



The Royal Naval Air Service in Antwerp, September-October 1914

By Bridget Pollard

Introduction

A unit of the Royal Naval Air Service (RNAS) was based in Antwerp between 16th September and 8th October 1914. It was there less than four weeks. It was nominally composed of three squadrons, though for all but three days it was two squadrons with six primitive aeroplanes between them, not all of which were airworthy at the same time. However, in spite of all its problems, it had an extraordinarily ambitious not to say over-optimistic mission: it was going to undertake the first long-distance bombing raids on Germany by British aeroplanes.

I cannot pinpoint the exact location of the aerodrome they used at present, but believe it was the one used by No 4 Squadron of the Belgian air force. By August 1914, the small Belgian air force comprised four squadrons of four Maurice Farman aeroplanes, plus a training squadron, and No 4 was based in Wilrijk, a suburb of Antwerp. Lt Marix, the RNAS pilot who bombed the Zeppelin shed at Düsseldorf on 8th October 1914, gives the location for the RNAS aerodrome in Antwerp as Wilrijk¹, and it would seem likely that the two forces shared the same location, as Sq Com R. Bell Davies, who was there in charge of No 3 Squadron, RNAS, while not mentioning its exact position in Antwerp, speaks of sharing a telephone line in the sheds with an unidentified Belgian force², and aerodromes were not that thick on the ground in 1914! This aerodrome had been established before World War I for both airships and aeroplanes, having an airship shed and a number of wooden hangars for aeroplanes, but was abandoned for the latter in 1920 after an extensive flood, though still used by airships for several years. It had been established in 1909 when an air show in October and November had drawn huge crowds.

Aeroplanes and their military limitations pre-1914

The excitement of flight gripped the British public and media in the early twentieth century as it did the public and media of most Western countries. It did not, however, inspire either the government or the upper echelons of the Army and Navy, and it is easy to see the reasons for their practical misgivings in the pre-war years. Whatever the media furore, the bare facts were that the heavier-than-air machines of the day were too primitive and unreliable to undertake more than simple reconnaissance tasks in reasonable weather conditions. The airships of the time were also not obvious war machines, yet the threat they posed was perhaps more realistic as they could carry heavy loads, and, provided they could overcome the problems of how to navigate at height (and at night and in cloudy conditions), of their vulnerability to weather and to gunfire and artillery shells, and of the means of delivering bombs, the threat could become a reality.

I am using the term 'aircraft' throughout this in the sense in which it was used in 1914, that is to say, all craft that fly in the air – aeroplanes, airships, non-rigid balloons, observation balloons, etc. In the world of that day, the supremacy of aeroplanes was not a foregone conclusion and airships were undoubtedly preferable in many roles.

¹ 'Reggie: The Life of Air Vice Marshal R L G Marix CB DSO', by John Lea, Pentland Press Ltd., 1994. p25

² 'Sailor in the Air: The Memoirs of Vice Admiral Richard Bell Davies, V.C., C.B., D.S.O., A.F.C.', by R. Bell Davies, Peter Davies, 1967, p101



The machines of the time were markedly different to those we know today. They had only the bare minimum of instruments in the cockpit. One pilot with the Royal Naval Air Service (RNAS) comments that one of the most useful pieces of equipment he had at the time was a piece of string which hung down in front of him and so indicated when he was flying level or banking³. The RNAS force commanded by Wing Commander C. R. Samson which landed in Ostend on 27th August 1914 was composed of seven different types of aeroplane, both biplanes and monoplanes, with three different makes of engine. One of these makes had two different sizes of engine⁴. Three of Samson's aeroplanes were wrecked in a storm at Ostend on 12th September, a regular occurrence in the early days of flight when aeroplanes were very light and did not have decent hangarage in war conditions. Weather was a terrible enemy in the early days. Even moderate winds could prevent or impede flight and back in 1911, a pioneer of the RNAS recalled⁵, flying was normally only done in calm conditions. Each of the different types of aeroplane would have different flying characteristics, for example, some had ailerons and flaps to control the direction of flight, while others manoeuvred by 'wing warping', where part or all of the wing is twisted by wires to change the attitude of the aeroplane. Generally, pilots would have their own 'mount' which they would stick to and would be aware of its characteristics, but a new aeroplane could be a challenge, and one which frequently resulted in a hard encounter with the ground.

Crashing or forced landings were a regular part of flying life at that time. These incidents were seen as normal, and the earliest Royal Navy pilots had been given engineering training with Shorts Brothers, whose airfield adjoined their own on at Eastchurch, which enabled them to sort out quite a few of their problems themselves from local resources near the site of their disaster. It is difficult to be definitive about the specifications for each of the machines used by the RNAS because should any come to grief, they were likely to be returned to their manufacturers for repair, and this frequently meant an improvement or even rebuild because of the way the Air Service was funded. However, they would retain their original names to hide the fact. This is a problem when assessing the capabilities of the aeroplanes used by the RNAS in Antwerp. It is only in the case of new machines issued to the Service that we can be sure what their specifications were.

But one of the basic problems of all these early aeroplanes, apart from the fragility of the machines themselves, was that the engines were not strong enough to lift heavy loads. Some barely lifted the pilot and all were unreliable. The RNAS did generally buy more powerful engines than the Royal Flying Corps (RFC)⁶ but these were usually for use in their seaplanes rather than their landplanes, as the former carried a primitive (and heavy) wireless set, normally had a crew of two and were intended to carry a torpedo at some stage. They also bought a number of two-or three-seaters, which they flew as single- or two-seaters, giving improved performance. Without the necessary lift, it was impossible to carry either armament or bombs. And before an interrupter gear was developed, it was impossible to have a fixed forward-facing machine gun firing through the airscrew of an aeroplane. This meant that usually only two-seaters could carry machine-guns, and even then the engine would have to

³ R. Bell Davies, op cit, p77

⁴ 'Fights and Flights' by Air-Commodore C R Samson, C.M.G., D.S.O., A.F.C., R.A.F., 1930, reprint 1990: The Battery Press, p5

⁵ R. Bell Davies, op cit, p50

⁶ Here used to signify the Army's aviation branch



be reasonably powerful to allow them to function. Rifles and hand-guns were an easier, but useless, option. The earliest bombs used by the RNAS were quite small. On the two raids we shall be looking at they were 20-pounder Hales bombs, which had an explosive charge of 4.5 pounds, hardly the stuff of which major air-raids are made. But at least the RNAS, unlike the RFC, had been experimenting with bombing and bombing aids, and had developed bomb-racks, even if there was no bomb-sight and the release gear was a wire ending in a toggle. They also made adjustments when necessary to the wings of their aeroplanes to allow a view directly downwards when bombing.

