

Wargrave Local History Society

Latest News - May 2017

Airships

"**Inspiration - A Lot of Gas**" was the title of an illustrated presentation on the early history of airships by Peter Trout - Chairman of the Berkshire Industrial Archaeology Group - at the May meeting of the Wargrave Local History Society.

Peter began by recalling some of his mother's experiences. She lived in a village near Hull during WW1, and - aged about 15 - was working as a shop girl in the city when a Zeppelin appeared on a raid overhead. Her reaction to this had been to run as fast as possible to the station, in order to get home. In later life, she also recalled seeing the British airship R38 when it crashed into the Humber. He also was able to quote from his grand-father's diary, written in 1916, describing some of the Zeppelin raids over Hull. The earliest did not result in casualties, but later raids did result in fatalities. It was thought that there were 39 raids over the district in all - the outline of the Humber estuary being instantly recognisable from the air. The result was that the inhabitants of Hull caused a riot - they thought that the government was doing nothing to protect them from this new threat. The problem was that there was little the government could do, but in due course to reassure the population a gun was installed on the roof of a local engineering works. However, as it was made of wood, in reality it was totally useless!

The subject was therefore one that came into his 'family history', and so using a series of early 20th century illustrations, Peter then traced the history of airships. The first successful one was that made by Henry Giffard, a Frenchman, who used it to rise over Paris in 1852. Prior to that, there had been hot air balloons, such as those pioneered by the Montgolfier brothers, but those were only able to travel in the direction of the prevailing wind. Giffard's design was the first "Dirigible" - a steerable craft (the name coming from the French "to steer"). This involved the use of a steam engine to provide a source of power, suspended below a cigar-shaped bag containing gas, a rudder, and an early attempt at an aerodynamic design. More successful was an 1883 development by another Frenchman, Gaston Tissandier. Although fundamentally similar to the Giffard airship, this one had an electric source of power, which was rather more practical than a flying steam engine. There were several other French designs, including one by M. Capazza with a rather flatter shaped gas balloon, whilst another, the 'Zodiac', was designed as personal transport, but subsequently presented to the French army to use.

Experimenters in many other countries then began to develop their own ideas. In Italy was one intended for use in war that Peter described as being like a 'flying carrot', the idea being to have much reduced air resistance. Another Italian design, which Peter referred to as a 'flying turnip', had a propeller and fins on its gondola, to help with the problems of making it aerodynamically practical. The Spanish created a design with a 3-lobed gas bag, Lots of people were 'having a go' trying out ideas, and the pioneering spirit was quite exciting.

In Britain, the first airship made by the army balloon factory in 1907, called the Nulli Secundus, was not very successful, but this was followed by another called Baby (on account of its relatively small size). That managed to fly around St Paul's Cathedral, and then on to the Crystal Palace - where it crashed and was destroyed. In fact, the Royal Navy became involved with using airships before the army, using a German Parseval type craft.

Most airships had a bag to contain the gas made of fabric, but in 1897 a David Schwarz experimented

with a metal covering. He did not manage to complete the project, but his widow carried on with it, although like many of these pioneering efforts, it was not a success.

In Germany, Count Ferdinand von Zeppelin was, Peter said, a fascinating man. He had been a cavalryman in the German army, but when his work was criticised by the Kaiser, he retired from the army. His experience in America, during the Civil War there, had shown him the use of balloons, and inspired him on to develop airships in Germany. He was not an engineer, but a driving force behind the business. The Zeppelin had a much more 'modern' shape for the gas containing bag. A factory was established at Friedrichshafen, and flying took place from Lake Constance, where a floating hangar was situated. One of the problems was how to get in and out of a hangar without damaging the fragile envelope containing the hydrogen. He had no doubt of the benefit to the military, but when the early vessel broke free from its mooring one night, all seemed lost. However, the public were horrified at what they saw as a 'national symbol' being destroyed, raised a huge sum, and re-financed the Zeppelin Company.

