 411.
\textsuperscript{137} Clark, 91.
\textsuperscript{138} “Again, Who is Responsible,” \textit{The Times}, October 15, 1915, sec. 9b.
\textsuperscript{139} “Protection from AirRaids, Question of Respondent,” \textit{The Times}, October 18, 1915, sec. 6d.
\textsuperscript{140} “Government Activity, Responsibility for Air Defences,” \textit{The Times}, February 4, 1916, sec. 8b.
\end{footnotes}
and his future wife, provides important insight to the inner-workings of these governments actions. Stevenson described the situation as an “unholy muddle” with both the War Office and the Admiralty placing the responsibility on the other. As Lloyd George summarized his shock of the dilemma:

One hears the most appalling tales of the unpreparedness of our air services … It does seem extraordinary that we allow things to slide along for all these months, until some big disaster happens. The public know nothing: they can only guess …

It took until February 10 before the War Office was finally able to grasp a firm footing on the situation, finding out the hard facts about the defense status. Lloyd George learned “that apart from the aeroplanes charged with the defence of London (24 in number) there [were] two for the defence of the rest of the interior of England.” Stevenson commented that twice thereafter Lloyd George was astonished at the lack of decisions made by the government despite the amount of discussion held on the topic. This evidence provided alludes to two possibilities explaining a lack of action. Either, they were unaware of what to do in this case, illustrating their lack of knowledge on the aerial technologies and warfare, or they lacked the resources to construct defensive capabilities, forcing their agitated public to wait until they were capable.

Unfortunately, public perceptions at the times often failed to grasp the true difficulty behind the situation, and in certain circumstances violently retaliated against the closest governmental or military personal. Reported incidents included the pelting of military vehicles of the Royal Flying Corps after one Zeppelin bombing. In this case, historian Eric Niderost provides the interesting story of a young RFC pilot, Lieutenant William Leefe Robinson, who commented that the civilian population “didn’t understand. How could they? Zeppelin raids

141 Frances Stevenson, 95.
142 Ibid., 97.
143 Ibid., 97-99.
occurred at night, when flying was at its most hazardous.” Robinson continues his defense by explaining the paradox of night flying as the inability to spot an airship at night, despite its rather large size, unless captured by the beam from a searchlight. It is interesting to note here, that the airship Capitan-Lieutenant von Buttlar-Brandenfels describes in his lecture the ease involved in dodging the numerous searchlights that, coincidentally, aided in their navigation to London. De Groot offers a perfect illustration of Robinson and the public’s frustration, describing an angry crowd in 1916 stoning a vehicle of the RFC after a night raid on their town, with the “assumption that the airmen were to blame for inadequate protection.” However, the raids in general illustrated the defensive flaws of the British ‘Home Defence’ system, sometimes themselves causing lethal amounts of causalities due to falling anti-aircraft rounds.

Rising pressure on the War Cabinet, from both the public and the press, worsened the situation when the Admiralty was called upon to act, but instead withdrew its responsibility completely, allotting its entire defense arsenal for the use of the army. Henceforth, the Admiralty became responsible only for the seaward side of the defense, while the army was provided with the additional resources to expand its home defense program. By June 1916, the RFC had grown, with the assistance in observation by warships in the North Sea, producing as a result sufficient early warning system. Adding to this development was further lighting restrictions, early warning systems, and air raid shelters, which consisted of natural caves, underground subway systems, and basements throughout the south of England. With the

144 Niderost, 48.
145 Ibid., 48.
146 Buttlar-Brandenfels, 19.
147 De Groot, 200.
148 Niderost, 54.
149 White, 413.
150 De Groot, 200.
establishment of this system, it is no surprise that on the night of September 2-3 the first airship was brought down by none other than the frustrated young Lieutenant Robinson. This victory was seen by spectators and airship crews from miles away, and sent the message to both the British public and the German crewmen that the airship’s unmolested reign of terror over England was coming to an end.\textsuperscript{151}

With the defeat of four airships, two in September, one in October, and the last in November, the airship’s destructive reign over England came to a slow end. Still while the defensives were successful in warding off a majority of their adversaries, it did not mean that by any means they were perfect. Case to point is the airship raid by Zeppelin L21 on the night of November 27-28 under the command of Captain-Lieutenant Frankenburg. Having disposed of his bombs over the Potteries, most likely due to not being able to locate his target, and affected by engine trouble, Frankenburg traveled from Nottingham, across Lincolnshire, past Marham, and out into Norfolk. Here he was spotted by searchlights of the Buckminster airfield, which then sent members of the 38\textsuperscript{th} Squadron in pursuit. After taking evasive action to lose the aircraft, he turned to the coast and Great Yarmouth where daylight revealed his position to three pilots of the Royal Navy Air Service (RNAS). To continue the charade, of the three pilots of RNAS, the first pilot’s gun jammed during the attack, while the second’s was rendered useless by frozen oil, before the third was finally able to destroy the airship. Frankenburg’s impressive flight through the heart of Britain’s largest concentration of airfields may have ended better had daylight not betrayed his escape.\textsuperscript{152} Such an example provides an important detail at this stage in England’s defenses. While the defenses were able to destroy four airships in the three month

