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Preface

Today's media is awash with stories, both fact and fiction, of weapons of mass destruction (WMD) designed to kill millions of innocent people. Hollywood movies and the latest high tech spy novels feed us a steady diet of death and destruction which are echoed in the pages of newspapers around the world. What effect is this steady diet of "thriller" entertainment and sensational press having on the general public? Can we predict how will the general population react to an actual attack? Perhaps the answers to this question lie in the World War I experience of the population of London, England.

By the turn of the 20th century, the airship or Zeppelin, emerged in entertainment literature and press as a doomsday machine of war far exceeding the minimal threat it posed to England. The topic of this paper is how the apocalyptic image of the airship developed, its presentation in entertainment literature and the press, and affect this image had on the citizens and government of England.

Abstract

This paper examines the development of the concept of the airship as a weapon of widespread destruction and the effect that entertainment literature and the popular press' presentation of this concept had on the English public and government's reaction to WWI Zeppelin attacks. The historical development of the concept of aerial attack on cities is traced from its first application in 1848, its portrayed in novels as a futuristic weapon of immense destructive power, German airship propaganda, and the many English press reports about the estimated capabilities and roles of the airship. When the airship was employed against England in WWI, the population reacted to the image planted in its mind by novels, nourished by propaganda and hyped by sensationalist press reports. Rumor, morbid curiosity, and a borderline hysterical fear of the airship and aerial attack spread throughout the English population to such an extent that industrial war production was affected. By the end of the war nearly a quarter million Londoners sought shelter each night from a relatively minor threat which over the course of four years inflicted casualties and property damage which amounted to less than that suffered on a quite day in the trenches of the Western Front. This effect on the "morale" of the public vice the physical damage inflicted became a driver of RAF airpower doctrine in the interwar years. The reaction of the citizenry of England to the airship raid is a testimony to the power of the written and spoken word and its ability to unsettle a nation.

Chapter 1

Defining the Airship's Mission

First Aerial Bombardment

The first city to be attacked with airborne bombs was Venice, Italy in 1849. Europe was being racked by a series of revolutionary uprisings; Venice was trying to throw off the authority of the Austrian Hapsburgs. During the siege of Venice in the summer of 1849, the Austrian troops were forced to withdraw from the perimeter of the city to a distance that precluded artillery bombardment of the inhabitants. Frustrated by his inability to attack, Austrian Field Marshall Joseph Radetzky decided to employ a radical new technique to bombard the city with explosive projectiles dropped from balloons.¹

The weapon consisted of an eighteen-foot diameter balloon constructed of linen and paper carrying a pear-shaped cast iron container filled with gunpowder. The Austrians released the balloons upwind of the city with a fuse calculated to burn through the bomb's support as the balloon passed over the selected target. The weapon had a range of up to four miles. The Austrians released approximately 200 balloons over Venice.²

What effect did this new weapon have on the people of Venice? The Austrian press told of the balloon's "frightful effects" and hinted at the possibility of using this new weapon to reduce Venice to a pile of rubble. In reality, the balloons had only a minimal

effect on the defenders of Venice. The Venetians reported that the one balloon borne projectile that had actually fallen on the city had minimal effect.³ While the promise of this new type of weapon would have to wait for technology to catch up, the concept of aerial attack and its affect on the “morale” of the enemy was soon accepted as a given.

Selling The Concept

Historian Lee Kennet traces in *A History of Strategic Bombing* the acceptance of the belief in the detrimental effects that airpower would have on the morale of the “masses.” In the 1880s, Frederick A. Grover attempted to sell to the British War Office his version of the Austrian’s balloon weapon, citing its ability to “produce panic among the masses of men.” Kennet tells us that after reviewing the state of military balloon weapons in 1886, German authority H.W.L. Moedebeck concluded the most feasible use for the weapon would be against a city under siege, where the charges it hurled down would undermine the morale of its people. By the late 1880s, Kennet asserted that “the notion that aerial bombardment somehow placed a special emotional strain on those subject to it was already well established; it would become more prominent when an effective air weapon appeared.”⁴