Peter's grand-father's diary recorded that a real fear was the effect of U-boats on the supply of food to Britain. The British airships, however, provided a means to monitor their activity, and then to arrange (using another 'new invention', wireless) for boats to set depth charges to deal with the 'U-boat menace'. Keeping the airships stable, however, was a difficulty - some even had weights that could be moved by a series of ropes to help maintain balance. The Vickers Company were able to build airships in Britain to the Zeppelin pattern. These were what were known as rigid airships - the gas bag being held to shape with a rigid framework. Other designs had just a rigid keel below the gas envelope, and were known as semi-rigids. The Royal Naval Air Service and Royal Flying Corps aeroplanes could not fly as high as the airships, found it difficult to combat the Zeppelin raids. In time, developments meant the planes could fly higher - but developments of the airships meant they could travel higher still. Eventually, the German Zeppelins could fly above the clouds - which then created the problem of how to navigate them. The solution was for a man to be suspended from the craft below the cloud on a steel cable. This was a popular task for the crew - being away from the hydrogen, they could smoke a cigarette!

Von Zeppelin had developed civil aviation using his airships before the war, linking towns across Germany. Thousands of passengers were carried, without any accidents occurring. Of course, this stopped during the conflict. Afterwards, such resumed, and a British airship, the R34, was the first to fly across the Atlantic Ocean, and back. One of the passengers, a Captain Maitland, was a keen parachutist, and he jumped out of R34 to be the first from the flight to set foot in Canada - then being able to organise a team to tether the airship. Following this, the British sought to develop a new craft. Two teams set about the project. The R100 was designed by a team from the company Vickers, led by Barnes Wallis and Nevil Shute. Made at Howden (not very far from Hull - a site originally provided to help defend the Humber region from air attack), it was highly successful. The competitive design, R101, was government sponsored. The Labour peer, Lord Thompson, was keen for it to fly to India and back. However, it did not have a full air-worthiness certificate, its engines were too heavy, and on its way only just cleared the English Channel, and crashed on reaching the French coast, only 5 people surviving. That marked the end of the British airship programme.

The Zeppelin design, however, was used for a trans-Atlantic service, also travelling to South America, and making a circumnavigation of the world as a publicity stunt. Hydrogen filled, it again operated without accident. The company then set about building a larger craft - the LZ129. It was to be a luxurious way to travel across the Atlantic in the 1930s. There was even a smoking salon (with asbestos doors etc). The German government had the Nazi swastika symbol put on the airship, much to the disapproval of the Zeppelin team. The intention had been to use inert helium, instead of the highly flammable hydrogen, as the gas to give the airship lift. However, the Americans had the monopoly of helium supply, and were not prepared to allow Nazi Germany to use their helium. The Hindenburg, as it was named, therefore was filled with hydrogen. For reasons that were never proven, the airship caught fire on arrival in America in 1937, the resulting inferno causing great loss of life. That put an end to the use of airships as a means of transport (although plans to develop a craft combined aeroplane and airship technologies have been investigated in more recent times.)

Peter concluded his presentation by showing some film of various Zeppelin style airships, and had also set out a display of antique postcards and other items of interest relating to airships for the audience to study.

The Society's activities during June all take place as part of the Wargrave Village Festival. The Society will conduct a guided Historic Walk of Wargrave, on Sunday June 11th, whilst on Thursday, June 15th Thomas Plant, the antiques expert, auctioneer, and popular television personality will return to tell us "More About Antiques". At the time of writing, a few tickets remain for the walk - enquiries about ticket availability can be made to secretary@wargravehistory.org.uk After the Village Festival, on Wednesday July 19th, members will be having their local history visit, to Kingston Bagpuize House, whilst in August they will be partaking of a Historic Walk of Wallingford (both visits are now fully booked). The next formal meeting will be on Tuesday, September 12th, when the topic for the talk starting at 8 pm in the meeting room at the Old Pavilion on the Recreation Ground will be The Berkshire Women's Institute - their history within Berkshire stretching back a century or so.