\textsuperscript{151} White, 414.
\textsuperscript{152} Ibid., 417-418.
period, the voyage of L21 proved that they still could not deter every airship that attacked the home-front, before or after they dropped their bombs.

Ultimately, then it became the task of the “Gotha bombers – a horror much greater than Zeppelins –” to accelerate the improvement of Britain’s ‘Home Defence’ system. In these terms, this meant the enhancement of not only the ground defenses, but also the aerial units, who at the time were deployed using very little tactical coordination. There were two factors that had to be overcome for this to occur. The first was a “rivalry between the two services” that was so intense “that reason and logic were allowed no place in Britain’s air defense arrangements.” The second was the inability of the British industrial facilities to properly supply both the aerial needs of the RFC and the RNAS. In attempts to solve these issues the government assigned a Joint War Air Committee in February 1916, which failed due to lack of any form of executive power, and an Air Board in May 1916, that was still discussing options to alleviate the issues when David Lloyd George’s government took over. Lloyd George’s War Cabinet started by removing the responsibility of procurement of aircraft for each service from each branch, instead placing it in the charge of the Ministry of Munitions. This mistake would only be realized too late, as the Ministry of Munitions sent a majority of its resources to the French front in support of the expeditionary forces and the RFC, limiting the size of the home defenses.

The mistake became clear to the War Cabinet as the daylight Gotha raids began in May 1917. Culminating with the two raids on June 13 and July 7 that claimed over 800 causalities

153 De Groot, 247.
154 Saward, 9.
and fearing the public pressure for defense against further raids and retaliation, the War Cabinet was forced to realize the inadequacy in Britain’s defense system. The current defenses, designed to fend off slow night-raiding airships, was an ineffective form of defense against numerous smaller, more maneuverable aircraft. The political fallout from the poor performance of the defenses during these raids, and the immediate threat that came with this new form of assault, launched for the first time a serious debate over providing proper protection in the Cabinet (see Figure 6). In the Cabinet’s opinion the situation required one of two actions. The government could recall its fighters from the French Front to defend its cities. Alternatively, it could allow them to stay in France with the hope that their presence would make a difference in retaking Belgium, and therefore overtaking the German air bases.\textsuperscript{157}

To come to a decision the War Cabinet turned to General Jan Smuts in July 1917, who knew little of aerial warfare but had been rewarded for his efforts that led to victory in Africa with a permanent seat on the British War Cabinet.\textsuperscript{158} Smuts gave two reports to the War Cabinet, first on July 11 and the next on August 17, recommending the expansion of the current defense system that would relieve the two dilemmas Smuts saw as a detriment to the current system. The July 11\textsuperscript{th} report deliberated on what Smuts considered the “more pressing” of the two dilemmas, “the defence arrangements for Home defence against air-raids.”\textsuperscript{159} Smuts, having little knowledge of the situation, began in the report by presenting the history of the aerial development to date, and identifying that while the new threat of the Gotha must be met, the old defenses against the airship should not be abandoned. In discussing the present threat, he

\textsuperscript{157} Saward, 10.
\textsuperscript{159} CAB 24/20, Minutes of a Meeting of the War Cabinet, 11 July 1917.
Figure 6 – The Business of the Moment, *Punch*, July 18, 1917.
This illustration appeared in *Punch* after Smuts' first report displaying 'John Bull,' England's classic idiomatic character, making a promise to end the Gotha's reign of terror like he did with the Zeppelin (shown in the background).
continued by enumerating the systems flaws, concluding that only through the use of a barrage of gun emplacements or the concentrated attacks of coordinated fighter squadrons, which could scatter the formation, would the threat be adequately halted. However, upon Smuts’s evaluation of these two defensive features, he found the battery emplacements in and surrounding London to have been placed sporadically, while the tactical formations of the aerial defense force were non-existent. Furthermore, Smuts continued by criticizing a majority of the defensive organizations for their lack of cooperation in terms of communication, only really commending the RNAS for its role in the detection of incoming raids and its retaliatory effort to intercept the outbound raiders on their return home.