British military pilots had a serious problem apart from the basic ones of the performance and reliability of their aeroplanes when dealing with Zeppelins – how to bring them down. Even when machine-guns were fitted, there was no tracer ammunition until late 1915 when ‘Buckingham’ was bought by the RNAS. Before that the options were limited. Grenades would simply bounce off. Machine-gun rounds could puncture the envelope, but would not ignite the gas unless a spark was created. Bombs could be dropped on them if the pilot could get sufficiently high above them. The weight of the bomb would take it through the Zeppelin’s skin, but then it had to have had time to arm and had to hit something solid on its way through the airship to explode. The Hales bomb, once armed, was detonated by vibration and the mechanism was not altogether reliable. The invention of the Rankin dart seemed a way forward, but I do not believe one ever brought down a Zeppelin. The ‘Fiery Grapple’ was pure suicide, involving hooking the Zeppelin with a grappling iron with an explosive charge attached to the aeroplane by a hundred-foot line, which the pilot or observer then had to cut. Leaving aside the RFC suggestion of just ramming them, the easiest option overall until the incendiary round was developed was to destroy them on the ground or at least to destroy their sheds, without which they were vulnerable to weather.

But the basic problem facing military aviators was that although it was recognised that aircraft of all kinds could potentially make a substantial contribution to the armed forces, it was not clear what roles aircraft would successfully fill in a war situation, given the technical problems of both aeroplanes and airships. Both the RFC and the RNAS bought a wide variety of aeroplanes and had a mix within squadrons, as it was difficult to know what type of machine to buy to fit any potential military use. It was not yet decided whether one type of aeroplane could fulfil all roles demanded of it, or whether it would be necessary to develop specialist bomber types, reconnaissance types, fighter types, etc. Most aeroplane constructors merely made one or two of a design as the Army or Navy specified. However, Vickers did try to deal with the problem of producing a fighter aeroplane with the Vickers Gunbus prototype in 1913 – a pusher aeroplane with a machine-gun mounted in the observer’s nacelle at the front. By the end of 1914, the RNAS began to order more aeroplanes from Sopwiths and Shorts, starting a trend which would continue for years. They had also ordered Handley Page to construct a ‘bloody pulveriser’ of a bomber – the O/100 and its successors, which would come into service in late 1916 and start a new era of heavy bombers.

Setting up a military air service in Great Britain

To the military mind in 1910, these fragile unarmed craft with their fallible engines, low speeds and minute payloads, could not play a realistic part in any military exercise. There was no point in developing a military air service, either for the Army or the Royal Navy. Their hands were forced by public opinion and media pressure, whipped up by fiction such as ‘The War in the Air’, by H.G. Wells, which did much to foster an obsessional fear of aerial



bombardment, and especially bombing by Zeppelins, and by events such as Bleriot's Channel crossing in 1909, which proved that the Channel was no longer a secure moat and the Navy could not be seen as its infallible drawbridge. The increasing size of the German and French air forces and the amount of money being poured into them was another worrying factor. Significant developments in aeroplane technology followed in quick succession and made them think again. A series of committees was commenced, at first to consider protection against a potential airship menace, which eventually resulted in the formation of the Royal Flying Corps in 1912.

The RFC at the outset had a military wing, under the Army, a naval wing, under the Royal Navy, a Central Flying School at Upavon, a factory/development plant at Farnborough (the RAF), and theoretically a reserve wing, and joint responsibility shared by the Army and the Navy for the management of all this. Which would have been wonderful if the Army and the Navy could agree on what the aircraft they were supposed to provide, and what the pilots they were to train were to do. Completely ignoring the widely-feared Zeppelin threat, the Military Wing, commonly known to all of us now as the RFC, was trained for reconnaissance work, which perhaps is a little surprising when one considers that until 3rd September 1914 the Army was in charge of the defence of Britain from aerial attack. It is less surprising when one considers that the Army had been using tethered hydrogen balloons for reconnaissance and spotting for artillery for over twenty years, including during the Boer War, and that Sir David Henderson, its early commandant, had written a text book on reconnaissance for the British Army. This is not to say that the RFC did not have adventurous (even foolhardy) pilots who were keen to experiment with bombs and other projectiles and armament, only that they received very little official encouragement, and much discouragement, until several months after the start of World War I.

The role of the RNAS

The aeroplane and the airship offered the chance to extend the army's horizon, and the same was, of course, true for the RFC's Naval Wing, yet the extent of the Royal Navy's commitments and the personal enthusiasm of Winston Churchill, the First Lord of the Admiralty meant that the Royal Naval Air Service, as the Naval Wing was formally known from July 1914, was required to set its remit much wider. The Navy had different requirements of its aircraft. The defence of British dockyards and ports, of the British Empire and British commerce and of the Fleet itself led to experimentation with aircraft of all kinds. Reconnaissance for the Navy included reconnaissance for the fleet, and seaplanes were considered best for this. The menace of the submarine was a modern development which it was hoped that aircraft would help to counter. Defence of the dockyards in the UK from bombing raids either by aeroplane, or, more likely, by Zeppelins, meant that the RNAS was interested in fighter aeroplanes. However, there was as yet no way of vectoring in a fighter anyway, even if it was armed and had the time and climbing ability to reach its target. It seemed that one of the most positive ways of counteracting the potential bombing threat was to bomb the monsters in their lairs or in the factories where they were made. This resulted in experimentation with bombing and an early use of RNAS machines to attack Zeppelin sheds, especially after 3rd September 1914, when the Royal Navy took over the defence of Britain from the Army.