Integration Into Popular Literature

The belief in the demoralizing effect of aerial bombardment was not limited to military circles; it became fodder for scientific and science fiction writers.⁵ Science fiction novels such as Jules Verne’s *Clipper of the Clouds* (1873) and Albert Robida’s *War in the Twentieth Century* (1883) introduced airpower to the reader.⁶ H.G. Wells’ *War in the Air* (1908) dramatically portrayed the aerial destruction of cities.⁷ Well’s description of the

pre-attack New York could easily describe the London of 1914. Long accustomed to the protective barrier of water and having never experienced the direct effects of war, the citizens of the great city were unprepared for the destruction rained down upon them.⁸ In his novel, Wells described the burning of New York as a massacre, a “cold blooded slaughter,” the city a victim of the capabilities and limitations of the airship. Unable to transport large numbers of troops to occupy a city, the Germans are forced to bomb and burn the city to subdue it.⁹ Wells’ apocalyptic vision of airpower no doubt left a lasting impression on the reader:

As the airships sailed along they smashed up the city as a child will shatter its cities of brick and card. Below, the left ruins and blazing conflagrations and heaped and scattered dead; men, women and children mixed together....Lower New York was soon a furnace of crimson flames from which there was no escape.¹⁰

Kennet believed the literature of the late 1800s and early 1900s prepared the popular mind for the advent of the armed airship in the early twentieth century complete with roles and functions. The novelty of operating in the air lent itself to speculation. He believed this “fantasy factor” contributed to the extravagant and impossible things expected of airships when they appeared in the first decade of the 1900s.¹¹

Notes

¹Kennet, Lee, *A History of Strategic Bombing*, (New York: Charles Scribner’s Sons, 1982), 5.

²Ibid., 6.

³Ibid.

⁴Ibid., 7.

⁵Whitehouse, Arch, *The Zeppelin Fighters*, Garden City, (New York: Doubleday & Company, Inc., 1966), 28-29.

⁶Kennet, 8.

⁷Morrow, John H., Jr., *The Great War in the Air*, (Washington, DC: Smithsonian Institution Press, 1993), 4.

⁸Wells, H.G., *The War in the Air*, (London: Collin’s Clear-Type Press, 1921, 133.

Notes

⁹Ibid., 153.

¹⁰Ibid., 154.

¹¹Kennet, 8.

Chapter 2

Development of Pre-War Fears

*Fly Zeppelin! Help us in the war! Fly to England! England shall be
destroyed with fire! Zeppelin, fly!*

—Douglas H. Robinson
The Zeppelin In Combat

Opinion on Attack From the Air

Opinion on the threat to England posed by airships ranged from a fear of impending doom to reasoned dismissal of the possibility.¹ Long protected from invasion and attack by the English Channel and Royal Navy, an attack from the air presented a threat of untold proportion to a people long used to the idea of an unbreachable fortress island. The pre-war concepts about aerial warfare held by Londoners developed from a steady diet of German propaganda, English press sensationalism, and the entertainment literature of the day—the thriller novels and magazines.

German Propaganda

The breaching of the fortress island by Louis Blériot's crossing of the Channel in 1909 opened a new chapter in the military history of the British Isles.² This event was predicted in 1906 by press magnate Alfred Harmsworth, the Lord Northcliffe, who stated

“England is no longer an island.”³ Assessing the state of aeronautics, the English media focused on Germany’s airships and its supposed capability to attack England.

The German press reported on the efforts of Count Ferdinand von Zeppelin to develop airships in Germany and presented his airships as a triumph for the German people. German propaganda, strengthened by demonstrated German genius, renowned Teutonic “thoroughness” and the reputation of Prussian military acumen, was readily consumed at home and exported abroad.⁴ How effective was this propaganda on Germany and the rest of Europe?