To remedy this, he called “for a corresponding concentration of executive command” between the Observation Corps, the numerous RFC defense squadrons, and the anti-aircraft home defense units under the direction of one “Senior Officer of first-rate and practical air experience.”\(^\text{160}\) This officer was Brigadier-General Edward Bailey ‘Splash’ Ashmore from the artillery, who was to head the newly formed London Air Defence Area (LADA).\(^\text{161}\) LADA’s objective as a central command structure was to collect and provide rapid and accurate information to each branch in order to better coordinate an effective defense. Ashmore, under the guidance of Smuts, worked to reposition London’s defensive guns and searchlights into three rings of defense. Its outermost defense ring, located ten miles from the city, consisted of searchlights and anti-aircraft guns meant to breakup or harass the bomber formations before they reached the middle ring. The outer ring became a no-fly zone for friendly aircraft since these defenses were ordered to fire on any aircraft spotted in the area. The middle ring then was
reserved for fighters who followed predetermined courses of flight, aided by searchlights, meant to intercept the bombers before they reached their targets. Finally, the inner ring was located directly over London’s populated areas, also a no-fly zone for the British fighters, which had more anti-aircraft guns and searchlights with orders similar to the outer ring. Aiding this area as well was a large number of barrage balloons that acted in a similar fashion to floating mines to entangle aircraft.\(^{162}\) In the conclusion of his first report, Smuts finally attempted to solve the dilemma of the inability of the fighter squadrons to fight in formation by identifying the necessity to improve the training of future pilots and retaining those trained squadrons in London until sufficient accommodation could be made to bolster its defenses.\(^{163}\)

The second report to the War Cabinet on August 17 addressed the second dilemma that Smuts founded as a complication to the defense of the nation. This dilemma centered on “the Air organisation generally and the direction of the aerial operations” and paid special attention to the misuse of the organization as an ancillary service to those of the military and the navy.\(^{164}\) As such, Smuts pinpointed the rivalry that had developed between the RFC and RNAS as a result of both service’s attempting to obtain already limited resources, and the eventual failures of the Joint War Air Committee and the Air Board in solving the issue. Retrospectively, Smuts identified that the threat of aerial warfare, especially after the success of the German bombings in June and July, could not be denied, and so uses this threat as leverage to push for the development of an individual air service. Hereto, he pinpoints that after the arrangements of a ‘Home Defence’ system had been established, the next phase to resolving the air problem was

\(^{163}\) CAB 24/20.
\(^{164}\) CAB 24/22, Minutes of a Meeting of the War Cabinet, 17 August 1917.
the beginning of advancements in the field of aeronautical industries for the proper supplying of both branches of the service. Once completed, Smuts then advised for the creation of an independent aerial service to manage the surplus aircraft and further the progression of aerial operations independently from its sibling services. Smuts recommendation meant the slow and eventual demise of the RFC and RNAS.\textsuperscript{165}

One way to evaluate the results that Smuts’s recommendations had on the defense of England is to examine his September 6\textsuperscript{th} memorandum to the War Cabinet on the defense system’s progression, which provides a summary of the actions taken to resolve the dilemma. Smuts commented that the general evolution the German bombing campaign had undergone numerous transitions to maintain their successful operations, while he simultaneously admitted that the British were struggling with their defenses as result of the appearance of the night bombings by the Gothas. Here he recommended the installation of wire-screens suspended from balloons and the possible acquisition of more powerful searchlights for the purpose of blinding the Gotha pilots. Smuts, once again, attempted to advise the War Cabinet in the defensive measures, but concluded ultimately that it was not enough. Pushing this further, Smuts recommended for the War Cabinet to start the bombing of German facilities, acting as a release of some public pressure for retaliation while simultaneously drawing German fighters away from the frontlines. Smuts finally concludes by expressing his concerns about the protection of the civilian population. He believed that at that time air raid shelters remained unnecessary, especially due to the vast number of basements and cellars located in London, it was still of the utmost importance for the Home Office to warn the public of incoming raids.\textsuperscript{166}