The RNAS had a very interested patron in Winston Churchill, the First Lord of the Admiralty. He had experimented with flying himself, but had been discouraged by his colleagues due to



the high possibility of death, but this did not stop him from issuing a constant stream of minutes relating to improvements to the RNAS, both in equipment and in organisation. On 18th May 1914, in a minute to the Fourth Sea Lord and Murray Sueter, the Director of the Air Department (D.A.D.), he called for a 'war squadron' of 'ten fighting aeroplanes' to be created at Eastchurch as soon as possible under the command of Wing Commander Samson, the commanding officer there, for the aerial defence of the Chatham Dockyard and the Chattenden magazines. In its preliminary state, he called for a squadron of two flights of four machines each, with one in reserve. He ordered that the 'design of these aeroplanes should be reconsidered in the light of the latest experience. They should all be identical in pattern, should all come from one maker, and should have all their parts interchangeable. The engines should be capable of being exchanged in not more than half an hour, and two spare engines should be ordered with each flight. These machines should be kept quite separate from the practice and school machines, and eight of the ten should always be ready to fly.'⁷ The fact that this minute was not followed up by the outbreak of war should not suggest that Churchill's brainwaves were not acted on. Perhaps in this case the demand for fixing on one kind of aeroplane to fit his criteria was too much of a leap and problems of armament had also to be overcome. His ideas could be worked on very quickly. In an earlier minute, dated 21st December 1913 and addressed to the D.A.D., he asks for the construction of a Sopwith tractor biplane with a 100hp engine and side-by-side seating for the flying school at Eastchurch. His specifications are fascinatingly detailed, down to the instruments and internal fittings. The most significant point in this is that the aeroplane was actually built by Sopwiths at a cost of £1,528, appearing in its order book as number 58 on 24th December 1913, and described as a Land Tractor biplane Ds with a 100hp Gnome engine⁸. It was given the RNAS serial number 149, and was known as the 'Sociable', the 'Tweenie' or the 'Churchill'⁹. Basically a dual-control scaled-up Sopwith Tabloid, its engine size and the side-by-side seating with comfortable leather trim are as Churchill specified, but I cannot say whether his specification was followed in all things. This aircraft has an interesting history. After taking him for several flights with Lt Spenser Grey, it crashed at Eastchurch in April 1914 and was not ready for flight again until 27 August 1914. It was then sent to Antwerp, where it was flown by Spenser Grey in the unsuccessful attempt on the Cologne airship shed on 22 September 1914, damaged, and subsequently abandoned when the aerodrome was evacuated on the RNAS withdrawal.

When all is said and done, the Admiralty's aim of destroying Zeppelins was wildly optimistic. At the outbreak of war, the RNAS had 39 aeroplanes and 52 seaplanes in all, of which only about half of which were ready for immediate use. A number were totally unfit for military use at all and were used only for training. Over the next few months experience, and ordering based on this, would make a vast difference to the RNAS' capabilities. Capt. Sueter, the Director of the Aerial Department in the Admiralty, could rightly say in July 1915 that every machine RNAS had at outbreak of war 'is now regarded as fit only for a museum'.

Deployment of the RNAS in Belgium and France, August-September 1914

The deployment of British military aeroplanes in the frontline in France and Belgium in 1914 demonstrates the two obvious reactions of a commander to a new, untried and sometimes

⁷ N.A., Adm. 1/8621

⁸ British Aircraft before the Great War, Michael H. Goodall and Albert E Tagg, Schiffer Military History, 2001, p281

⁹ Ibid., p293-4.



unwanted weapon. You can discount it and use it conservatively, as the Army did with the aeroplanes of the RFC in France in 1914, or you can vastly overestimate its capabilities and expect the near-impossible from it, as Churchill did with the RNAS in Belgium from August to October, 1914.

When Wing Commander C.R. Samson of the RNAS was sent out to Ostend on 27th August 1914, the force of nine aeroplanes he commanded was a mixed bag of what his unit had at present, and was not the 'war squadron' Churchill had hoped it would be. It is interesting to see not only that many of them dated from 1913, but also that most of them had hit the ground (or something else) at least once in their service history, some of them sufficiently hard to need to be practically rebuilt. I should add here that the Navy had already decided that all pilots should ideally be over the age of 30, and should fly aeroplanes operationally for only four years before going into airships, as piloting aeroplanes was thought to be very tiring on the nerves! However, this idea had not been rigidly enforced as the pilots bombing from Antwerp in 1914 demonstrate.

The original object of the deployment was reconnaissance of 'an area of about 30 miles around Ostend'¹⁰ and to attack any enemy aircraft found, in support of the Marine brigade which had been landed there. This latter part of the mission would have been somewhat tricky, as no aeroplane had a fixed machine-gun, being armed only with rifles or revolvers carried by the crew. We would expect to be able to speak of Samson's force as a numbered squadron, but at this early stage of offensive action it was only known as the 'Eastchurch (Mobile) Squadron' or 'Samson's Aeroplane Party', which, as one of his officers remarked, 'had a pleasant seventeenth-century sound about it.'¹¹ The numbering of RNAS squadrons in the early days is quite a problem; it is difficult to distinguish which force is which squadron and between what dates for the first few months of the war. While at Dunkirk a couple of weeks later, Samson's force was supposed to number three squadrons of twelve aeroplanes each but did not even approach this strength. National markings on aeroplanes had not yet been formalised. Each aeroplane in Samson's unit was supposed to fly to Ostend with a Union flag lashed to one of its struts, but this was not generally done. It is fascinating to hear that the aeroplanes were fired on by the Royal Marine detachment there as they came in to land, not simply because of this failure or because the Marines feared an enemy attack, but also because, even when aware of the nationality of the machines, they wanted to practice hitting aeroplanes! They were successful.

