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Cover Page Footnote

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TOLKIEN AND THE ZEPPELINS

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1. Introduction

The tumults in the killing fields of the Great War died away over one hundred years ago, yet the Western Front still echoes in memories in Britain and Ireland. Gallipoli is especially remembered in the Anzac nations. The 'doughboys' of the Army of the United States who fell in France have their sacrifice commemorated every Memorial Day. Memories of other fronts, Mesopotamia, Palestine, East Africa, Greece, and Italy are now only found in books. And there is another forgotten front; the Zeppelin assault on England, conducted from the early days of the war until August 1918. London and cities in the Midlands and northern counties were designated as targets for airship bombers of the German Navy and Army. These often included the port of Hull, next to the Holderness Peninsula, where Tolkien found himself back on active service in the summer of 1917 and during the following winter.

This article examines the background to Tolkien's military duties in the East Riding of Yorkshire from April 1917. The night bombing raids on England by Zeppelins had a significant effect on his service as a Signals Officer in the Holderness Peninsula.¹ The airborne threat to this strategic region had fundamentally altered the defence arrangements in which he came to play a part until March 1918.

1. The term 'Zeppelin' was generally applied to all German airships because Luftschiffbau Zeppelin was the most famous manufacturer. Others were made by the Schütte-Lanz and Luft-Fahrzeug companies. 115 airships were built by the Luftschiffbau Zeppelin. Of these, 77 were lost due to enemy action or other misfortune.



Figure 1. Naval Zeppelin L.30 being handled by its huge ground crew (Bundesarchiv Bild 134-B3221)

2. The German Threat

The proximity of England's eastern seaboard to the German fleet bases in Germany and the captured coast of Belgium posed grave threats in 1914. The strategic importance of the Humber estuary next to the 'German Sea' and potential vulnerability, as demonstrated by the German warship bombardments of the north-east coast in late 1914, accompanied by a reconnaissance Zeppelin, was a shocking warning of things to come (Jones III 86). In response, permanent artillery batteries were erected at Spurn Point and Kilnsea at the southern tip of the Holderness Peninsula with supporting temporary fieldworks elsewhere in the peninsula. The defences created a layer along the coastline to prevent enemy landings and to impede the establishment of a beachhead. This was the first line of 'defence in depth' reliant on trenches, redoubts, and concrete 'pillboxes' intended to delay the enemy and wear them down until sufficiently large forces could be deployed to destroy the invader (Brown 24). Lighthouses were camouflaged to hinder their use in navigation by enemy ships and aircraft (Ridgway 11).

3. The Humber Garrison

The Humber Garrison protected the estuary of the River Humber. The north shore garrison was comprised of units of most arms: Royal Garrison Artillery, Royal Field Artillery, East Riding (Fortress) Royal Engineers (RE), RE Signals Service, the 3rd (Reserve) Battalions of the East Yorkshire Regiment at Withernsea, of the Leicestershire Regiment at Patrington, of the King's Own Yorkshire Light Infantry

at Hedon and of the Lancashire Fusiliers at Thirtle Bridge.² Another four infantry battalions of the 20th Reserve Brigade were stationed around Hornsea. The 9th



Figure 2 The Holderness Peninsula

Battalion Royal Defence Corps was positioned at Easington. The Garrison also had support units: Royal Medical Corps, Pioneer Corps, Catering Corps, Army Service Corps, and Territorial Force units, for example, a Cyclist Battalion.³ The Garrison was the equivalent of a Division in the Order of Battle, being

2. The 3rd Battalion of a Regular British infantry regiment, the 'Reserve' battalion, in peacetime, was located at the Regimental Depot in its home County *e.g.* Lancashire. Its function was to recruit and train. In the Great War, many of these battalions were moved to defend the east coast. Later they received officers who had recovered from wounds or illness and who could assist in training recruits, *e.g.* 2nd Lt J R R Tolkien, was posted to the 3rd (Reserve) Battalion Lancashire Fusiliers in Holderness after discharge from hospital.

3. Eastfield House in Roos accommodated the HQ of the 5th (Cyclists) Battalion of the East Yorkshire Regiment, a Territorial Force unit (Press/1). The Cyclist companies were distributed at key points from Spurn Point to Bridlington, In the British Army, cyclists were used as scouts and messengers (Baker).

commanded by a Major-General (Jones III 178). The Garrison Headquarters (HQ) was in Hull. The operation and maintenance of its Signals network, above Battalion level, was the responsibility of the Royal Engineers Signals Service (Hall 94). In addition to the defensive preparations in Holderness and elsewhere, contingency plans had been made for this Service to take over civilian telephony and telegraphy 'in the event of operations taking place on the coast' (National Archives).

3. The Zeppelin Attack on Hull June 1915

The Germans did attack Holderness, not by sea, but by air, and in the hours of darkness. In the late evening on 6th June 1915, a Zeppelin, with tactical identifier L.9, was spotted crossing the coast at Hornsea. It reached Hull and became motionless over the city. It then dropped 13 High Explosive (HE) bombs and 39 incendiaries, totalling 2762 lbs, killing 24 people, injuring 40, and causing considerable damage to civilian property (Jones III 103). The Zeppelin commander reported that the only response was from '*einer leichten Batterie...ohne Scheinwerferbenutzung*', 'a light battery...without the use of searchlights' (Groos 175). These were the guns of light cruiser HMS Adventure in dock for repair (Jones III 103). Margaret Strickland-Constable, later the Commandant at Brooklands Officers' Hospital, was at her mansion home near Hornsea. She wrote in her diary:

...at 10.50 p.m. there came the most horrible buzzing, roaring noise just over our heads & we all said "Zeppelins"... so I woke Robert, & picked up Hilary, pink dressing gown, white monkey, & all, & put them to bed in the drawing room...returned to the upper windows, & sat there listening, counting the bombs being dropped on poor old Hull. Presently we saw an ominous red light in the sky...It was a most curious feeling, seeing nothing & hearing this sinister sound overhead, with something of the horrible note in it that there is in a lion's roar. It was dreadful to sit listening to the 20 bombs being dropped at regular intervals, and to know that each meant death to many, without the smallest possibility of defence (Strickland-Constable).

Deployment of anti-aircraft weaponry to the North of England to combat the Zeppelins was painfully slow. It was not until early March 1916, after another costly raid, leisurely carried out by two Zeppelins on Hull and its environs, that suitable artillery was installed to defend the city. At the same time, the defences around the Humber and along the east coast were strengthened. The Royal Flying Corps (RFC) moved fighter aircraft into Holderness at Beverley and further to the west at Bramham Moor (Jackson 20). Standing patrols on receipt of a warning of

a Zeppelin's approach were introduced, with each fighter remaining on station for up to two hours before being relieved (Jones III 164).