\begin{flushleft}
\textsuperscript{165} Ibid.
\textsuperscript{166} CAB 24/25, Letter from Lt. General J. C. Smuts to War Cabinet, 6 September 1917.
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Smuts’s recommendations for the improvement of the ‘Home Defence’ can also be considered the founding call for the creation of what became the Royal Air Force and Britain’s future civil defense system. By calling for the defense centered on London under the command of Major-General Ashmore, Smuts’s report created a number of defense mechanisms, including: centralized command and control for observation, the management of anti-aircraft guns, the deployment of barrage balloons, and the coordination of the intercepting fighter squadrons. In respect to the creation of the Royal Air Force, it was Smuts’s recommendation that “all matters in connection with aerial warfare of any kind” should be under the control of one ministry that would finally be inaugurated on April 1, 1918 under the Air Ministry.\textsuperscript{167} To illustrate Smuts’ overall influence in the ‘Home Defence’ system is the imposing fluctuation in the number of aircraft provided, for the purpose of replacement and establishment of new squadrons, between June and September of 1917. The annual report as of October 10, 1917 showed that before June of 1917 the ‘Home Defence’ squadrons received between two to six percent of these new aircraft, with a slow decline in numbers leading into the months of June and July. However, it was here that the numbers soared from its measly two percent to seven in June, the ‘Home Defence” receiving seventy-one out of 892, and peaking at thirteen percent in July, receiving 147 out of 1,059. Thereafter, the number steadily declined again from ten percent in August to five percent in September.\textsuperscript{168} These numbers clearly justify how seriously the War Cabinet finally took the matter of defense. Under Smuts’s guidance the defenses of London improved to the

\textsuperscript{167} Saward, 11.
\textsuperscript{168} CAB 24/28, Statement submitted by the Air Board on Supply of Aircraft, 17 August 1917.
point that by August 1918, in combination with the more general negative turn of the war for Germany, all attempts of the bombardment on England had ceased.\footnote{Maier, 213.}

This is not to say, however, that Germany’s effort in their bombing campaign was a failure. According to the German High Command, the first task of their bombing squadrons was to support the army at the front. To that end, the minimal force of Zeppelin and Gotha bombers deployed in action over England was undeniably successful. Their ‘principal objective’ was to “compel the British to maintain ‘an enormous barred aerial zone’ with forces which otherwise would be used at the front.”\footnote{Fredette, 186 and 207.} The few raids that continued did just that. On August 5, 1918, Germany’s Zeppelin Division made one last ditch effort to raid England. Lead by the fanatical leader Frigates Captain Peter Strasser in Germany’s newest Zeppelin, L70, five airships reached the coast of Britain before being intercepted by England’s aerial defense squadrons. After only one minute of engagement, the L70 was engulfed in flames, claiming all who were onboard, causing a dramatic lose of heart for the remaining airships, which immediately turned for home. “Although the effects were nil, this last abortive raid sufficed to keep the British on the alert until the Armistice.”\footnote{Ibid., 213.} The military effectiveness of the German effort “must be weighed in terms of the British forces diverted to air defence.”\footnote{Ibid., 231.} In October 1918, when Germany on the Western Front was in full retreat, survey’s of Britain’s aerial defenses showed 16 squadrons still frozen in idleness on the home front. So in evaluating the outcome of the German bombing campaign and the British ‘Home Defence’ system, it is not simply just having a winner or a loser. While the British eventually rose to the accusation by meeting the challenge offered by the bombings, so
too were the German’s successful in diverting valuably needed resources and manpower away from the Western Front.
CHAPTER 6

POST-WAR TO PRE-WAR

With the questions of Britain’s aerial defenses finally solved – after an intensive three years attempting to rid the skies of the German threat – what was Britain’s next step in the evolution of their ‘Home Defence’ system? Having created a highly centralized intelligence and command system, centered on a specialized control room, LADA had the ability to rapidly disperse information to defending formations by day and coordinated patrols by night. Historian David Zimmermann believes that the “effectiveness of the air defences during the First Battle of Britain remains a subject for historical debate.” He feels that Britain’s problems in the war were of organization and technology, as they were constantly forced to adapt to the rapidly changing technologies and tactics of the German aerial units. Zimmerman’s position comes from the fact that Britain’s defenses had always benefited from the technological limitations of the German aircraft used against them. The Zeppelin’s weakness was not only their relatively large size, which made them easily identifiable, but also their slow maximum speed, their inability to maneuver compared to their defenders, and their temperamental operational abilities in different weather conditions. Likewise, the Gotha raids also operated at the limits of the capabilities, often flying to the edge of their safety radius in relatively small numbers, with several weeks between raids, and little fighter support. Each raid, already outnumbered by the

enemy defenses, became more perilous for these pilots, as the British defenses and fighter formations grew and became better coordinated later in the war. Yet Zimmerman believes that the “German and British technological achievements were remarkable, given the state of technology and the non-existence of doctrine prior to the war.”