The raids on the Zeppelin sheds are proposed

However, the stay at Ostend was short-lived, and Samson's force was recalled to the UK before the end of the month. This was a bitter blow to Samson, who had written a long letter to Churchill earlier in August, begging to be allowed to command his unit if it were sent to co-operate with the Army, as had been suggested.¹² He managed to hang back in Dunkirk until he had convinced General Bidon, in command of the French forces there, and Mr Sarel, British vice-consul, to plead with the Foreign Office for them to remain for military and diplomatic reasons to co-operate with French. On the 1st September, an Admiralty telegram gave him permission to remain at Dunkirk to operate against Zeppelins and enemy aeroplanes

¹⁰ Churchill Archives, CHAR 13/36/78

¹¹ R. Bell Davies, *op cit*, p96

¹² CHAR 13/45/36-37



and carry out reconnaissance as required by the French general. The policy laid out in an Admiralty telegram to French Ministry of Marine at this time sums up the Navy's use for the RNAS aeroplanes and armoured cars in the area: 'The Admiralty considers it extremely important to deny the use of territory within a hundred miles of Dunkirk to German Zeppelins, and to attack by aeroplanes all airships found replenishing there. With your permission the Admiralty wish to take all necessary measures to maintain aerial command of this region. The Admiralty proposes therefore to place thirty or forty naval aeroplanes at Dunkirk or other convenient coast points. In order that these may have a good radius of action they must be able to establish temporary bases forty to fifty miles inland. The Admiralty desires to reinforce officer commanding aeroplanes with fifty to sixty armed motor-cars and two hundred to three hundred men. This small force will operate in conformity with the wishes of the French military authorities, but we hope it may be accorded a free initiative. The immunity of Portsmouth, Chatham, and London from dangerous aerial attack is clearly involved.'¹³

The phrase 'dangerous aerial attack' specifying London is an early reference to the addition to naval responsibilities from 3rd September 1914, when the Royal Navy became responsible for the aerial defence of the United Kingdom. The army was keen to relinquish this responsibility as it was already overstretched both on the ground and in the air in France. There had been no air raids so far, and would not be until one in December 1914, by one aeroplane on Dover, but the fear of a major airship raid was at the forefront of everyone's minds. Winston Churchill saw destroying Zeppelins at their base as an easier option for counteracting potential air raids on Britain¹⁴ than trying to tackle the airships in the air. With this in mind, he ordered Samson to send a force to Antwerp to destroy the German Zeppelin sheds at Cologne and Düsseldorf. He saw it as a major priority, reminding Samson in one telegram that 'Your objective is Zeppelins and Zeppelin sheds and incidentally reconnaissance of all types.'¹⁵ In another telegram, he described it to Samson as 'this opportunity of performing for the Naval Wing a memorable feat of arms.'¹⁶ While Churchill was to claim after the war that he never rated the Zeppelins highly as a threat to the UK, this is not the impression that one gets from his telegrams at the time.

To understand how these raids could take place, it is necessary to understand the situation around northern and western Belgium from August to early October 1914. Most of this area was a vast No-Man's-Land on the right flank of the main German advance. In this territory, a game of cat-and-mouse was played out between the German Uhlans and flanking force and the British armoured car patrols organised by Samson and Belgian armoured cars, especially those based around Antwerp. This private war was enthusiastically fought with some success by the armoured car units until mid-October, when the German forces pushed through to the sea, but in the meantime it was possible to reach Antwerp from the Channel coast.

An RNAS unit is sent to Antwerp, September 1914

Orders were sent for an initial British force, led by Squadron Commander E. L. Gerrard, to proceed to Antwerp on 3rd September 1914. Gerrard, an ex-Royal Marine officer and one of

¹³ 'The War in the Air' (official history) vol.1, by Sir Walter Raleigh, Oxford University Press, 1922, p375

¹⁴ 'Hindenburg – an illustrated history' by Rick Archbold: 1st airship raid on London - 19.01.15

¹⁵ CHAR 13/41/104, 13.9.14

¹⁶ CHAR 13/41/117, 16.9.14, also page before, 116, para 2: 'important to destroy Zeppelins and Zeppelin sheds wherever located, and that Officers achieving this would render exceptional service.'



the first four Navy pilots to be taught to fly, drove to Antwerp to establish contact with the military authorities there and to arrange for the unit to use an aerodrome in the vicinity. In the meantime, three aeroplanes were flown to Ostend to await directions as to their destination, but were destroyed in a storm on 12th September before they could move on. I am uncertain as to what held up the projected move to Antwerp, but whatever it was, it resulted in Samson getting a roasting from Churchill on 16th September for the lack of progress.¹⁷ This was not altogether fair, because as Samson rightly pointed out in a telegram of 17.9.14 he had not had the right kind of aeroplanes to undertake this mission.¹⁸ The arrival of Squadron Commander Spenser D.A. Grey with new aeroplanes on 16th had transformed the situation for Samson¹⁹, and six of these were to be sent on in batches to Antwerp, starting on that day.²⁰ As previously said, it seems likely from the fact that sharing with the Belgians is mentioned that they were based at Wilrijk aerodrome.