By 1908, the German popular press presented the Zeppelin as one of the eight wonders of the world.⁵ The 12 hour flight of Count Von Zeppelin’s LZ4 airship on 1 July 1908 was trumpeted in the German press and caught the attention of many in England. German prestige became linked with the efforts of Count Zeppelin, who was praised by the Kaiser as “the greatest German of the twentieth century.” The destruction of the LZ4 on 5 August 1908, while attempting a 24 hour voyage, seized the German public’s imagination. Energized by Count von Zeppelin efforts, the German public responded to this disaster by raising seven million marks for Zeppelin construction.⁶

To further the reputation of his airships and demonstrate to the German people and the world the superiority of his design, Count Zeppelin founded a subsidiary company using the Zeppelin to transport fare paying passengers. By 1914 a fleet of three commercial Zeppelins was operating over Germany, the Hansa, Viktoria-Luise and the Sachsen. From 1910 to 1914 Count von Zeppelin’s Delag (*Deutsche Luftschiffart Aktirn-Gesellschaft*) safely carried over 37,250 commercial passengers, flying 100,000 miles

(1,600 flights, 3,200 hours) without incident. Few Germans had not seen the Zeppelins of Delag floating majestically through the sky.⁷

Outside Germany these developments were viewed with some apprehension.⁸ The rest of the world tried to keep pace with this progress, but no one could match the German airships' size, range and load carrying capabilities.⁹ The airship's ability to carry loads long distances safely was publicly demonstrated to the German people and the rest of the watching world. Prohibited from exporting this technology and restricted mainly to operations within German airspace, foreign estimates of von Zeppelin's machines actual capabilities depended upon the source.¹⁰

The fiction and hack journalism read by the English public grossly overestimated the airship's capabilities while minimizing or ignoring its deficiencies.¹¹ In contrast, *The London Times* viewed the German propaganda with a more jaundiced eye and provided readers with realistic estimations of the airship's capabilities. Unfortunately, the imagination of the public was seized by the more sensational reporting. The question remained—what would Germany do with this unique capability if the nations of Europe went to war? In the mind of many a reader of the press and entertainment literature the answer was clear.

With the outbreak of war in 1914, people throughout Europe expected to read that German airships had spanned the relatively short distance from Belgium to England, to bomb and terrorizing the English people.¹² Historian Arch Whitehouse tells us by the outbreak of war not only Germany, but most of the world accepted the miracle of the dirigible. The airship was fully expected to have a leading role in bombing England out of the war.¹³ Zeppelin commander Freiherr Treusch von Buttlar-Brandenfels recalled in his

memoirs that both home and abroad, people held the most fantastic ideas about airships. He remembered the common attitude was: "surely the best way of forcing England to make peace was to cause great havoc throughout the country."¹⁴ By the autumn of 1914, German school children were singing, "Fly Zeppelin! Help us in the war! Fly to England! England shall be destroyed with fire! Zeppelin, fly!"¹⁵

English Press Reports

While official opinion on the threat from airships was muted, many journalists decided to alert the public to this menace.¹⁶ Harry Harper, Britain's first air correspondent, wrote articles on von Zeppelin's airship development efforts for Lord Northcliffe's air-minded *Daily Mail*. His stories awakened the British public to the reality of Germany's development of airships. The October 5th, 1907 edition carried his report on the airship development efforts of Count von Zeppelin at Friedrichshaven:

German military experts were jubilant over the Count's latest achievements, and are bringing their utmost influence to bear to induce the Government to purchase the ship without waiting for further experiments.

Count Zeppelin's maneuvers with his airship during the past week have been most remarkable, and have convinced everyone that the ship is the most efficient at present in existence¹⁷

Yellow Journalism

The press presented the 1908 flight of Count Zeppelin's LZ4 as the harbinger of a new mode of attack on England: the air.¹⁸ The airship capabilities demonstrated in 1908 by the LZ4 became a catalyst for debate within the British press on the relative vulnerability of the island nation to attack from airships. Some papers perceived a lack of government action and set out to do something about it. According to historian Lee

Kennet, "the journalist joined the novelist in forecasting the nature of the war to come." In addition to the physical effects, the collapse of public "morale" caused by aerial attack was emphasized.¹⁹

The "Yellow" papers provided fantastic stories about the threat.²⁰ The *Daily Mail* presented speculations about Germany's use of airships to invade England.²¹ The *Morning Post* sought to duplicate the German people's fund raising phenomena by sponsoring a 20,000 pound subscription to purchase a dirigible for England. The *Daily Mail* pledged 5,000 pounds of its own funds to build a hanger.²²

Even reputable sources of information weighed in the controversy. *The Aero*, a bi-weekly aviation periodical, noted in its 8 June 1909 edition that von Zeppelin's voyage of 950 miles was equal in distance from Metz to London and back. The editors of *The Aero* questioned what was being done to provide England with the same capability.²³ This cacophony of alarm gave substance to the fictional accounts of aerial attack of which the English public had been reading about for years in popular fiction.