Night-flying was in its infancy and was very dangerous. Pilots often had difficulty in finding their home airfield in the dark, so thirty-four emergency night-landing grounds were established between the Tyne and the Humber (Jackson 20).⁴ One of these was between Thirtle Bridge and Winternsea at Owthorne (Simmons). The Royal Naval Air Service (RNAS) established a base at Hornsea. There was already an RNAS seaplane base in Lincolnshire at Killingholme on the south shore of the Humber.

Zeppelin attacks continued, sometimes as many as sixteen of these gigantic dirigibles, close to 600 feet long, longer than two rugby pitches, combining at one time. They were operated by the Imperial German Navy and the German Army, typically with a crew of 25. The early versions carried two tons of bombs (Bundesarchiv RM116/4). They had an endurance of over 24 hours.

The airship attacks on London, Hull and elsewhere, aroused considerable public anger, not only directed against the perpetrators but against the failure of the navy and army to protect them. Rioting in Hull, following the attack on 6th June 1915, resulted in German-owned property being sacked. After the raid on Hull on 5th March 1916, an RFC vehicle was smashed up by a mob (Jackson 20).

It was not just the loss of life and damage that was of concern to the War Office, but also the unnecessary loss of industrial production caused by the inevitable false alarms. This led to the creation of eight 'Warning Controls' throughout the country, each divided into Warning Districts of about 35 miles square, each District perforce conforming to the available telephone system (Jones III 172). Each District tracked attacking Zeppelins by the reports of bombs dropped and by the characteristic drone of their many engines. This necessitated cordons of observers in each District who would report the presence of a Zeppelin directly to the Warning Controller through local telephone exchanges. He would then direct the main telephone exchange operator to immediately contact persons on a list, *e.g.* firms, institutions, and authorities who needed to take immediate action to ensure people went to shelters. Failure to respond to a warning phone call within 15 seconds could lead to prosecution (Jones III 174). Hull was a Sub-district under the command of the Major-General, Officer Commanding (OC) Humber Garrison (Jones III 178). Warning Controllers were in contact with adjacent Warning Controllers and with General Headquarters (G.H.Q.) Home Forces at the Horse Guards in London (*v.i.*).

4. A pilot who was lost or had some other emergency would fire flares from a signal pistol cartridge in the colours of the day. Ground staff at the nearest airfield would then light paraffin oil flares to guide the pilot in to a safe landing.

4. Early Warning of a Zeppelin Attack

Naval Zeppelins did not arrive over the English coast unannounced. The Admiralty's cryptanalysis experts in 'Room 40' had obtained copies of the German Navy's codebooks and could deduce from enemy wireless transmissions (WT) when a naval airship was departing for England (Jones III 118).⁵ Another advantage for the British was that every airship used a radio navigation method. It broadcast a signal that was picked up by radio direction-finding (RDF) stations in Germany. These then were able to transmit a reply to the airship commander in which square of a *Flugplan* map he might be (Bundesarchiv RM116/7). This was not a very accurate system because the angle subtended by the direction finders, perforce in Germany, was narrow (Jones III vi).⁶

The British, on the other hand, had widely-separated RDF stations and were able to more accurately track and plot the incoming attackers (Munby 9.1.4).⁷ This was aided by a captured copy of the *Flugplan* map that the Russians had passed to Room 40 (Jones III 118). The Achilles' Heel here was that the fighter aircraft of the time could not quickly enough reach the 11,000 feet altitude of the airship even though it was approaching at less than 60 mph. Until a line of searchlight batteries was installed along the coast the pilots could not see the enemy aircraft.

Defending fighters had little success at first (even when they had managed to climb close to or above the airship and open fire on it) until, in 1916, Pomeroy explosive bullets were used in combination with Buckingham incendiary bullets (Jones III 228). In response, the Germans developed advanced models of Zeppelins, *die Höhenkletterer*, the 'Height Climbers', introduced in May 1916, that if under attack by aircraft or anti-aircraft artillery, could quickly ascend to 20,000 feet where they would be much safer (Robinson 131).

On receipt of a warning of a Zeppelin approaching the eastern coastline of England, the searchlight units and anti-aircraft artillery, including Quick Firing

5. 'Room 40' was the name by which the cryptanalysis section of the British Admiralty was known. Initially, its experts used signals interception and captured code-books to determine German intentions. They later developed radio direction finding, RDF, to track Zeppelins, a capability of which the Germans remained ignorant (Beesley).

6. Curiously, although Zeppelin L.10, when over England in June 1915, used straightforward Radio Direction Finding (RDF), to passively plot its bearings from Nordholz and Borkum in Germany, the Zeppelins continued to use the active *Flugplan* method to navigate, allowing the British to intercept their signals and plot their tracks (Fischer 129).

7. The distance from the naval Zeppelin base at Nordholz close to the North Sea coast of Germany to Holderness, was about 370 miles. At 55 mph it was over a 6 hour flight but only in still air conditions. Contrary winds could cause a mission to be delayed or aborted. From Nordholz, Hage or Alhorn, a heading due west once over the North Sea, towards Holderness, was necessary to avoid flying over neutral Holland (see Figure 3)..

(QF) guns, would be alerted and would be ready to open fire. The command and control of the whole of the defence network, on land, in the air, and with the Royal Navy at sea, demanded a nationwide integrated telephone and telegraph network. Field-Marshal Lord French, at Horse Guards in London, was in overall command of the eight Warning Controls.⁸ A transparent map on a large table in the Operations Room with a set of green, red, white, and yellow lights for each Warning Control provided the Field-Marshal with an overall view of the situation *e.g.* RED meant an air raid in progress in that Control (Jones III 176). This was the world's first national system of air defence (Judkins 6).

