



NEWSLETTER SUMMER 2009



BARNES WALLIS MEMORIAL TRUST



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Editorial

The past year and a half has been one of great disruption for the Trust. In April 2008 the Trust was asked at short notice by the Yorkshire Air Museum to vacate the building used to house the Barnes Wallis Collection and to remove the collection. Fortunately, thanks to the help of one of our supporters, we were able to move some of the collection to temporary storage accommodation. Sadly, we were prevented from removing a significant number of items belonging to the collection and this dispute is ongoing. Having been invited to display our collection at the Yorkshire Air Museum some fifteen years ago, the situation now is similar to staying at a friend's house and then not being allowed to take your belongings with you when you leave!

Meanwhile, we have been invited to store our collection on a more permanent basis at the Museum of Science and Industry (MOSI) in Manchester. We are now able to bring items held at the RAF Museum's store at Stafford to join with the main body of the Trust's collection. The items previously held at Stafford went originally to the RAF Museum at Hendon with the collection from the family home. From there they were stored at Stafford for the benefit of the Trust until we had suitable storage space; this is now available in Manchester.

We have also established a relationship with the Newark Air Museum. After months of correspondence and telephone conversations with the Ministry of Defence, the Test UPKEEP 'bouncing bomb' was moved at the end of June from the Yorkshire Air Museum to the Newark Air Museum. The UPKEEP was originally recovered through the efforts of Andrew Hemsley and the Territorial Army. The Secretary of State for Defence, then George Robertson, signed an agreement with Andrew Hemsley regarding the display of four of these weapons and one was specifically allocated to the Barnes Wallis Memorial Trust. Thanks to the efforts of Andrew and others this UPKEEP is now back on public display.

The Trustees will continue to seek the return of the rest of the Barnes Wallis Collection from the Yorkshire Air Museum as soon as possible, and will keep Friends of the Trust informed. Meanwhile progress is being made regarding two exhibitions of the Trust at Goole and Beverley in the near future.

Chris Henderson
Editor

The views expressed by contributors of articles do not necessarily reflect the views of the Barnes Wallis Memorial Trust.

News

From the Aviation Museum Guide UK dated 29 April:

‘Bouncing Bomb’ taken on loan by Newark Air Museum



Fresh on the heels of the unveiling of the ME846 – the 619 Squadron Lancaster display, Newark Air Museum has today taken delivery of an UPKEEP ‘Bouncing Bomb’ at its site on the Winthorpe Showground. The legendary weapon has been placed on loan by the Ministry of Defence and this was made possible thanks to the efforts and good offices of the Barnes Wallis Memorial Trust.

The Trust keeps alive the memory of Sir Barnes Wallis, the noted aeronautical designer famous for designs from Airships to Swing-wings via the Wellington bomber and the Dambusters raid.

The UKPEEP is now displayed in the Lancaster Corner of Hangar 1 at Newark; alongside the several other Barnes Wallis related artefacts including:

- A Lancaster fuselage section from a 9 Squadron aircraft W4964, which dropped a Barnes Wallis designed Tallboy bomb on the Tirpitz battleship;
- A memorial plaque loaned to the museum by Jan van den Driesschen, who tends Guy Gibson and Jim Warwick’s graves in Holland (Gibson was leader of the Dambusters Raid and Warwick was an instructor from 1661 HCU at RAF Winthorpe and he was also Gibson’s navigator on the flight when they were killed).
- A propeller blade from Lancaster AJ-S flown by Pilot Officer Louis Burpee, which was shot down in Holland in wave three of the Dambusters Raid

Chris Henderson of the Barnes Wallis Memorial Trust commented that “He hopes the safe arrival of the UPKEEP will be the start of a close association between the Trust and the Newark Air Museum”.

Photo: UPKEEP arriving at the Newark Air Museum © Howard Heeley

Barnes W Wallis 1926 - 2008

In the early 1980s some residents of Howden, East Yorkshire, wished to establish a museum to commemorate the work of Sir Barnes Wallis, and in particular the time he spent in Howden in the 1920s while responsible for the design and construction of the R100 airship. They approached Sir Barnes son, Mr Barnes W Wallis, to seek his support. Barnes was very supportive because he knew that his parents had very fond memories of the family's time in Howden and because he thought it about time that some of his father's many other achievements other than the "bouncing bomb" should become more widely known. The result of these discussions was the establishment of the Barnes Wallis Memorial Trust which included in its Trust Deed, at Barnes' insistence, a firm commitment to education. Barnes, who died on 6th July 2008, was the last survivor of the four original signatories to the Trust Deed.



From the very beginning Barnes was a very strong supporter of the Trust. He always looked forward to attending Trust meetings and activities. His last visit was on 26th June 2008. In the afternoon he judged the entries for the Barnes Wallis Memorial Trust Award for Design and Technology at Howden School. In the evening he participated in the Trust's Annual Public Meeting. Many of us will remember his exchange with Richard Todd about Michael Redgrave's portrayal of Sir Barnes in the Dam Busters film. Only a few weeks earlier he had been up in the area again this time at Hull to judge the Barnes Wallis Memorial Trust Award at Hull University. In doing the judging for both these awards he would talk to the students, gently probing to seek out their reasons for doing things and the extent to which the students understood the real issues involved. We, and future students, will sorely miss his involvement and commitment to his encouragement but the awards will continue.