Popular Fiction

A target of German propaganda for many years, the English expected attack from Germany's airships. This fear manifested itself in the popular fiction in pre-war England. Penny-a-liners (hack writers) drenched the popular press with frightening articles that presaged attacks on cities and towns. The "penny-dreadful" press (violent action novels) of Edwardian England focused on the next airship raid on some important military complex. A standard feature of the "thriller" magazines was the endurance or foiling of airship raids on London.²⁴

Science fiction writers such as Jules Verne, Albert Robida and H.G Wells each wrote novels of a slightly higher quality based upon the same themes. In 1908, the *Pall Mall Magazine* published H.G. Wells' *The War in the Air* as a serial story.²⁵ That same year Count von Zeppelin's operational tests of airship endurance using the LZ4 on Lake Constance gave substance to Wells' vision.²⁶ In its review of H.G. Wells' *The War in the Air*, the 5 November 1908 edition of *The Times Literary Supplement* commented on the all too common willingness for people to listen to tales of the future misery of mankind. Visions of cities and countries lay waste by ingenious explosives described by Wells were an appeal to the universal instincts of horror and apprehension. The monthly installments of H.G. Wells' *The War in the Air* tale of German aggression against the rest of the world coupled with Count von Zeppelin's exploits fueled the imaginations of many.

Many a Londoner contemplating this perception of aerial warfare undoubtedly expected the government to have an effective defensive plan in place. Unfortunately in 1914, on the eve of the outbreak of hostilities on the continent, this was not the case.

Notes

¹Kennet, Lee, *A History of Strategic Bombing*, (New York: Charles Scribner's Sons, 1982), 19.

²"The Airship Menace," *London Times*, 31 March 1913, 5.

³Morrow, John H., Jr., *The Great War in the Air*, (Washington, DC: Smithsonian Institution Press, 1993), 4.

⁴Poolman, Kenneth, *Zeppelins Against London*, (New York: The John Day Company, 1960), 25.

⁵Poolman, 24.

⁶Morrow, 3.

⁷Poolman, 20.

⁸Willows, E.T., "The Desirable Dirigible," *The Aero VII*, No 122, May 1913, 144.

⁹Poolman, 28.

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- ¹⁰Middelton, Edgar, *The Great War in the Air*, Vol. 1, (London: The Waverly Book Co., LTD., 1920), 112.
- ¹¹Kennett, Lee, *The First Air War, 1914-1918*, (New York: The Free Press, 1991), 42.
- ¹²Morrow, 3.
- ¹³Whitehouse, Arch, *The Zeppelin Fighters*, (Garden City, New York: Doubleday & Company, Inc., 1966), 28.
- ¹⁴Buttlar-Brandenfels, Freiherr Treusch von, *Zeppelins Over England*, trans. Huntley Patterson, (New York: Harcourt, Brace & Co., 1932), 295.
- ¹⁵Whitehouse, 129.
- ¹⁶Kennet, *The First Air War, 1914-1918*, 10.
- ¹⁷Poolman, 19.
- ¹⁸Morrow, 4.
- ¹⁹*Ibid.*, 41.
- ²⁰Editorial, *The Aero*, Vol. 1, No 4, 59.
- ²¹Morrow, 4.
- ²²Editorial, *The Aero*, Vol. 1, No 4, 59.
- ²³"An Aerial Journey of 950 Miles," *The Aero* Vol. 1, No 3, 8 June 1909.
- ²⁴Whitehouse, 28-29.
- ²⁵Wells, H.G., *The War in the Air*, (London: Collin's Clear-Type Press, 1921), 5.
- ²⁶Kennett, *The First Air War 1914-1918*, 41.

Chapter 3

Defense of England

While the public read tales of the exploits of airships and airborne attacks on England, the British government approached the beginning of World War I woefully unprepared to defeat or defend against this mode of warfare. Failure of their own experiments with airships, supposed protection afforded by the Hague Convention and inadequate aircraft performance combined to produce this state of affairs.