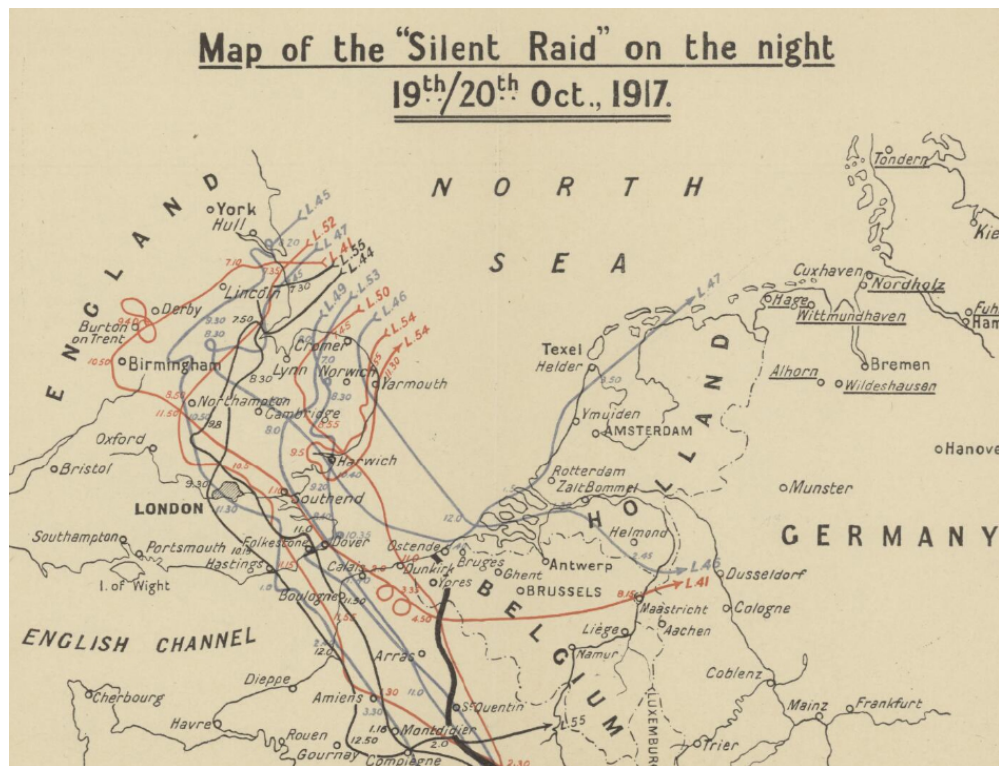


Figure 3 Tracks of Zeppelins plotted by British RDF.

The 'Silent Raid' was carried out by Zeppelin 'Height Climbers' flying so high their engine noise could not be heard. L.45 crossed Holderness.

Acknowledgments to C T Hertz Map Collection, Australia.

8. 'Horse Guards' in London was the building in Westminster that housed the Army's top brass. It is next to the location of the 'Trooping the Colour' parade held each June on the Sovereign's Official Birthday.

5. Post Offices in Holderness

Post Offices in Holderness provided vital links in their Warning District. Telegraph stations had existed in post offices long before the turn of the century. Following the introduction of a telephone exchange in Hull in 1907, and with the advent of war, the area's telephone network was expanded with local manually-operated exchanges existing side-by-side with the telegraph. Roos Post Office was a node in the Holderness communications network close to the coast. There were also exchanges at Hedon, Withernsea, Patrington, Aldbrough, and Hornsea (GPO). These were all connected to the main exchange at Hull under the direct command of Humber Garrison.



Figure 4 Roos Post Office c.1920. Courtesy W. Ainley, Roos.

6. Lt J R R Tolkien, Outpost Commander

After training as a Signals Officer, J R R Tolkien served with the 11th (Service) Battalion Lancashire Fusiliers, one of the many Service battalions of Kitchener's New Army.⁹ He survived five months on the Western Front, including the Battle of the Somme, before being invalided home with trench fever at the beginning of November 1916 (Hammond & Scull 95). He was then in and out of various military hospitals. A Medical Board at Furness Auxiliary Hospital, located in the Grand Hotel in the famous health spa town of Harrogate, found him 'Fit for Light Duties' for one month, and granted him three weeks of sick leave at the end of March 1917 (A43/1). At the end of his leave, he was posted to the 3rd (Reserve) Battalion Lancashire Fusiliers in Holderness, under the command of Humber Garrison (Mathison 13).

Tolkien was first stationed at the Hornsea Rifle Ranges, a facility shared by the many infantry battalions in Holderness.¹⁰ Transient accommodation for the visiting unit was provided in the Hornsea Hutments (Richardson 4). There were three ranges with firing points every 100 yards out to 500 yards (see Figure 5). It would be the responsibility of an incoming unit to set up field telephones between each firing point and the entrenched butts where twin 4 ft x 4ft paper targets were raised alternatively on a counter-balanced pulley system to be fired at and then lowered for the bullet holes to be patched.¹¹ Supervision of the installation and operation of the field telephones would be the responsibility of a Signals Officer, such as Tolkien.

In Letter 340 to his third son Christopher, dated July 1972, he recalls he was 'for a brief time in command of an outpost of the Humber Garrison' (Carpenter 340). This reference to a superior formation meant its command level, its Headquarters. This is common military parlance. This was between the end of his sick leave on 19th April 1917 and his admission to Brooklands Officers' Hospital near Hull in mid-August. He also tells us that the outpost was in Roos.

His attachment to Humber Garrison was also mentioned earlier, in a letter of 1964 to Christopher Bretherton, in which he explains 'The germ of my attempts to

9. Soldiers enlisted in a 'Service' Battalion were committed to serve for the duration of hostilities.

10. Some biographers describe Hornsea Rifle Range as an 'outpost of the 3rd (Reserve) Battalion Lancashire Fusiliers' and disregard the musketry training needs of at least eight other infantry battalions in Holderness.

11. The author had personal experience of .303 Lee-Enfield rifle shoots, and using the field telephones, on such a full-bore range when a member of his public school's Combined Cadet Force.

write legends of my own...founded on a small wood...near Roos in Holderness.’
(Carpenter Letter 257).



Figure 5. The Hornsea Rifle Ranges. Targets are next to the sea cliffs.
(National Library of Scotland)

What function could an experienced Signals Officer perform in Roos? The answer is obvious: the ‘outpost’ was the Post Office with its telephone and telegraph facilities, an essential element of a Zeppelin Raid Warning District. The operators would belong to the Royal Engineers Signals Service. The REs had previously taken over the telephone and telegraph system in accordance with the plans that anticipated a German invasion or attacks on the coast (National Archives). Because they needed to provide round-the-clock coverage it is very probable that the dwelling next door to the Post Office was requisitioned by Humber Garrison as their quarters.¹² The Officer Commanding, on the other hand, would have been allocated somewhat more salubrious quarters in or near Roos but

12. Mathison (48) reports that, in the late 1960s, a Roos schoolboy in his project report, associated Tolkien with the dwelling next to the Post Office. Possibly the older village people to whom the schoolboy spoke recalled its occupation during the Great War by the military.

not in Main Road amongst Other Ranks (ORs) and working-class villagers. Tolkien probably would not have minded such quarters, but the Army, at home governed by strict class distinction, would not have permitted it.

One might expect that RE Signallers would be commanded by a RE Signals Officer and not a Lieutenant of an Infantry Regiment. Tolkien's superior, the Officer Commanding Signals at Humber Garrison, was also an Infantry Signals Officer, a Lieutenant of the Royal Dublin Fusiliers (Arnold). RE Signals Officers were better employed at the Front.