In a minute to the Prime Minister, Sir Edward Grey and Lord Kitchener dated 7th September 1914, Churchill had boasted: 'We have already stationed six aeroplanes with superior pilots at Antwerp, and propose to increase their numbers to fifteen or twenty as rapidly as possible.'²¹ Which would, of course, account for his telegram to Samson on the 16th when he discovered that the move had not yet taken place! He adds: 'The duty of these aeroplanes will be to attack Zeppelins which approach the city, or, better still, in their homes on the Rhine.' Here at Antwerp, the Zeppelin menace to civilian urban areas had already been demonstrated. The first Zeppelin attack on Antwerp had taken place on 25th August, when ten bombs were dropped and 12 people killed. This attack had raised a storm of protest internationally as an act of barbarism – the indiscriminate bombing of a civilian target.

The aircraft at Antwerp were eventually divided into three squadrons. No.1 Squadron, RNAS, which was formed there on 16th September, was commanded by Sqn Com E.L. Gerrard, while No. 2 Squadron, RNAS, formed on 17th September, was commanded by Sqn Com Spenser Grey. The divisions seem to be fairly arbitrary and may refer to aeroplanes rather than their pilots, yet on occasions to location rather than either. However, the small force there appears to have only comprised five aeroplanes by the time of the first raid on 22nd September. Most of these were Sopwith aeroplanes, though only two were almost new, nos. 167 and 168. No.1 Squadron and No.2 Squadron seem to have swapped numbers around 7th October, as Sqn Com Spenser Grey and Ft Lt Marix both seem to be flying No. 1 Sqn machines for the raid on 8th October. Both squadrons were subsequently temporarily disbanded around 13th October, having theoretically relocated from Antwerp on the 9th and 10th October respectively. No. 3 Squadron, RNAS, commanded by Sqn Com R. Bell Davies, arrived in Antwerp on 5th and left on 7th October.

¹⁷ CHAR 13/41/116

¹⁸ CHAR 13/41/120

¹⁹ Samson received some new aeroplanes during September to upgrade his own force and to replace losses, though not all were suitable for active service. This was inevitable at a time when manufacturers and military commanders alike were as yet unaware what they really needed in a military aeroplane.

²⁰ Royal Navy Aircraft Serials and Units 1911-19, by Ray Sturtivant and Gordon Page, Air-Britain Publications, 1992, p432

²¹ CHAR 13/58



Organising the first raid

The bombing raid the unit was about to undertake was one of Churchill's inspirations, but the resources available were inadequate and there was no experience in the field to build on where problems were encountered. However, the RNAS had enormous enthusiasm and a zest for adventure and experimentation.

Firstly, the tiny British force faced a perennial military aviation problem when attempting to fulfil its bombing role: its aeroplanes did not have the range to reach the airship sheds at Düsseldorf and Cologne and get back without refuelling. The target cities were between 120 or 140 miles from Antwerp as the crow flies, while the ranges of the aeroplanes probably varied between 210 and 275 miles. The local Belgian armoured car force was more than happy to assist in the provision and defence of a forward landing strip for the British aeroplanes to use in their attack. These cars were commanded by Baron de Caters, who, besides his wartime record as a daring and ferocious armoured car commander, was a pioneer airman, having been awarded pre-war the country's first pilot's certificate. Thus the vital advanced airstrip was to be organised by an experienced pilot. It is described as being west of the Meuse²² by Ft Lt Marix, and it seems that all aeroplanes used in the first raid made use of it.

The raid of 22nd September 1914 on Cologne and Düsseldorf airship sheds

This first raid on the Zeppelin sheds finally took place on 22nd September 1914. It consisted of four aeroplanes piloted by Sqn Com Gerrard, and Ft Lt Marix, both bound for Cologne²³, while Sqn Com Spenser Grey with Lt Newton Clare as his passenger and Ft Lt Collet had Düsseldorf as their target.

Let's look at the aeroplanes employed here. As I have already said, none had the range to do the flight without refuelling. In addition, none of them had a speed over 93mph maximum or carried a fixed machine-gun for defence, though the crews would probably carry side-arms of some description, and, should they encounter any German aeroplanes, they would not come up against which were quicker or armed any better. However, these aircraft were probably the best landplanes that the RNAS had at that time and four of the five used in the two raids had been specially sent out for the operation. The RNAS aeroplanes also frequently had an advantage over RFC aeroplanes of the same date in lifting capacity. Normally, the RNAS favoured two or three-seaters which they then flew as single or two-seaters, thus allowing them potentially to install ordnance, carry bombs and/or extra fuel.

Gerrard's RAF B.E.2a Tractor Biplane, s/n 50, was usually flown by Wing Com Samson. It had been transferred to the RNAS from the RFC in February 1914, but its date of manufacture is unknown. It had a 70hp Renault engine and a top speed of 74 mph at sea level, and could seat two though here it flew as a single-seater. Early in its service with the RNAS a new lower wing and an extra fuel tank were fitted. This latter would have changed the original endurance of three hours but by how much I cannot say.

²² John Lea, op cit., p25-6

²³ John Lea, op cit., p26



Spenser Grey's Sopwith 'Sociable' 2-Seater side-by-side tractor biplane, s/n 149, had also come on RNAS strength in February 1914. It was the machine which Churchill had ordered in December 1913, as mentioned earlier, and was returned to the RNAS in August after repair by Sopwiths following its crash in March 1914, arriving in Antwerp between 16th and 19th September, when an extra fuel tank and bomb-dropping gear were fixed. Although flying as a two-seater on 22nd September, it did have a larger engine than the other aeroplanes, which would allow extra capacity for bombs. After this raid, on 26th September, it broke its axle on take-off and capsized on landing, badly damaging the upper wings²⁴, but the damage to its pilot, Ft Lt Newton Clare, is not reported. It was abandoned at Antwerp in the retreat as it had not yet been repaired.

Collet's Sopwith Three-seater Tractor biplane, s/n 906, was built in September 1913, but was retained by Sopwiths until impressed into service with the RNAS in August 1914. It had been built as a two-seater for RNAS, with an 80hp Gnome engine, giving it a maximum speed of 73.5mph and an endurance of 2½ hours. Here it flew as a single-seater.