Given a general dismissal of airships by military authorities, government interest in airships was often more a function of "Zeppelin" scares caused by either false sightings of airships or fresh reports of some new German achievement. In 1909, in response to Germany's airship exploits and the "Great Airship Scare of 1909," Parliament reversed a three month old decision to disregard airships and directed the Royal Navy to investigate airship development. Five years prior to the war, "Zeppelinitis" was already driving the airship agenda.

Early Airship Experience

The government's experience in trying to develop a British airship capability lead its leadership to conclude that they posed no credible threat.¹ By February 1912, Parliament's Committee on Imperial Defense (CID), unimpressed by their performance

and cost, directed the navy to cease development of airships.² Winston Churchill, the First Lord of the Admiralty, was never convinced of the airship's capabilities, believing them only as suitable vehicles for overage pilots.³ The British Secretary of War informed Parliament in 1913 that the airship threat was minimal and that existing high-angle guns could easily bring down any intruding airships.⁴ As Major F.H. Sykes, Commander of the Military Wing of the Royal Flying Corps, remarked in a speech to the Aeronautical Society of Great Britain, "We in England are rather apt not to recognize the capabilities of airships."⁵

Hague Convention

Some believed that threat of aerial bombardment was minimal due to restrictions imposed by the Hague Conventions on the conduct of war.⁶ The peace conference held in 1899 led to a five year prohibition against the dropping of explosives from balloons and the bombardment of undefended towns and cities. By 1907, this was reduced to a prohibition against the bombing of undefended towns and villages.⁷ As Edgar Middleton pointed out in *The Great War in the Air*, little comfort should have been taken in this belief since the defenses of London certainly disqualified it from the protection afforded by this prohibition.⁸

Defense Capabilities

The *London Times* reported on 6 August 1914 that the defense of England from aerial attack would be provided by airplanes (initially on alert at three airstrips surrounding London) and high-angle fire from guns on the land and sea. Unfortunately for the

defenders, British aircraft climb performance was such that the airships often were able to drop their loads and depart before enough altitude could be gained.⁹

As for high-angle fire from ground and sea based guns, the Zeppelin commanders took great pains to avoid these fixed defenses. *The Aero* reported that it was generally accepted by experts that an altitude of 8,000 to 10,000 feet was sufficient to make a vessel safe from gunfire.¹⁰ Finally, the numbers of guns available were quite limited making the task of defending an area as vast as London nearly impossible. Winston Churchill, First Lord of the Admiralty, made the decision to only defend those areas of London that were of military value.¹¹ The defensive plans of London were clearly inadequate.

In 1913 the *London Times*, reflected on three years of debate about the threat from airborne weapons, concluding that despite the amount of discussion in both the press and Parliament, British home defense was woefully inadequate against this threat.¹² Parliament debate reported in the paper focused belatedly on the lack of an adequate home defense capability. It is apparent British home defense plans were based more on fervent wishes than proven capabilities. The result would be the public impression that the airships could attack at will a defenseless England. Given the horrifying image of the Zeppelin as painted by the "hysterical" sector of the press and the novels of the day, this reaction to the reality of an airship attack can easily be understood.

Notes

¹Middelton, Edgar, *The Great War in the Air*, Vol. 1, (London: The Waverly Book Co., LTD., 1920), 157.

²Morrow, John H., Jr., *The Great War in the Air*, Washington, DC: Smithsonian Institution Press), 43.

³Morrow, 43.

⁴Meysey-Thompson, MP, Parliament proceedings as reported by the *London Times*, 21 March 1913, p8

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⁵Editorial, *The Aero*, Vol. VII, No 121, April 1913, 103.

⁶Whitehouse, Arch, *The Zeppelin Fighters*, (Garden City, New York: Doubleday & Company, Inc., 1966), 30.

⁷Morrow, 9.

⁸Middelton, 20.

⁹Whitehouse, 9.

¹⁰"The Desirable Dirigible," *The Aero*, Vol. VII, No 122, May 1913.

¹¹Jones, Henry Albert, *The War in the Air*, Vol. III, (London: Clarendon Press, 1937), 81.

¹²"The Airship Menace," *London Times*, 31 March 1913, p5.