The task faced by any Officer Commanding of this outpost would not have been too arduous; the operators were well-paid professionals.¹³ Tolkien, His Majesty's 'Trusty and Well-beloved', to quote his commission parchment, was charged with keeping 'those placed under his command in good order and discipline', but even so, he would have had plenty of time for his other interests. He would not have to participate in the rigorous fitness training endured by his comrades in the 3rd (Reserve) Battalion LFs, such as route marches to the Hornsea Rifle Ranges and back.¹⁴

The strongest clue as to when Tolkien assumed command of the outpost is the decision taken by a Medical Board in Hull on 1st June 1917, to upgrade his medical category to 'Fit for General Service' (A43/2). The Fitness Category regime, in force until 1st November 1917, assessed Category A men 'as those who attain a normal standard of health and strength and are capable of enduring an amount of physical exertion suitable to their age. They must be free from any serious organic disease or infirmity and able to perform any service in the Army' *i.e.* General Service (Hansard 1918). This made Tolkien eligible to return to the Western Front. That did not happen. Instead, it appears he was detached from the recruiting and training environment of the 3rd (Reserve) Battalion Lancashire Fusiliers to take command of an active unit of the Royal Engineers Signal Service in Roos, for him, it seems, a memorable experience. It may just have been his recent medical history that caused his OC Battalion to detach him to Humber Garrison rather than have him posted back to France or Belgium along with the fifty 2nd Lieutenants posted to the Western Front from his Battalion in June 1917 (Smith 400).

13. On the outbreak of war in 1914, in order to encourage Post Office telegraphists to enlist in the Royal Engineers Signals Service, it was agreed that any such volunteers would receive not only their Army pay, but also their Post Office pay (Hansard 1919).

14. The 10th (Service) Battalion East Yorkshire Regiment, in early 1915, preparing for a move to Egypt, in one day marched from Hornsea Rifle Ranges to Hull, and back, a distance of 32 miles (Richardson 13).

Famous amongst Tolkien fans is the story of the dance by his wife Edith, and described in Letter 340:

I never called Edith *Lúthien* – but she was the source of the story that in time became the chief part of the *Silmarillion*. It was first conceived in a small woodland glade filled with hemlocks at Roos in Yorkshire (where I was for a brief time in command of an outpost of the Humber Garrison in 1917, and she was able to live with me for a while).

In the letter referred to above, he movingly describes how Edith, his wife, danced for him in that glade. Garth, who visited the most likely scene for the dance and noted its flowers, affirms Tolkien called all white-flowered umbellifers ‘hemlocks’, a rural usage. The presence of tall white blossoms suggests to Garth that this famous episode took place between mid-April and the end of May 1917 (Garth 238). Mathison contends that it could have been in May or June (Mathison 44). The decision of the Medical Board to categorise him as ‘Fit for General Service’ more firmly indicates his attachment to Humber Garrison took place after 1st June 1917.

In mid-July Tolkien was sent on a course to the Royal Engineers Signals Service Depot at Dunstable still considered ‘Fit for General Service’ (Mathison 106). This suggests he had been in command of the outpost for about six weeks. Edith addressed no letters to him in the six weeks after she moved out of 1 Bank Terrace in Hornsea (Mathison 46). This supports the belief that she was indeed living with him, just as he stated in Letter 340.

Tolkien did not complete the RE Signals Service course in Dunstable, possibly because of sickness (Garth 239). Passing it might have enabled him to become the Battalion Signals Officer, or might even have eased his transfer to the Royal Engineers.¹⁵ He returned to the Lancashire Fusiliers at Thirtle Bridge before the end of July. He attended the Regiment’s Minden Day Dinner on 1st August (Hammond & Scull 101).¹⁶ He suffered a relapse of trench fever and was admitted to the newly-opened Brooklands Officers’ Hospital in Hull in mid-August, 1917 where Margaret Strickland-Constable was the Matron-in-Charge (*ibid*).¹⁷

15. In December 1916, Tolkien had considered transfer to the Royal Engineers (Garth 207).

16. ‘Minden Day’ celebrates the defeat of the French cavalry at the Battle of Minden in 1759 during the Seven Years War by British infantry regiments. The Lancashire Fusiliers, a name invented in 1881, to some fury in Parliament (Hansard 1892), was deemed to be the successor to the 20th Regiment of Foot, later the East Devonshires, ‘The Old Minden Boys’, one of the six victorious Regiments. Two Hanoverian, *i.e.* German, battalions shared the honours. (McLynn 272)

17. The hospital was opened on 31st July 1917 with accommodation for 17 officers (Hull Daily Mail).

7. Zeppelins Over Hull and Holderness 1917-1918 (Castle)

There were over 50 raids by Zeppelins where bombs were dropped on England during the Great War. London was most often the intended target but navigational and weather difficulties resulted in other locations being bombed, sometimes more in hope than expectation. Hull was bombed twice in 1916. During the time the 3rd (Reserve) Battalion of the Lancashire Fusiliers was Tolkien's parent unit, from 19th April 1917 to his discharge in October 1918, Hull was bombed another three times. Holderness and the Humber were often approached or even overflowed by airships heading for other targets, each time bringing all units of the Humber Garrison to an alert state.

Villages in Holderness close to the Humber estuary received attention from Zeppelin L.41, commanded by Hauptman Manger, on the night of 21st/22nd August 1917. The airship crossed the coast at Tunstall, passed over Roos, dropped an incendiary on Elstronwick, and cruised around, coming close to Hull at Marfleet, and dropping bombs on the villages of Preston, Hedon, and Thorngumbald. It may have been repulsed from the city by searchlights and anti-aircraft guns but as the airship was cruising at 20,000 feet, it was relatively safe (Jones V 56). L.41 then went back out to sea at Withernsea (Castle 21st /22nd Aug. 1917). That same night, Zeppelin L.42, unable to reach Hull because of engine failure, attacked ships at Spurn Point, according to the commander's report. This was not recorded by the British. The commander of L.45, in his official report, claimed to have attacked ships lying off Withernsea, but again no damage was recorded by the British (Jones V 55).

Tolkien had been admitted to Brooklands Officers' Hospital in Hull in the second week of August 1917 and would have heard the bombs exploding. Commandant Strickland-Constable recorded the attack on Hull on 21st August 1917:

The Brigade-Major of the new staff came in after dinner to break it to us gently that Zepps were expected. He seemed to expect us to be alarmed but was relieved when we said "only Zepps". At 12.50 firing began, and we could see shells bursting and the flashes of bombs falling. I went out into the garden and sat watching it with the staff for 3 quarters of an hour. The centre of activity was exactly behind the microcarpa, and it turned out to have been at Hedon.¹⁸ The bombs made very much more noise and much brighter flashes than on the first occasion when we watched them falling upon Hull in 1915. A Methodist chapel and a pigstye were the only buildings damaged, and one old man was injured.