Marix's aeroplane, the Sopwith S.S.1 Tractor biplane, s/n 168, was the most up-to-date aircraft of the group. Generally known as a 'Tabloid'²⁵ and based on Sopwith's seaplane Schneider Cup racer, it had been delivered to Eastchurch on 9th September and arrived in Belgium on 16th September. It had an 80hp Gnome engine and a top speed of 93mph, significantly higher than the other aeroplanes on this operation.²⁶ While the original Schneider Cup machine had been a two-seater, this was flown as a single-seater. Its endurance was originally 3 hours and it had had a bomb-rack for two 20lb Hales bombs fitted in England before departure.

And what of the pilots? E.L. Gerrard, as has been said, had been an officer in the Marines before he became one of the first four to be selected for training as navy pilots in 1911 – Wing Com Samson was another. By the time of the raid he was 33 years old, some six or seven years older than his fellow ex-Royal Marine, Ft Lt C.H. Collet. Spenser Grey had been a regular navy officer, while Ft Lt Marix, now aged 25, had been in the Reserve and transferred to the RNAS from this. Thus though the RNAS pilots in France and Belgium included men who had joined at the start of hostilities, all those taking part in the bombing raids were experienced RNAS pilots.

Samson had complained to Churchill nearly a week before that bad weather had held up action so far (although 'bad weather' also seems to have been a convenient Samson excuse for not doing as ordered). Indeed, although this day dawned fair and the four aeroplanes took off for their destinations in good weather, fog developed by the time the River Roer was reached and only Ft Lt Collet found his target, the airship shed at Düsseldorf. He glided down from 6,000ft, the last 1,500ft through mist, to sight the shed a quarter of a mile away. He reported that he dropped his 20lb bombs at about 400ft, but only one hit the shed and it failed to explode, as the arming fan had not had sufficient time to unwind. (This would suggest that he was actually below 400ft when the bombs were released.) One of the three which missed

²⁴ Royal Navy Aircraft Serials and Units 1911-19, p39

²⁵ Though this is the RFC Tabloid and the design was later modified for the RNAS

²⁶ British Aircraft before the Great War, by Michael H Goodall & Albert E Tagg, Schiffer Military History, 2001, p294-295. See p 293-294 for the 'Sociable' and p283 for the Three-seater.



had better luck, exploding near the shed and injuring some German soldiers. All four machines had arrived back at their aerodrome in Antwerp by 1.00pm.

So far, the RNAS in Antwerp had been hit by a number of the problems which are going to recur for air forces undertaking bombing raids for many years. They did not know exactly where their targets were. The weather was not in their favour, and they did not have the instruments to overcome the problems this posed. Gerrard actually had the most modern aeroplanes available to Samson at the time for this raid, but their airspeed was relatively low and they were not suitable for the task. They did not have the necessary range, and while they had bomb-racks, they did not have bomb-sights. The bombs they used were relatively small and were detonated by vibration²⁷, providing they were dropped at a sufficient height to arm the mechanism. Given all this, Collet did well to drop his bombs on target and get home. One interesting pointer for the future is that three of the four aircraft were Sopwith designs, even though all different types. The RNAS would commission a lot of aeroplanes from this company, the names of some of the types being known even to many non-specialists, including the Sopwith 1½ Strutter, the Sopwith Triplane, the Sopwith Pup and the Sopwith Camel. This was the beginning of a beautiful partnership.

Spotting for the guns and reconnaissance, 28th September-6th October 1914

During the course of the RNAS detachment to Antwerp, the German forces drew closer to the city until by 28th September it was actually under siege from the heavy siege mortars of the German army. While the unit had also been instructed to assist the Belgian air force in reconnaissance, it now had its remit increased to spotting for the artillery. On 1st October, Churchill urged Gerrard by telegram to ‘concentrate your efforts on spotting fall of shot for British Naval guns which have been sent. Get into close working touch with the Naval Officer in charge and help him to knock out the enemy’s siege artillery.’²⁸ Ever one to interest himself in the technical details of the situation, he added: ‘Have you got necessary lights or smoke balls to drop – can you improvise them?’ Sdn Com Bell Davies, who arrived in command of No. 3 Squadron on 5.10.14, comments in his memoirs²⁹: ‘Aeroplanes were not really much use at Antwerp. No reconnaissance was called for as it was only too obvious where the Germans were. We dropped some bombs on the German batteries but that was about all we could do.’ The squadron’s 20lb Hales bombs would have made little impression on the heavy siege guns. It is often forgotten that most aeroplanes at this time carried no wireless sets which were too heavy for most machines, the RNAS seaplanes which spotted for the Navy being the exception. These, however, were landplanes, and there was no time to work out signalling in these circumstances. The RFC would make artillery spotting a major part of its workload in the next four years, but it required time to develop techniques.

The technical difficulties facing the RNAS in sighting for the guns and then letting the gunners know how successful they were was not experienced by their opposition in the German forces, who used airships which ‘hovered at a safe height over the Belgian positions and directed the fire of the German gunners with remarkable success. The aerial observers watched, through powerful glasses, the effect of the German shells and then, by means of a large disc which was swung at the end of a line and could be raised or lowered at will,

²⁷ This method of detonation does not appear to have been very satisfactory, many failing to explode.

²⁸ CHAR 13/36/16, WSC to Major (sic) Gerrard via British Consul Antwerp, 1.10.14

²⁹ R. Bell Davies, op cit, p101



signalled as need be in code "higher--lower--right--left" and thus guided the gunners--who were, of course, unable to see their mark or the effect of their fire--until almost every shot was a hit.³⁰ The small British aerial force tried to destroy the German spotting airships using 'grenades', but without any success. One of the Royal Navy's train-mounted 4.7in guns, however, shot one down. The Germans also used Taube aeroplanes for reconnaissance over the city and for dropping propaganda leaflets just before fall of Antwerp suggesting the Belgians were 'playing Russia's game' by holding out.