Chapter 4

Public Reaction to Air Attack

For the better part of two years, until the airship ceased to raid, the whole country lived and suffered under a Zeppelin psychosis. "Not a Zeppy night tonight, thank God," would one say to another, scanning the sky, as they parted for their homes at the end of a day's work.

—Air Commodore L.E.O. Charlton
War Over England

To many of the citizens of England, the moonless days of each month was a period of dread anticipation. It was on these days that under the cover of darkness did the airships of Germany come to visit and drop their deadly cargo. Compounding this unseen threat was the tactic of turning off its engines to float silently above the intended target adding to the sinister character of the attack.¹ To a people long insulated from attack by geography and protected by the Royal Navy from invasion, the airship was an enormous threat to their sense of security. Given the pre-war hype of the airship, how did the masses of England react to this threat?

Rumors

Widespread apprehension came to fruition as rumors. As early as 1908, the public began to suffer from a number of "Zeppelin scares" or "Zeppelinitis." England suffered from paranoia over the possibility of a Zeppelin-borne invasion based on the outlandish

claim by a German official of Germany's capability to transport 350,000 men to England in the span of a day.² The sighting of a "phantom" airship over the Irish Sea prompted what *The Aero* called the "Great Airship Scare of 1909." The *London Times* reported the existence of "fog bombs" carried by the Zeppelin for use when attacking London. This bomb would be used to create a fog-like cloud sufficient to hide the airship from detection.³ Inspired by countless columns of print in what *The Aero* described as the "irresponsible" section of the press, the public expected a Zeppelin borne invasion to be hovering over England at any moment.⁴

Historian Arch Whitehouse in his *The Zeppelin Fighters*, wrote that in the months prior to the outbreak of war, rumors about mysterious dirigibles were rife. Supposedly spying on the English North Sea coasts, these spectral airships had an airspeed and altitude performance that exceeded that of any known gun or aircraft. Compounding the rumor, efforts to locate these mysterious airships with searchlights only served to illuminate the clouds that were then mistaken by some for whole fleets of invading Zeppelins.⁵

Even Parliament was not immune to rumor. During an early raid, rumors of spies aiding the navigation and targeting of the Zeppelins were presented by a Member of Parliament (MP) in the House of Commons. The MP refused to believe the Home Secretary's assurances to the contrary and proceeded to relate a witness' account of mysterious motorcars and lights in the area where bombs were dropped.⁶ One rumor of a Zeppelin hidden in the countryside even prompted the sending out of a Royal Flying Corps Bleriot-11 to search for its hidden lair. Nothing was found.⁷ The wild stories of spies using motorcar lights to guide Zeppelins soon spread throughout England adding to the general hysteria.⁸

Anticipation

The start of the war in 1914, England anticipated⁹ the specter of airship raids by the Germans. When these raids did not materialize, the dreaded anticipation of airborne attack fostered by the entertainment literature and press was replaced by one of cautious optimism. Speculation about this curious state of affairs varied from wishful thinking that distance and weather had overwhelmed the airships, as some had predicted, to a more reasoned explanation that all available German airship assets were involved in the action on the mainland.¹⁰

While most sighed in relief, an undercurrent of fear still existed. One manifestation of this fear was the availability of anti-bomb insurance from London insurance agents.¹¹ Many took precaution against the day the Zeppelins would arrive by taking advantage of these commercial air raid insurance policies.¹² By the end of the war, over eleven million pounds of insurance had been profitably placed.¹³

A Sense of Curiosity

When the first airship raids materialized in the early part of 1915, the initial reaction of many Londoners was curiosity. During the first attack and some subsequent attacks on London, people flocked into the streets to see what was going on.¹⁴ Many were attracted by the novelty and thrill of an air raid. In *The Great War in the Air*, author Edgar Middleton told of crowds of Londoners venturing out into the streets while bombs were still being dropped and anti-aircraft guns were still firing. It was necessary for the Commissioner of the Metropolitan Police to issue a notice recommending the citizens of London stay under cover during attack.¹⁵

Hysteria

In the fall of 1914, after the sighting of a Zeppelin over 60 miles off the coast, the City of London was subjected to lighting restrictions.¹⁶ When the lighting restrictions went into effect on the 1st of October, London was plunged into what historian Kenneth Poolman calls the "darkness of the cave" that stirred up ancient fears in people's minds.¹⁷ Wild speculation filled the information void left by government censorship of air raid reports.¹⁸ When the airship raids finally reached London in August of 1915, the blackouts combined with the fear of imminent danger took its toll. The citizens reacted with their feet.