18. This was a fig tree, *Ficus microcarpa*, planted to give superb shade when fully grown.

By a mistake in the local post office, the wrong code word was to Capt. Bethell, the one calling out the Volunteers, not the preliminary warning, so he motored all the way to Bridlington, calling out the Volunteers on the way; they all mustered very well and quickly.¹⁹ (Strictland-Constable).

L.55 came in over Bridlington and turned north. Bombs were dropped at Boulby, on the coast of the North Riding of Yorkshire, but they fell on the seaward side of cliffs. In his report, the captain of L.55 mistakenly reported he had bombed Hull, 90 miles to the south (Castle 24th/25th Sept. 1917). L.46 also initially headed for the Humber but attracted by flares at an airfield to the southwest, dropped bombs in that area before heading back out to sea. Hull was the intended target of L.41, Hauptman Manger again. Ian Castle, in his comprehensive website, describes this attack. (Reproduced with permission).

Manger came inland at 1.27 am over Hornsea but struggled to pinpoint his position and it was not until 2.40 am that he finally began his attack. He flew across Hull roughly from north-west to east, dropping seven HE and nine incendiary bombs. The HE bombs landed in Crystal Street (unexploded), Lansdowne Street, South Parade, Lister Street (unexploded), on a railway goods line between Albert Dock and Neptune Street (damaging wagons and telegraph poles), and two in Albert Dock. Of the incendiaries, two fell on the tracks by Paragon railway station, two in Short Street, one at the junction of Hessle Road and St. James's Street and three close together in Nile Street and Commercial Road. The HE bomb at the back of Lansdowne Road appears to have caused widespread damage and injured two women. Even so, damage was generally limited to broken roofs and windows. (Castle 24th/25th Sept. 1917).

Manger's ordnance, dropped from 16,000 feet, fell less than two miles from Brooklands. Tolkien would have heard the engine-noise of the attacker as it flew over, and the exploding bombs to the south, as did Commandant Strictland-Constable (*v.i.*). The airship left the dock area and crossed Marfleet to the east of the city centre where more bombs were dropped. The 3 inch (76mm) anti-aircraft gun at Fort Paull opened fire as more bombs were dropped close by. It fired just five rounds with no hits before it lost its target (Castle Email). More bombs were dropped as L.41 crossed Preston. It reached the coast at Tunstall, close to the HQ of Tolkien's battalion, and headed back across the North Sea to its base.

This is what the Commandant recorded in her diary:

19 . This illustrates the role a local Post Office played in the Warning System.

24/9/17. At 10 p.m. that bird of ill-omen, the Brigade-major, appeared in the drawing-room, and told us he had just had “Field-Marshal’s warning”.²⁰ At 10.30 they had the next warning, and about 1 a.m. Zepps. could be heard in the direction of Hornsea. They wandered about for more than an hour, and one went off up the Humber, and one towards Flamboro. At 12.45 we heard bombs, and the raider seemed to dash round, from the Beverley direction, passing over Hull and Hedon dropping bombs all the way. The bombs were very loud indeed and made a great flash, and our guns were silent and the searchlights almost useless in the fog. The only real damage was to some small houses in Lansdowne Rd. Hull, and even those still had their roofs on. No one killed (Strictland-Constable).

On the night of 24th/25th September 1917, eleven Zeppelins lifted off to attack the Midlands and the North of England. Only six managed to cross the coast. L.35 headed for the Humber but attracted by flares at a night-landing ground at Rotherham, turned southwest. Having dropped bombs around Rotherham, the airship turned for the coast, flying over Holderness and reaching the sea at Aldbrough, several miles north of Thirtle Bridge, before heading back to its base (Castle 24th/25th Sept. 1917).

8. Lt J R R Tolkien, Signals Instructor

From April to May 1916, before his posting to France, Tolkien had attended a Signals Officers course at the Royal Engineers Northern Command Bombing and Signalling School at Farnley Park in Yorkshire. This is a *verbatim* excerpt from the Preface to *Notes on Field Telephony*, written by one of the Directing Staff at the School in 1916.

While some of the information given goes beyond the qualifications which may be considered necessary for trained Signallers of infantry units, it was thought desirable to err rather of the side of fulness than incompleteness, having regard to the fact that most of the Officers and N.C.O.’s on leaving the school have at once to undertake the duties of *instructors* (Hunt 1916).

One gets the impression from a biographer that Tolkien was at Farnley Park mainly to learn Morse code with buzzers and signalling lamps with a bit of map-reading thrown in. He had first learned basic signalling methods when he had opted to become a Signals Officer with the 13th (Service) Battalion Lancashire

20. The Field-Marshal’s Warning would have come from Horse Guards in London using the early warning system (Jones III 175).

Fusiliers. This was on Cannock Chase in August 1915 (Garth 114). After his much more intensive Farnley Park course, he was dispatched to the Western Front with a Provisional Instructor's Certificate (Garth 134).²¹ He attended a refresher course at his Divisional HQ in France in August 1916 (Garth 178).

For a Signals Officer, a familiarity with signalling dexterity and messaging methods was necessary, but you do not keep a dog and bark yourself; his Signallers were expected to be proficient in these matters.²² A Signals Officer was a manager, a leader, knowledgeable in establishing and directing communications in the trenches, and to ensure the use of laid-down procedures to avoid confusion when messaging, especially when under fire.²³

The 3rd (Reserve) Battalion Lancashire Fusiliers was a recruiting and training unit. The officers and NCOs of the permanent staff were relatively few in number; most soldiers in the battalion were transients who, after training, would be dispatched to one of the fronts. Tolkien's training task, whenever he was with his parent Battalion at Thirtle Bridge, would have drawn not only on his Farnley Park course but more pertinently on his frontline experience during the Battle of the Somme. He was an instructor who had knowledge of signalling in battle conditions that no number of courses could impart. It is highly likely that a practice trench, similar to the trench section in Figure 6, was constructed near Thirtle Bridge where those selected to be Signals Officers and Signaller Senior Non-commissioned Officers (SNCOs) could learn the intricacies of setting up and operating a Battalion's lines of communication.²⁴

21. The Lectures were: 1. Jointing. 2. Electric Circuits and Methods of Identifying Leads. 3. Elementary Principles of Electro-Magnetism. 4. Generators and Bells. 5. Receivers and Microphones. 6. Types of Telephones. 7. Field Exchanges. 8. The D Mark 3 Telephone. 9. Lines of Communication. 10. Instruction in Gas Defence (Hunt 1916).

22. A Signaller was expected to work up from *ab initio* 8 words/minute to 25 words/minute when in the trenches (Brookes 48).