In order to fight these deficiencies in their technological capabilities and halt the German aircraft, the British turned to their ability to rapidly assemble, process, and distribute intelligible information. In this case, “information was the key to this Revolution in military organization, command and control procedures, and tactics.” Technique and interpretation, rather than hardware, became the influential factors to Britain’s defensive system in World War I. However the interwar years would allow the British the time required to develop the proper tools needed for a more technologically advanced system that when combined with their information network would produce an adequate defense. This is not to say that aerial defense was given high priority; indeed, it started off on rocky footing. After the war’s end the aerial defense system slowly melted away so that by 1920 all searchlights and anti-aircraft guns were non-operational, while the eleven fighter squadrons and LADA’s control room and communications network were both discontinued. It would be two years before it was revived by the joint commission of the Air Ministry-War Office, who would return to the LADA defense strategy. In 1924 LADA would evolve into the Air Defence of Great Britain (ADGB) to simultaneously control both the offensive and defensive forces in home defense, while the Observation Corps was established to track enemy aircraft. ADGB’s concentration throughout the 1930s was the improvement of information gathering techniques in order to “move the fighting zone forward, providing more

\[174\] Ibid., 373.
\[175\] Ibid., 370.
opportunity for fighter to intercept attacking aircraft” before they reached their target locations.\textsuperscript{176} As such, this task was becoming a constant struggle as the advancement in technological developments in aircraft increased aircrafts speeds, putting the defending aircrafts possible interception points after initial detection closer and closer to London and industrial facilities. By 1935, while the RAF understood that a command and control system with the purpose of providing early warning for an effective interception was necessary for the successful defense of England, the technology to provide sufficient long-range and reliable detection was still missing.

The technology needed to fill this gap was a longtime coming from the start of the First World War. Britain was initially only open to two forms of attack at the war’s outbreak, by sea and air. While the first of these was well defended by the largest naval fleet in the world, the latter seemed, at least to the British government, an improbable threat. Aircraft, with the exception of the airship, lacked the range or endurance needed to reach significantly into the British interior. Initial detection of these mammoth airships became a simple matter of the interception of the German wireless transmissions that often lacked discipline in maintaining radio silence. Once over land, the forerunners of the Observation Corps went to work tracking these airship’s movements and reporting their sightings to London defenses. In an attempt to fill the gaps between detection and sightings, the British leadership began experiments on devices of detection, including an Acoustical Sound Mirror System.\textsuperscript{177} This experimental system, headed by Dr. William Sansome Tucker, took even further importance in 1917 as the beginning of the German Gotha raids placed pressure on the British government. The Air Ministry fully believed

\textsuperscript{176} Ibid., 373-375.
that in order to obtain adequate time for fighter interception, an effective long-range detection system was required. Tucker’s mirror system was believed to provide this, adapting microphone technology to detect and magnify specific tones generated by the sounds of approaching aircraft. In good weather conditions the technology could detect approaching aircraft up to twenty-five miles away, while in bad conditions detection was not much better than the bare ear. These detections, lacking details of altitude or aircraft speed, allowed for at most only 6 minutes of advance notice and found that the smaller the mirror the worse the results were. Still by 1925 the mirror system was given a “lukewarm endorsement … because it was ‘the only system which can be applied at present with any hope of success’.”¹⁷⁸ In 1933 Tucker was given the order, by the Air Ministry, to construct nine giant sound mirrors along the Thames Estuary to serve as a form of aerial defenses. However, before the construction of Tucker’s mirror system was fully under way it experienced a serious blow. A 1934 November survey of the technique revealed fatal flaws to the system illustrating that it did not provide a solution to the early warning problem. Suffering from technical limitations, the system had a number of inconsistencies including a scattering affect of sound in the atmosphere and the dependence of its acoustical horizon based on temperature and wind. These negatives, however, were not its downfall, which instead came from the rapid progression in radio technology and the “dramatic advances being made in aeronautics.”¹⁷⁹ The invention of radar technology offered the British defenses another alternative besides Tucker’s inconsistent mirror system.¹⁸⁰