The Search For Shelter

As the tempo of air raids increased through the end of 1915 and throughout 1916, fear of personal danger propelled the civilian population to seek shelter whenever an air raid threatened. At first, air raid warnings and their dissemination was unreliable causing temporary paralysis within a community when a raid did occur.¹⁹ There was concern that lack of faith in official warning arrangements would have a serious impact on the munitions industry. The Ministry of Munitions reported that workers refused to work at night unless there was some assurance the warnings would give them enough time to disperse.²⁰

September of 1916 saw thousands of Londoners rushing for the comparative safety of the Underground railways without waiting for any warning. Many families took their places by 5:30 PM, prepared to spend the night until the danger, real or imagined, was over.²¹ By September of 1917 as many as a quarter of a million Londoners were on the

move each night seeking shelter.²² Some even sought the relative safety of the open countryside, staying for hours in the fields.²³ Outside of London, there was a general exodus from the towns to mines, open fields, unused chalk pits, and caves.²⁴

False alarms, of which there were many, had as much force as an actual attack. On occasion, cloud masses illuminated by practicing searchlights were mistaken by a town's populace for a Zeppelin, driving them to seek refuge underground. Workers at munitions factories would "down tools" and go home, not necessarily to return to work the next day.²⁵ In April 1916, the managers of Palmer's Shipbuilding and Iron Company estimated that following an air raid over 90 percent of the workers would be late arriving to work and 20 percent would not arrive at all.²⁶ Kennet tells us "there were gloomy statistics indicating war production was declining because factory workers were kept awake...by German bombers."²⁷ This trend lasted until to the end of the war and was so widespread that the British government soon became worried about rising absenteeism and falling industrial production in the London metropolitan area.²⁸

Physical Effects of German Aerial Bombardment

In contrast to the extensive psychological effects experienced by the population of England, the actual physical damage as a result of aerial bombardment was minimal. Compared to the toll on the continent, the total effect of all the German bombardment of England, both by airship and airplane was small. The Zeppelin raids of 16 May 1915 and 16 Jun 1915 incurred civilian casualties of four and forty, respectively. The *London Times*, while reporting these losses in the next day's paper, also reported casualties of 2,400 and 2,209, respectively, from fighting on the continent.²⁹ Over the course of four

years' bombardment, a total of 51 raids dropped 5,751 bombs which caused 556 deaths and injured 1,357 more.³⁰ Kennet describes this as the kinds of totals one would expect on a "quiet" day on the western front. The total property damage of 2 million pounds was less than half of what it cost the British to prosecute the war each day.³¹

Influence on Interwar RAF Air Power Doctrine

The massive nightly population movements and disruption of industry caused by aerial bombardment left a lasting impression on the British population and its government.³² Interwar theorists such as America's Gorrell³³ and Britain's Trenchard seized on the "morale effect" of German bombardment as a selling point for airpower. Major General Hugh Trenchard, postwar Chief of the Air Staff, had seen the negative effect on worker morale. He felt the object of bombing factories was to affect the morale of the workers.³⁴ While the physical damage would be significant by itself, the "morale effect" would be the most important and far-reaching effect of aerial bombardment.³⁵ Trenchard made bombing for the purpose of affecting the morale of the workers the number one priority of the RAF once the aerial needs of the British Army were satisfied.³⁶ This concept of "morale bombing," torn from the pages of the thriller novels and sensationalist press, became a fundamental part of RAF doctrine in the years between World Wars I and II.³⁷

Notes

¹Whitehouse, Arch, *The Zeppelin Fighters*, (Garden City, New York: Doubleday & Company, Inc., 1966), 9.

²Kennett, Lee, *The First Air War, 1914-1918*, (New York: The Free Press, 1991), 10.

³"Fog Bobs For London," *London Times*, 17 May 15, 7.