23. 'A Battalion Signals Officer was responsible for maintaining communication at all times from his Battalion HQ to the Brigade, to the component Companies of his Battalion, and to the units on either flank and to establish the necessary stations accordingly' (Hall 38).

24. No traces of practice trenches near Thirtle Bridge can be found on Ordnance Survey maps, old or new, or by satellite imagery. That is not surprising; the land near Thirtle Bridge is intensively farmed. There are also hundreds of caravans parked in extensive resorts next to the nearby sea-wall where trenches were dug as part of the defences created in 1915 (Brown 24).

Practice trenches were dug at Farnley Park during the First World War (Riches). Figure 6 is a diagram in *Notes on Telephony* showing a section of trench occupied by one of the four Companies, 'Coys', of a Battalion. The 'Telephone Dug Out' is next to the Company Commander's Dug-out'.²⁵ The 'Co's Battle position' is the Battalion HQ where the Battalion Signals Officer would be positioned.²⁶

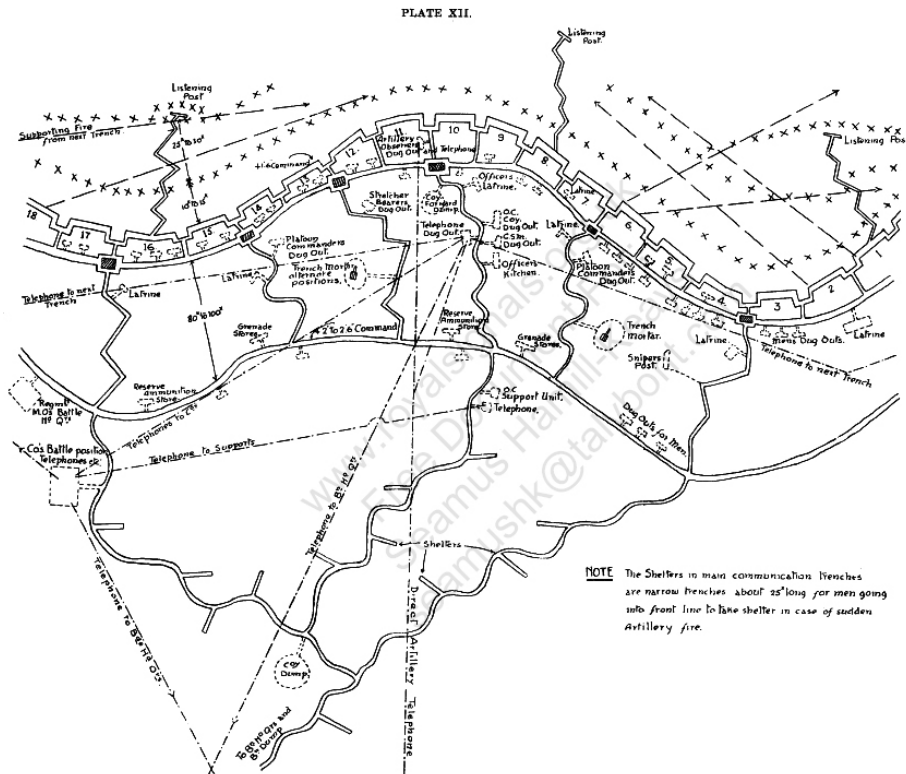


Figure 6. Plate XII from *Notes on Telephony*
Lecture 9, Lines of Communication (Hunt 1916).
Acknowledgements to Wireless Set No. 19 Group Royal Signals

25. Because of the need to protect signalling equipment, not just from enemy shell-fire, but from inclement weather, Signalling Sections of a Battalion were allocated the best protected dug-outs (Brookes 48).

26. Captain Llewellyn Wyn Griffiths, OC C Company of the 15th (Service) Battalion of the Royal Welch Fusiliers, wrote about his company's Signallers: "The Signallers were always with the company, but never of it. They did no fatigues, they carried nothing but their leather-cased instruments and odd lengths of wire, they dug no trenches. They spent most of their time sitting down in dug-outs, buzzing their telephones, disappearing occasionally down a trench with one finger on a wire, following that wire round corners, across ditches and over fields. They were a clan within our tribe" (Griffiths 158).

9. Lt J R R Tolkien and the 9th Battalion Royal Defence Corps

Tolkien was discharged from Brooklands on 16th October 1917 and rejoined his Battalion at Thirtle Bridge. A Medical Board had judged him to be 30% Disabled but 'Fit for Light Duties'. A later Board in November found his fitness somewhat improved at '20% Disabled'. He was then attached to the 9th Battalion Royal Defence Corps, head-quartered at Easington (Mathison 87). He now held the substantive rank of Lieutenant (Gazette).²⁷ This Battalion was a coastal defence unit posted along the sea-wall around to Kilnsea (See Figure 2).²⁸ The RDC was comprised of Category B (previously Class II) infantrymen unfit or too old for General Service but sufficiently fit for Home Service (Mitchison 60). The Battalion possibly had a Signals Company attached, drawn from the East Riding Volunteers (ERV) (Mitchinson 396). It is unlikely that it had a battle-experienced Signals Officer on its strength. Tolkien would fill that post and supervise communications between 'listening posts' on the sea-wall with the Battalion HQ, and those between the Battalion HQ, Humber Garrison, and adjacent units. He could also receive further treatment for his residual illness here (Mathison 89). Other units at this end of the peninsula included the coastal defence and anti-aircraft guns of the Royal Garrison Artillery that, at night, worked closely with searchlight batteries. These were nominally manned by the Royal Engineers but may have been operated by an ERV Electric Light Company attached to the RDC Battalion (Mitchison 396). If not, they could have been partly manned by infantrymen of the RDC.²⁹

The unmistakable geography of Spurn Point where the Humber met the North Sea, and where Tolkien was now stationed, was likely sought as a landfall by naval Zeppelin commanders coming in westwards, high over the North Sea, from Nordholz, Hage or Alhorn (see Figure 3) having avoided overflying neutral Holland. Because of the frequent approaches to this part of the coast by Zeppelins, the attraction of this geography to the Germans became apparent to the British and a special installation was created to help the aiming of searchlights. This was the Kilnsea acoustic mirror, a concrete paraboloid 15 feet in diameter, located at the centre of the RDC's coast-watching beat and aligned due east with its principal

27. His promotion was backdated to 1st July 1917, probably because he had already held the rank of Acting Lieutenant, an appointment that lay within the gift of the OC Battalion and probably bestowed before he took over the outpost in Roos. He may also have been appointed an Acting Lieutenant in the 11th (Service) Battalion when he became the Battalion Signals Officer in mid-July 1916, on the Somme (Hammond & Scull 84).