¹⁷⁹ Ibid., 83 and 96.
¹⁸⁰ David Zimmerman believes Tucker’s “mirror program is a case study of everything that can go wrong in a military scientific development program. It is the study of a scientist whose attempts to perfect a fatally flawed technology became an obsession that almost left his country open to aerial assault.” Zimmerman, “Tucker’s Acoustical Mirrors,” 73.
The creation of Robert Watson Watt’s radar system ended the active experimentation of acoustical devices for the detection of incoming enemy aircraft. Radar, using high-frequency pulses, was able to detect aircraft from at least sixty miles away, solving Britain’s problem by moving the fighter interception ring out from populated cities and industrialized facilities. This system also altered the method of fighter tactics from its World War I tradition of concentrating defenders in a ‘barrage formation’ over predicted targets in hopes of interception to actively allowing its pilots to diligently and accurately intercept incoming bomber formations before they reached their targets. Another development that aided in the defense by cutting down on the amount of confusion was the invention of the tracking signal. Placed on all defending planes, these signals allowed the ground control units to not only identify friend from foe but also relay changes in interception vectors. “The key was to ensure that accurate information on approaching aircraft flowed into the operations room at headquarters, and that from there, it was rapidly disseminated to Fighter Groups and sector stations which would control the actual interceptions.”\(^\text{181}\) Zimmerman’s overarching point is that while the technological developments that occurred in the interwar period provided the tools that gathered the ‘raw data,’ it was the information network developed during the First World War that was required to decipher and disseminate the data. The inheritance of that system by the Second World War establishes the importance of its creation in the First World War – a creation that was brought about by Britain’s need to protect its civilian population.

As for the air-raid shelter policy, according to historian Joseph S. Meisel, the British approach in the interwar period was initially very low-key. Meisel states that “Britain’s interwar government treated the issue of civil defence in general, and shelters in particular, as a political

problem rather than a practical one of planning, technology or innovation.” 182 The Committee of Imperial Defence made an inquiry in 1924 over different possibilities, but little was determined until 1937 when the growing public concern over the deteriorating situation on the continent led to the Air Raid Precautions Act. This Act promised to “provide shelter against blast and splinters for people caught in the street during raids and for those houses impractical for refuge.” 183 The Munich Crisis in 1938 only heightened the scare as the public found the government’s precautions inadequate. Pressure from the public once again caused the government to take action, providing as a result a defensive structure that became known as the “Anderson Shelter – a mass produced corrugated steel structure designed to be erected in the yard or garden of a home and protect its occupants against blast and splinters (but not direct hits).” 184 Furthermore, the government recognized that while these ‘Anderson Shelters’ could provide relatively adequate shelter for less congested suburbs, they were in no way suitable for the congested working-class districts. In these areas, the government provided communal shelters but still maintained strict regulations on the use of underground tunnels for protection during raids. It is an interesting note that at this point in history that Britain’s governmental officials were against the building of large air raid shelters. This resistance came from the thought that an enemy would feint an attack in order to immobilize the country’s war effort by driving the population to the shelters on a constant basis. Additionally, British reports held the opinion that most “citizens would prefer to count upon a less effective protection at their homes” than exit them for larger shelter, feeding off of a humanistic instinct to feel more comfortable in

182 Meisel, 300-301.
183 Ibid., 305.
184 Ibid., 306.
one’s own castle than in another.\textsuperscript{185} Despite the common thought in Britain that the ravages of the Second World War on Britain would be far worse than the First World War’s results, it is unconceivable how little the government prepared England in terms of providing safety for its civilian population. It is understandable then why Meisel believes that in reality the British government only offered an “illusion” of protection to calm the “psychological nature” of the British population.\textsuperscript{186}

As the dawn of the Second World War approached, Britain was not the only nation preparing for the coming air conflict. Germany’s \textit{Luftwaffe} was also slowly taking shape, but a shape slightly different from its historical predecessor or its current rivals. Initially the Luftwaffe intended to perform the task of ‘terror-bombing’ to produce a moral collapse and weakening of the enemy’s national cohesion by dividing the sociopolitical tensions and creating political controversy through the bombardment of the enemy’s urban and industrial facilities. However, these intentions altered in the mid-1930s as its leadership, under the direction of Hermann Göring, attempted to switch its intended function from purely strategic bombing to playing a more tactical role in the support Adolf Hitler’s \textit{Blitzkrieg}.\textsuperscript{187} The mistake in turning away from the production of aircraft that could adequately accomplish ‘terror-bombing,’ though, would not be fully comprehended by Germany’s leadership until it was too late as the ‘Battle of Britain’ slowly turned in Britain’s favor. This is not to say that the Luftwaffe’s role in its tactical support of the German army was a failure. Indeed quite the reverse was true, as Germany’s testing of the Luftwaffe’s abilities in the Spanish Civil War proved, shocking the British public and Parliament. As one historian stated it:

\textsuperscript{185} Ibid., 307 and 314.
\textsuperscript{186} Ibid., 317.
\textsuperscript{187} Maier, 212-214.
This widespread fear of the German air menace prevented the British political and military leadership from making a clear-headed analysis and realistic evaluation of the Luftwaffe’s real striking power in a strategic war in the air. It thus had a fatal effect on British foreign policy, above all during the Czech crisis in the autumn of 1938.\textsuperscript{188}

Such statements provide fine explanation of why appeasement between Britain and Germany occurred in the interwar period.