In the gap between 22nd September and 6th October, the small RNAS force struggled on with its designated roles of reconnaissance and spotting. Several of their aeroplanes were damaged in forced landings or crashes in that period or suffered faulty engines, and five would be left behind when the unit pulled out on the 8th October. One pilot, Flight Sub-Lieutenant Lord Carbery, was invalided home as the result of one accident, or perhaps even the cumulative effect of two, as in the individual aeroplane records he is credited with crashing both Sopwith no 168 and Sopwith no 169. The crash in 168 on 27th September, if correct, must have been fairly minor, as the aeroplane carried Ft Lt Marix to Düsseldorf on 8th October after repairs at Antwerp.

Most of the RNAS detachment departs, 7th October 1914

By the 6th October, it was obvious that the city could not hold out much longer, in spite of the help sent by the British. Arrangements were made to evacuate the aeroplanes and stores, some of which had only just arrived. No. 3 Squadron's stores and spares had no sooner been unloaded from the railway wagons and lorries which brought them than they were loaded back again. No 3 Squadron left on the 7th, along with all the remaining serviceable aircraft from Nos 1 and 2, except for two Sopwith Tabloids, nos. 167 and 168, with which it was hoped to make a final attempt on the airship sheds, should the weather improve before the city fell.

There are brief accounts of the RNAS in Antwerp over this period in a number of printed sources, including the official history, 'The War in the Air', vol. 1, Sir Walter Raleigh, Oxford University Press, 1922, and the RAF history in AP125, (revised 1936). However, the liveliest and most detailed accounts of what happened comes from memoirs of serving officers, and these, of course, have the usual problem of the accuracy of the memory of the raconteur, or his ability to tell a good tale. Undoubtedly the two liveliest ones are Commander Samson, who is mostly concerned with his armoured cars rather than his responsibility for the aeroplane squadrons, and Ft Lt R.G.S. Marix, who flew in both the raids. Marix's father was a reporter at one stage of his life and was said to be actually in the same theatre as President Lincoln when the latter was assassinated. His son seems to have inherited a journalist's touch in his memoirs.

Marix's personal account reproduced in his biography starts at the end of August at Eastchurch, from whence he is summoned to London by Winston Churchill. At the meeting, at which Sqn Com Spenser Grey, who had been Churchill's flying instructor, was present, along with Lord Fisher, the First Sea Lord, the problems of bombing the Zeppelin sheds at Düsseldorf and Cologne with existing naval aeroplanes were discussed. Churchill then offered them two Sopwith aeroplanes now at Farnborough which the RFC had trialled and turned

³⁰ Mr Powell's contemporary account of the siege of Antwerp



down as unsafe. They could have them if they wanted them. Consequently they went down to Farnborough next day, and despite the warnings they were given of the 'bad habits' of the 'little biplanes', flew them, liked them and took them home. The aircraft record cards tell a somewhat less exuberant tale. The aeroplanes, 'Tabloid' types nos. 167 and 168, did not arrive at Marix's home station of Eastchurch until 9th September when one of them wrecked its undercarriage and lower wing while being landed by Ft Lt Marix, not a story he records in his memoirs! After repairs, both aircraft went to Dunkirk on 16th and reached Antwerp by 20th when one (167) was damaged landing on soft ground.³¹

8th October 1914: the 2nd raid

Marix describes the lack of any further attempts to bomb the airship sheds after 22nd September as due to 'unfavourable' weather for a week and 'various delays'. Certainly by the end of September, as Antwerp was now besieged, the situation did not allow De Caters to provide an advanced landing ground. In the meanwhile, Spenser Grey and Marix had 'induced some Belgian mechanics to construct and fit an extra petrol tank'³² into their aircraft, the most modern aeroplanes flown by the RNAS in Antwerp, to give them the necessary range. This took a while and was only completed as Antwerp was about to fall. Marix tells an amusing story of Spenser Grey arguing with Winston Churchill through a toilet door in the British Headquarters at the Hotel St Antoine in Antwerp to get permission to undertake the raid in spite of this³³. He dates this as 8th October, which must be at least two days out as Churchill left the city on the evening of the 6th³⁴ but then he also got the date of the first raid wrong. Spenser Grey gets the date of the later raid wrong in his report to Murray Sueter, the D.A.D., on 17th October³⁵ when he says the aeroplanes were only pulled out of their sheds to the middle of the aerodrome to avoid damage from splinters if the sheds were hit by the shells which were passing overhead on the 8th. The 9th was the day, according to his report, which Samson also gives³⁶ as the date, but German sources and a number of other British sources, including the official history, give the 8th. Apparently the fog of war descended on the RNAS where this story is concerned.

The second raid had been scheduled for as soon as possible after the 7th October. The weather on the 8th was not satisfactory, being misty, but it was decided to go on with the raid as the surrender of Antwerp was imminent. The morning was spent tuning up the aeroplanes, and Spenser Grey headed for Cologne in Sopwith Tabloid no.167 at 1.20pm, followed by Marix at 1.30pm, flying Sopwith Tabloid no.168 once again but this time going for the Düsseldorf shed.³⁷ Both aeroplanes carried two Hales bombs each on this occasion³⁸, while on the earlier raid Collet at least seemed to carry four. Whether they carried two bombs or four, they were not large enough to do much damage in the ordinary way.

³¹ This aeroplane also had a forced landing from engine failure near Lierre on 04.10.14 and was returned by road, to become the a/c flown by Sqn Com Spenser Grey on the raid on 08.10.14. Royal Navy Aircraft Serials and Units, p42

³² John Lea, op cit., p26-7

³³ Ibid., p27

³⁴ 'The World Crisis, 1911-1918', abridged, revised, W.S. Churchill, Thornton Butterworth Ltd, 1931, p212

³⁵ Cab. 37/121/127

³⁶ C R Samson, op cit, p107

³⁷ Air 1/671: Grey to D.A.D., 17th October 1914

³⁸ John Lea, op cit., p25: bomb racks for carrying 2 Hales bombs fitted in England. The bombs were to be released by pulling toggles.