28. The Royal Defence Corps was organised in three types of units: Battalions, Protection Companies and Observer Companies.

29. In 1916, shortage of Royal Engineer electrical tradesmen who had previously manned anti-aircraft searchlights, led to them being partly crewed by Category B infantry soldiers (Gudmundsson 68).

axis inclined at ten degrees to the horizontal. The engine noise of an approaching airship was focussed within the paraboloid and thereby concentrated, the location of the focus depending on the angle at which the sound waves emitted by the target struck its surface. This device, and others like it elsewhere, were most likely introduced in 1916 to help target the Zeppelin ‘Height Climbers’ that could ascend to 20,000 feet when approaching the coast when their engine noise would be undetectable by the human ear.



Figure 7. An acoustic mirror similar to the one at Kilnsea (PBS Learning Media)

Examination of the material in the reference of Figure 7 enables the operation of the mirror to be deduced. On receipt of a ‘Field-Marshal’s Warning’, from Horse Guards in London, of the approach of a Zeppelin picked up by RDF as explained above, a large stethoscope cone at one end of a dual-axis sighting tube was moved around the volume within the paraboloid until the focus of the concentrated sound was heard in the operator's earpieces.³⁰ The azimuth and elevation of the sighting tube were then passed to a cooperating battery of searchlights and urgently notified to all other anti-aircraft units of the Humber Garrison and Horse Guards in London.³¹ As mentioned before, the searchlight

30. The operator used a medical device, a large stethoscope, and not a microphone, to listen to the focused sound.

31. Assuming an airship was approaching at 20,000 feet and its slant range from the acoustic mirror along the line of sight was $7\frac{1}{2}$ miles, 40,000 feet approximately, giving $\arcsin 0.5$, a nearby searchlight battery's elevation would be at 30 degrees at the discovered azimuth, settings guided by the sighting tube's alignment to the loudest sound received. Assuming the airship was flying at 60 mph at $6\frac{1}{2}$ miles horizontal distance, it would be nearly 10 minutes before it was overhead.

crews might have been men of an Electric Light Company or might have been partly supplied by infantrymen of Tolkien's RDC Battalion. This circumstance could more closely associate Tolkien with the acoustic mirror especially if he was responsible for its communications. There can be no doubt that, in the four months in which he served in this location, he became familiar with this giant ear that listened out to sea.

On 12th March 1918, five 'Height Climbers' set out for England. Tolkien and the Humber Garrison would have been brought to the *qui vive* by a Field-Marshal's Warning before dusk, thick cloud prevented their commanders establishing the airships' positions when approaching the coast. L.54 aimed bombs at the Grimsby fishing-fleet but missed. The bombs dropped by L.53 also, presumably, fell into the sea. L.63 did cross the coast, at Hornsea at 20.30. The captain thought he was close to Leeds and Bradford but he was still over Holderness on a direct course for Hull. Anti-aircraft guns opened fire on the airship. Six bombs landed within the city. Proceeding northeast, he dropped more bombs that landed in fields. L.63 re-crossed the coast at Tunstall at 21.30 and returned to Germany. L.61 cruised around much of the East Riding, including Hornsea and Beverley, but found no targets. The captain claimed to have bombed a fortified place on the Humber but there is no record of bombs landing there. A communique from the German High Command in Berlin to a newspaper in neutral Amsterdam on Thursday 14th March, reported that, 'On the night of Tuesday one of our naval airships squadrons attacked fortified places and military establishments on the Humber and in Yorkshire with good results. The airships encountered severe artillery fire, which however, was unable to stop the attack. ...Captain Strasser was again in command.' (Press/2).

One gets the impression from a biographer that Tolkien, after his failure at the RE Dunstable training, had been shunted off to a military backwater with the RDC 'where his duties would be less demanding' (Garth 243). As demonstrated above, the estuary of the Humber was a location of significant naval, military and aerial activity where efficient telecommunications were of great importance, not only to counter the enemy but to avoid, in modern parlance, 'blue on blue' accidents where friendly forces suffered losses inflicted by its own side. In particular danger were British airships that, on a daily basis, flew over Spurn Point on their way from their base at Howden, 40 miles to the west, for convoy escort duties or anti-submarine patrol in the North Sea (Firth 16). Their return as dusk approached would have been a particularly fraught time. At an indeterminate distance, one airship, even of a smaller size, looked very much like another, a large cigar-shaped airborne object.³² Friendly-fire was a constant danger. Strict

32. Four of the airships stationed at Howden were large and impressive 'Parsevals' of German design. Good communications with the defence forces was even more essential for these (Mowthorpe Appendix D).

observation of telegraphic signals notifying all units, including Tolkien's RDC machine-gunners and riflemen, of impending Royal Naval Air Service (RNAS) airship movements was vital. Tolkien's duties would have included the decoding of WT signals (German ears were listening) and promulgation of these, and telegraphic signals, to his Battalion's four companies.³³ He may also have been required to decipher WT signals of higher security classification that could not be sent as codewords. As RNAS airships were equipped with WT, it is possible he was also required to decode transmissions from them. Tolkien was in no military backwater. Indeed, his responsibilities with the RDC were probably the most demanding since he had been invalided home. He was in the real war and not the practice war of the training battalion at Thirtle Bridge. He might have had some respite when winter storms grounded aircraft and forced ships into harbour.

It was not only aircraft movements that demanded Tolkien's attention. On 1st February 1917, the coastal waters of Britain had become an even more intense battlefield when the Germans retaliated for the very effective blockade of their seaports through the resumption of unrestricted submarine warfare.³⁴ German submarine minelayers were constantly sowing mines along the North Sea coast including the approaches to the Humber. A 'War Channel', marked by buoys, had been created for the protection of naval and merchant ship convoys. It was 1 mile wide and 540 miles long. It was constantly swept by converted trawlers out of Hull.³⁵ Mines often broke away from their undersea anchorages. Look-outs onshore watching the War Channel, such as the soldiers of the RDC, would have been briefed to spot and report them. There was constant shipping movement in and out of the Humber and up and down the War Channel. Identification of vessels by the coast-watchers using WT or signal lamp was necessary.

In March 1918, the men of the Battalions of the Royal Defence Corps were being transferred to its Protection Companies (Mitchison 333).³⁶ Tolkien's attachment to the 9th Battalion was coming to an end. On 19th March 1918, a further Medical Board found he still needed 'Hardening'. He returned to the 3rd (Reserve) Battalion Lancashire Fusiliers at Thirtle Bridge.

On 20th March 1918, the Germans launched a massive attack on a weak point of the British line on the Western Front and drove the Allied armies back over the ground where so much blood had been shed in previous years. This was the

33. War Diaries show that a Battalion Signal Officer was responsible for arranging the printing and distribution of decoded orders to Company Commanders, flank units and other functionaries e.g. Medical Officers, Padres, Quartermaster (Langemarck).