Another perspective, however, establishes a more favorable image of the British leadership depicting Britain as buying time through appeasement for their own rearmament. This viewpoint suggests that “appeasement was a complement to balancing, rather than an alternative to it.”\textsuperscript{189} The British and French surrender of Czechoslovakia in 1938 was a byproduct of a careful assessment of their combined capabilities to deter the German threat, “rather than the mistaken belief that war could be avoided for the foreseeable future by satisfying German grievances.”\textsuperscript{190} Time became the vital factor then to the defeat of Germany, as Britain lacked the economic strength for rapid rearmament; additionally, fearing that any sudden surge in defense expenditures would further agitate Germany. Hence, given that the balance of power favored Germany so heavily, “particularly with the weakness in the RAF and the British air defenses, it was not the optimal time to engage Germany in a general war.”\textsuperscript{191} Fear of this upcoming war gripped Britain. The people’s thoughts instinctively flew upwards as memories of air raids became as much a “propellant as any knowledge of air developments since.”\textsuperscript{192} Moreover, the people were constantly reminded of the threat and the need for ‘passive’ and ‘active’ defenses as once again aerial literature – books, articles, posters, brochures – reemerged.

\textsuperscript{188} Ibid., 215.  
\textsuperscript{189} Norrin M Ripsman and Jack S. Levy, “Wishful Thinking or Buying Time? The Logic of British Appeasement in the 1930’s,” \textit{International Security} 33, no. 2 (Fall 2008): 151.  
\textsuperscript{190} Ibid., 169.  
\textsuperscript{191} Ibid., 167 and 169-170.  
\textsuperscript{192} Fredette, 231.
“Prophets of air warfare outbid each other in describing the horrors of coming conflicts:” the destruction of military and industrial installations; the disorganization, annihilation, and ravaging of towns; and the terrorizing of populations. Images of the First World War had left definite psychological impressions on their victims. For these reasons, Britain, unsure of its own aerial defensive capabilities in 1938, was unwilling to put to the test the offensive capabilities of the German Luftwaffe, as recollecting memories of World War I bombings by far inferior aircraft became a constant reminder of what could be.

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194 In reality the Luftwaffe was only capable of supporting Hitler’s *Blitzkrieg* at the outbreak of the war in 1939 and was in no war capable of fighting the combined air forces of Britain, the United States, and Russia. Maier, 218.
CHAPTER 7

CONCLUSION

While the bombing of Britain in the First World War had at times limited effectiveness, the more important aspect to its role in history was its influence on the evolution of warfare, perceptions of warfare, and its function as a part of total warfare. There is little doubt that the evolution of aerial warfare that occurred during the war played a substantial part in the development of aerial history in general and aerial warfare specifically. Without the war, the achievements of aeronautical advancement would have continued to progress slowly with possibly substantially larger gaps of time between technological breakthroughs. Simultaneously, the perception of aerial warfare would greatly alter how future wars could be fought, altering the older tradition of ‘regulated warfare,’ that had some form of ‘self-containment,’ into an intensified brutalization where violence was not limited to the battle field, but could be found on the home front as well. As a result, aerial warfare and particularly any form of bombing of a civilian population can be seen, just like unrestricted submarine warfare, as a factor into the twentieth-century’s evolution of ‘total war.’

Historian Klaus Maier would agree stating that “total war … reached its ultimate form with the technological innovation of aircraft. Air forces made it possible to bomb the civil
population as well as war production deep behind the front-lines held by the armed forces.” In such a case he denotes three consequences as a result of total war: first, the entire nation becomes exposed to the horrors of warfare, not just the armed forces of a nation; second, that as a result of the first consequence one’s entire nation is mobilized and not just the armed forces; and finally third that in order for complete mobilization to occur properly during war there must be organization of the armed forces during peacetime. The end result of this last consequence is the blurring of the lines between peacetime and wartime leaving few distinctions between the two. This result can be clearly seen as Britain’s interests in defense against future aerial bombardments slowly increased leading into the dawn of the Second World War. Some in Britain would sense the coming of the Second World War, much like the prophetic novelists at the turn of the century, and begin to prepare for the worst.