⁴Editorial, *The Aero*, Vol. I, No 8, 13 July 1909.

Notes

- ⁵Whitehouse, 30.
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- ⁸Poolman, Kenneth, *Zeppelins Against London*, (New York: The John Day Company, 1961), 116.
- ⁹Charlton, L.E.O., *War Over England*, (London: Longmans, Green and Co., 1936), 8.
- ¹⁰Ibid., 27.
- ¹¹Morrow, 80.
- ¹²"Air Raid Policies," *London Times*, 19 June 1915, 5.
- ¹³Charlton, 100.
- ¹⁴Jones, Henry Albert, *The War in the Air*, Vol. III, (London: Clarendon Press, 1937), 179.
- ¹⁵Middelton, Edgar, *The Great War in the Air*, Vol. 2, (London: The Waverly Book Co., LTD., 1920), 16.
- ¹⁶Whitehouse, 40.
- ¹⁷Poolman, 27-28.
- ¹⁸Editorial, *London Times*, 2 June 1915, 7.
- ¹⁹Jones, 244.
- ²⁰Ibid., 146.
- ²¹Ibid., 247.
- ²²Charlton, 14.
- ²³Jones, 181.
- ²⁴Charlton, 18.
- ²⁵Ibid.
- ²⁶Jones, 246.
- ²⁷Kennett, Lee, *The First Air War, 1914-1918*, 60.
- ²⁸Kennett, Lee, *A History of Strategic Bombing*, (New York: Charles Scribner's Sons, 1982), 26.
- ²⁹"Roll of Honor," *London Times*, 17 May 1915, 6; 17 Jun 1915, 4.
- ³⁰Jones, Henry Albert, *The War in the Air*, Vol. III, (London: Clarendon Press, 1937), 147.
- ³¹Kennet, Lee, *A History of Strategic Bombing*, (New York: Charles Scribner's Sons, 1982), 25.
- ³²Meilinger, Philip S., "Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine Before World War II," in *War Theory AY 1997 Course Book*, ed Sybill Glover (Maxwell AFB, AL.: Air Command and Staff School), 233.
- ³³Gorrell, Edgar S., "The Future Role of American Bombardment Aviation," in *War Theory AY 1997 Course Book*, ed Sybill Glover (Maxwell AFB, AL.: Air Command and Staff School), 222.
- ³⁴Meilinger, 233.

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³⁵Biddle, Tami Davis, "British and American Approaches to Strategic Bombing: Their Origins and Implementation in the World War II Combined Bomber Offensive," in *War Theory* AY 1997 Course Book, ed Sybill Glover (Maxwell AFB, AL: Air Command and Staff School), 259.

³⁶Meilinger, 234.

³⁷Biddle, 259.

Chapter 5

Conclusion

The actual airship threat faced by England in 1914 was a far cry from the one portrayed in popular literature and the press. Actual casualty and material damage was minimal compared to the carnage recorded every day on the continent. But the psychological impact the ghostly specters floating overhead had on the general population far exceeded the physical damage. Seeded in the mind by the science fiction and thriller literature, cultivated by German propaganda, and nourished by the press reports of the “yellow” and legitimate press, the airship threat grew to proportions far beyond their actual capabilities.

The actual damage wrought by the airship was insignificant when compared to the psychological and physical dislocation experienced by the citizens of WWI England. The English people reacted more to the image of the Zeppelin than the reality of the attacks itself. Their expectation of massive physical damage and death was nurtured by years of science fiction and sensational press reports causing the public to react in the manner that they did. The people of England were “conditioned” to view the airship and aerial bombardment with fear and hysteria. This effect on the “morale” of the people of England so impressed Major General Trenchard, Chief of the Air Staff, that “morale bombing” became the focus of RAF interwar airpower doctrine.

England's pre-war apprehension, scores of false sightings, proliferation of fantastic rumors, and widespread fear of aerial attack can be traced to the steady diet of "thriller" novel, "penny-dreadful" press and science fiction available to the English public. These public manifestations of "Zeppelinitis," coupled with the fact that by 1917 approximately 250,000 Londoners took flight to avoid the perceived threat of aerial bombardment, is testimony to the power behind the written and spoken word and its ability to unsettle a nation.

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