34. Unrestricted submarine warfare, which included the sinking the ships of neutral nations, brought the USA into the war.

35. Three hundred Hull trawlers were used as minesweepers on Admiralty service during the Great War. Of these, 61 were lost, many to mines (Memorial).

36. The RDC's Protection Companies guarded Prisoners of War until 1919 when the Corps was disbanded.

Kaiserschlacht, the Kaiser's Battle, intended by the Germans to win the war before the arriving Americans brought new numbers and energy to the Western Front. It failed.

Tolkien was judged 'Fit for General Service' at his monthly Medical Board on 10th April. Zeppelin L.61 returned to Holderness on 12th/13th April 1918, crossing the coast near Withernsea. The Humber Garrison anti-aircraft artillery opened fire towards the sound of its engines (Castle 12th/13th Apr. 1918). The airship continued on its way and carried out bombing runs over towns in Lancashire. It passed over Hull and Withernsea once more on its return flight to Germany. It was the last Zeppelin to fly over Holderness.³⁷ Tolkien had left Thirtle Bridge two days before, having been detached to duties in a camp in Staffordshire and domiciled with his wife and baby son in the hamlet of Gypsy Green.³⁸

At the end of June 1918, Tolkien did return to East Yorkshire. He was again an invalid in Brooklands Officers' Hospital, this time suffering from gastritis. There he stayed until 11th October when he was transferred to a convalescent hospital in Lancashire, the home county of his Regiment. His time in the Army was coming to an end, as was the Great War.

10. Conclusion

To devotees of Tolkien, the trench fever that led to his repatriation from the Western Front in November 1916, was a fortuitous circumstance that saved an extraordinary intellect from annihilation in the mud and blood of a French or a Belgian field. His return is widely seen as an escape to the peace and quiet of treatment and convalescence in England. Yet his posting to Holderness, in April 1917, placed him in the alarms and excursions of another front line.

The Zeppelin attack on Hull in June 1915 necessitated a rapid change in the defence posture in Holderness. Previously, defences had been configured to oppose landings by the German army backed up by the Imperial High Seas Fleet. With the additional threat of air attacks, cooperation between the units of the Humber Garrison, the Royal Flying Corps, and the Royal Navy was established.

37. On 1st April 1918, the wrangling about responsibilities for the air defence of the United Kingdom between the Royal Flying Corps and the Royal Naval Air Service had been brought to an end by their amalgamation to form the Royal Air Force (RAF). Some small revenge for the Zeppelin raids was exacted in August 1918, when a RAF DH-4 fighter shot down Zeppelin L.70 into the North Sea in an enormous burst of hydrogen flame that lasted less than a minute. On board was the architect of all the raids, the Commander of Naval Airships, Fregattenkapitän Peter Strasser. The Royal Navy recovered his corpse and returned it to the briny with full naval honours; such is the madness of war.

38. In much of the Tolkienography, Gypsy Green is described as a dwelling. The Ordnance Survey shows it to be a hamlet (OS Staffordshire XLIV.12 1902).

The immediate use of the valuable intelligence of approaching airships, gathered by WT and RDF, demanded a rapidly reacting organisation utilising the telephone exchanges in Holderness. The airships were then tracked overland by their bombing and by their engine noise. The outpost of the Humber Garrison HQ commanded by Signals Officer Lieutenant Tolkien for a brief time was almost certainly located in the Post Office in Roos and played a part in the defence against air attack.

Only one section of Tolkien's Personal Service Records has survived, the one that includes his medical assessments. The other two parts, in common with those of all Army officers who served in the Great War, were destroyed in the German bombing of Southampton in the Second World War. There was no formal assessment of officers then, but Officers Commanding's (OC), comments would have been recorded when praise had been earned or censure needed, or on posting. Because of the loss of records, we may never know what his OCs thought of him. His OC at Thirtle Bridge was Lt-Col Anthony Fane, 13th Earl of Westmorland, aged 55, a professional soldier who had served in the 2nd Boer War, but too old to have served on the Western Front (Smith 335). How this Old Etonian and aristocrat viewed his 'Temporary Gentlemen' is not recorded but, as he had held the post since 1914, he would have grown accustomed to them. It might be that he held Tolkien in sufficient regard because when Humber Garrison asked him to appoint an officer to command the outpost in Roos, Tolkien was the chosen one. He was not one of the fifty 2nd Lieutenants of the 3rd (Reserve) Battalion sent to France in June 1917 with an average life expectancy of six weeks and four days (Lewis-Stempel 6). Similarly, Tolkien was one selected for the course at the Royal Engineers Signals Depot at Dunstable in July 1917. Later, the nature of the Signals Officer's duties with the 9th Battalion RDC demanded an officer who could bring his battle experience to managing communications in a focus of the war on England's east coast. Tolkien must have been seen to fit the bill despite some residual illness.

For those unfamiliar with Tolkien's life, it may seem odd that his experiences with Zeppelins outlined in this article have never figured in his writing, or indeed of his biographers. The reason behind the avoidance of such matters may be found in a letter written to Christopher, his third son when he was in the Royal Air Force:

But I fear an Air Force is a fundamentally irrational thing *per se*. I could wish dearly that you had nothing to do with anything so monstrous. It is in fact a sore trial to me that any son of mine should serve this modern Moloch.... In any case, it is only a kind of squeamishness, perhaps, like a man who enjoys steak and kidney (or did), but would not be connected with the butchery business. As long as war is fought with such weapons, and one

accepts any profits that may accrue (such as preservation of one's skin and even 'victory') it is merely shirking the issue to hold war-aircraft in special horror. I do so all the same.(Carpenter Letter 92).

In Holderness, when he was Officer Commanding the outpost of the Humber Garrison in Roos, Zeppelin raids in which civilians were killed would have grieved him. Later that year, he had close personal experience of the bombing of Hull when a patient in Brooklands. Further close involvement with aircraft at war occurred when the Signals Officer with the RDC. Twenty years later, the bombing of Guernica would have recalled for him the bombing of Hull. The blitz on Britain in 1940 and the V1 and V2 bombardments of London in 1944 would have reinforced his repugnance of air forces and all their works.

Carpenter tells us when selecting letters for publication 'with the help of Christopher Tolkien...it became obvious that an enormous quantity of material would have to be omitted...' (Carpenter Intro). Given the strength of feeling his father expressed in Letter 92, we may surmise that Christopher did not permit Carpenter to include letters that shed light on Tolkien's experience with Zeppelins. It seems as if 'Tolkien and the Zeppelins' was a chapter that would not be written, but here it is.

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