In examining the effectiveness of Zeppelin and Gotha bombing campaigns over Britain in the First World War, it would be a mistake to evaluate them based solely on their efficiency. Doing this would fail to consider the technological abilities of the Zeppelin at its time in aeronautical history, and therefore, not consider that it was an influential innovation in a rapidly developing stage of aerial warfare. Along these same lines, while the Gotha raids would be depicted as a capable of a form of aerial destruction, it too would fail such an examination due mainly to Germany’s reluctance to use it for the duration of the war. Some historians, like Niderost, and German Zeppelin commanders such as Capitan-Lieutenant von Buttlar-Brandenfels, would disagree feeling that the “Zeppelin seemed tailor-made as an agent of aerial

195 Maier, 211.
196 Ibid., 211.
destruction.”\textsuperscript{197} It would also be a miscalculation then to compare the casualty rates on the First World War to those of the Second World War on the basis that the flying machines from the first were “obviously less potent weapons” than its highly evolved successor.\textsuperscript{198} By making this comparison there is a failure to recognize the precedent of the England’s reunion as a part of the European continent, no longer allowing it to be isolated and independent for the major European conflicts whenever it chose to.

A full accounting of the German bombing campaigns would include the development of the British aerial defense system. A defensive system that included public shelters, steel netting to protect important buildings, 353 searchlights, 266 anti-aircraft guns, anti-aircraft balloons, 159 day fighters and 123 night fighters, and over 20,000 military personal, all of which coordinated by a centralized system, LADA, for the ultimate efficiency in the protection of England. Despite these precautions, while the Zeppelin could be caught due to its relative size, speed, and slow rate of climb, the newly established air defense system proved highly ineffective against the German bomber campaign, which would only lose twenty-four aircraft from English defenses in its limited use against England.\textsuperscript{199} Nevertheless, it was due to the raids of June and July that the British government became aware of the alarm and fear of the general public feeling the pressure to take action. This action appeared in July 1917, and the recommendation of the Smuts Committee in the creation of a competent ‘Home Defence’ system.

Finally a direction of interest which has appeared due to this field’s historical significance has been a question about what effect the bombings of the First World War may

\textsuperscript{197} Niderost, 50.
\textsuperscript{199} Beckett, Home Front, 1914-1918, 187.
have had on the incoming morale in the Second World War, especially considering the high levels of aeronautical developments that occurred in the interwar period. To answer, it is the shared opinion of both Niderost and De Groot that the bombings of the First World War did nothing to alter the tide of the war then, in terms of morale, in the favor of the Germans, but instead kindled the British willpower to finish the fight.\(^{200}\) Despite this strong willpower over the bomber in postwar era, John Terraine in his investigation into the wartime bombings, does accredit it as “one of the key influences in the British policy of ‘appeasement’ towards Germany in the 1930s.”\(^{201}\) This ‘appeasement’ fear centered on the new advances made in aeronautical technology in the postwar era, causing the British public to fear the bomber, especially for those civilians who remembered the First World War as a cause to the intensification of violence. British war memories of the brutal manifestation of the bombing terror combined with the government’s lack of action, or capability to halt them, created a vivid picture of the future wars.

In the end, “the paradox running through the whole literature of the imaginary wars of the future is that they begin as an argument on the need to prepare for the next war and they end on the Huxleyan theme of the need to prepare against the possibility of another war.”\(^{202}\) When does preparation at the conclusion of a war end and preparation for the next war begin then? This statement was never truer than it was for the British at the end of the First World War, especially in terms of their struggle to produce a viable and reliable ‘Home Defence’ system that would protect them from future aerial assaults. The First World War became a war of firsts; the first to succumb to a stalemate because of trench warfare; the first to turn to mechanized machinery to end the stalemate; the first to completely revamp its industrial faculties for the production of war

\(^{200}\) De Groot, 189, and Niderost, 87.
\(^{201}\) Terraine, 4.
\(^{202}\) Clarke, 4.
material; the first to exploit strategic aerial combat and bombings; the first to witness a large amount of intentional victimization of civilian populations; and most importantly, the first to put all these concepts together that lead to its ‘totalization.’ Historian’s opinions vary on the different fields covered when discussing such a topic. In attempting to draw a conclusion as to what caused the British government in the late 1910s to finally create a competent defense system it was necessary to transverse from a military to social to political history. This at times becomes difficult, but by doing so it allows for a true comprehension of the events at hand. In this case, by examining the German bombing campaign in the First World War, an understanding of the interconnecting pressures involved with each event can allow for with a wider perspective. The German bombing campaigns placed pressure on the public, who in turn placed pressure on the British government, who eventually developed a ‘Home Defence’ system accompanied by an infant air force that would become known as the Royal Air Force.²⁰³

²⁰³ Cooper, *The Birth of Independent Air Power*, xvi.
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<tr>
<td>ADGB</td>
<td><em>Air Defence of Great Britain</em></td>
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