Spenser Grey's tale is quite short³⁹. He arrived over Cologne to find it blanketed in thick mist. He had been given two different positions for the airship shed, one to the north-west and one to the south of the town, but, coming down to 600 feet and searching for 10-12 minutes under heavy fire, could not find it in either location. He therefore decided to attack a 'target of opportunity' as it would later be called – the main railway station where he 'saw many trains drawn up'. He dropped his two bombs and arrived back at Antwerp at 4.15pm.

Marix, meanwhile, had had more luck and a much more exciting time. Unlike Spenser Grey, he should have had an idea of where to find the shed, as Collet had found it a fortnight earlier. Unfortunately for him, as Collet *had* found it a fortnight earlier, the Germans had anti-aircraft guns and small arms ready for him when he descended to locate his target. He found his map had been wrongly marked and by the time he had found it ('further away from the town than expected') he was a good target for A.A. fire at 3,000ft. He put the aeroplane into a steep dive, keeping the engine running, which he would not normally do with a rotary Gnome engine because of the strain on it, but he did not wish to be caught 'loitering near the ground' waiting for the engine to pick up again if he turned it off. He released his two bombs at 500ft and as he pulled out of his dive he saw 'enormous sheets of flame pouring out of the shed. It was a magnificent sight.'⁴⁰ By sheer chance, the L IX had been put in the shed only the day before after trials for the German army and was awaiting her commissioning ceremony. Marix's bombs had penetrated the shed and exploded, setting fire to the airship.

Marix's journey home is the stuff of every good adventure comic and is well worth the retelling, though it possibly owes a little to a good storyteller's 'improvements'. Unfortunately, he had presented a sitting target for not only the A.A. batteries but also for machine-guns on the ground. The rudder bar was stuck and he had to use wing-warping alone to turn the aircraft towards Antwerp. Fuel was also getting low and the light was failing, so he looked for a convenient field to land in. Safely down, he was told by some gendarmes that he was north of Antwerp and that a train going into the town to bring out refugees would be leaving the local station shortly. He checked his aeroplane, but decided that besides the rudder problem and thirty bullet holes in the wings and fuselage there was nothing which a few mechanics and some fuel could not fix, so arranged with the gendarmes to mount a guard on it until he could return the next morning.

The train could only get within five miles of Antwerp, so with difficulty he commandeered a bicycle, but was held up by a blockaded bridge. He got across this by 'putting my feet between the rail supports and hanging on to the rail' on the outside of the bridge with the bicycle slung around his neck. Once in the town, Antwerp seemed to be deserted, even the former British headquarters at the Hotel St Antoine. He persuaded the only person there, the old caretaker, to get him some wine and something to eat and then pedalled off until he came across some Belgian soldiers with a couple of cars in one of the squares. He badgered them to take him out to the aerodrome, which was deserted by this time as all serviceable British and Belgian machines had left. On going to the house where the British officers had been quartered, he was nearly shot by Ft Lt Sippe, RNAS, who mistook the Belgians' Flemish for German. With Spenser Grey and half a dozen Marines, he was the sole remnant of the British force there. They were just about to pull out, so Marix escaped back to Ostend in a lorry with

³⁹ Ibid.

⁴⁰ Ibid., p27-30 for account of the raid



a naval mechanic and a couple of Marines, arriving in time for breakfast. His Tabloid was left to its fate.

As a postscript to this, a British Intelligence report sent to the D.A.D. later that month reported the destruction of 'a brand new Zeppelin' and 'a machinery hall' alongside. The raid apparently caused 'great consternation in Berlin, as they did not believe such a raid was possible for a British aviator.' The Germans consequently arrested the English clerks at the American embassy thinking they had passed on information.⁴¹ Dumb luck seems too easy to be seriously considered.

It is worth emphasising that both Spenser Grey and Marix state that they did not have the correct location for their target airship shed. Spenser Grey, in a barely veiled criticism, adds in his report that 'I now hear they are on the east side of the Rhine, but do not know if this is correct.'⁴² Given the fact that the Navy had already considered bombing the sheds pre-war, and that the location of the sheds was in the public domain, why were no instructions on their position given to the pilots undertaking the raid? Target location information is crucial to the success of any bombing raid. The same thing happens on the seaplane raid by the RNAS on the airship shed at Cuxhaven on 25th December 1914, when the information they have is restricted to the fact that the shed is near Cuxhaven, though being a military installation it could have been more difficult to obtain more, especially given the size and resources of British military intelligence. Consequently, with the same foggy conditions as on the Antwerp-based raids, none of the seaplane crews knowingly found the target. One crew unknowingly narrowly missed the gasometer near the shed when jettisoning its bomb-load prior to returning to its ship, which the Germans took as an intentional bombing raid!⁴³ Perhaps the Admiralty thought that the target was so large it would be visible for miles. However, target intelligence weaknesses would dog British bombing attempts well into World War II.

Marix and Spenser Grey both received DSOs for their attacks on 8th October, while Collet received one for his attack on 22nd September. Who would have foreseen the future from such small beginnings? As early as November 1918, giant Handley Page V1500 four-engined bombers⁴⁴ would be ready with two 1,650lb SN bombs apiece to fly non-stop from England to bomb Berlin. Only the Armistice stopped this happening, and incidentally spelt the end of heavy bombers and giant bombs in the RAF for more than twenty years, but that is another story.

⁴¹ John Lea, *op cit.*, p.30-31

⁴² Air 1/671: Grey to D.A.D., 17th October 1914

⁴³ The Cuxhaven Raid, R.D. Layman, Conway Maritime Press, 1985

⁴⁴ At 126ft, their wingspan was greater than that of the Avro Lancaster, the mainstay of Bomber Command in World War II