Barnes was born in Greenwich on 1st February 1926. At this time his father had started working for Vickers on airships and this led to the family moving to Howden airship station, East Yorkshire, in Autumn 1926 where his father was responsible for the design and construction of the R100 airship. The family loved Howden and always had fond memories of their time there. Barnes' sister, Mary, was born while they were living there and Barnes could remember pushing her in a pram but letting go down a short hill. He got a clip round the ear. But there are no hills in Howden. Just a year or two ago the mystery was solved. Barnes had been invited to open the Howden Heritage

Weekend and while looking around the exhibition he came across some pictures of the old Howden Station and a road bridge crossing the railway line. Mystery solved - the bridge had been demolished when the railway line was closed.

With the ending of the British airship programme Barnes' father was soon working for Vickers Armstrong at Brooklands and the family moved south to Effingham, Surrey. Barnes studied at Clare College, Cambridge, from 1944 – 1947. He recalled a visit from his father when his father brought with him an early balsa wood model of his Wild Goose concept and launched it out of Barnes college window to show how well it flew. It landed on the College lawns – forbidden territory.

From 1947 - 1952 Barnes worked for Vickers Armstrong at Brooklands on research related work while his father was establishing a separate Research and Development Department. Then he moved to Macclesfield to work at Avro's on the Avro Vulcan. He was involved in temperature and cooling flow measurements, and generally keeping an eye on engines during test runs. He soon learnt that non-unionists cause strikes if they so much as touch a tool. During one test run he noticed one of the nuts supporting an engine component rattling loose. So he picked up a spanner....."Everybody Out" was the result.

In 1957 he joined Vickers Supermarine at Swindon and two years later moved back to Vickers Armstrong at Brooklands. He worked for a time on the TSR2. During this period he was becoming increasingly concerned about some aspects of the basic education experienced by some of the new recruits. Some seemed to be struggling with some basic concepts. He decided that it was no good just moaning about it. He wanted to take action. So he left the aviation industry and at the age of 34 started a completely new career and turned to teaching Mathematics. He remained in this field for the rest of his working life, and beyond into retirement.

To a certain extent he lived in his father's shadow and he often expressed some anger that his father was known to most people for just one invention. He was his father's son. I recall being with him at an exhibition where there was a photograph of his father. Two elderly ladies were looking at the photograph and looking at Barnes. Eventually one of them plucked up courage and said to him "You do look just like Barnes Wallis". To which he replied, with a twinkle in his eye, "I am Barnes Wallis". He then explained, to chuckles all round.

Barnes was always willing to do what he could to help our work. When asked for his signature he asked, in exchange, for a donation to the Trust. He was one of the very few people who could explain many of the concepts that his father developed and an important direct link to his father has been lost. We in the Trust look back with gratitude for his commitment and support and look forward to continuing well into the future. We have lost a champion and friend. It was typical of Gill, his widow, that she asked for any donations in memory of Barnes to be made to the Trust and we are very grateful for this magnificent gesture, Thank you.

Peter Rix

Howden Airship Station

On moving to the small East Riding of Yorkshire Market Town of Howden I was surprised to find just how important Howden has been down the ages; from 1066, when William the Conqueror gave the Manor of Howden to the Bishops of Durham, to the Horse Fairs in Georgian times and to the building of the R.100 airship in the 1920's. Having been involved with aircraft all my life I was especially interested in Howden's involvement with airships, and the R.100 in particular.

There is very little evidence remaining in the area to mark the passing of these giant flying machines, and the airfield that once.....

housed the "Blimps" (non-rigid airship) that were used to protect shipping using the North Sea Ports in WW1 against the threat from German U-boats;

boasted the largest airship shed in the world in 1919;

was home to the Rigid Airship Trial Flight;

was the station where the R.38/ZR2 airship took off on its fatal flight, breaking up over the River Humber off Hull's Victoria Pier in 1921;

was host to almost every type of airship in use with the Royal Naval Air Service and RAF from 1915 to 1922;

was where the R.100 airship was designed and built by Barnes Wallis;

.....is now the home of the Boothferry Golf Club.

With the onset of WW1, both the British and German military used airships. The British, in the main only had small, non-rigid airships which they used for naval reconnaissance, patrolling the coastline of Britain and escorting convoys. The non-rigid airship, often known as a Blimp, is one consisting of a gondola fastened beneath a fabric envelope containing gas (hydrogen). In order to preserve the shape of the envelope there are small bags called ballonets incorporated inside the envelope which carefully regulate the pressure within the envelope. The ballonets are pumped with air or emptied as required so maintaining the internal pressure of the envelope at the right level. The gondola carried both the crew and the engine and was slung under the envelope by ropes and wires. The Blimp was approximately a third of the size of the rigid airships. Blimps are still used today, mainly for advertising purposes.

The rigid airships consisted of streamlined framework constructed of lightweight girders, mainly duralumin, covered by a fabric envelope. The rigid framework made it possible to built airships of a tremendous size. The size was only limited by the size of the shed in which it was built. The last and largest was the Hindenburg at over 800 feet long. The gas, normally hydrogen, at that time was carried in individual gasbags inside the frame from nose to tail and provided the lift required to fly. The R.100 had 15 such

gasbags. The more gas carried determined the range of the airship. Cat walks inside the envelope permitted the crew to reach all sections of the airship so inspections of the gas bags and the envelope could be carried out in flight. Apart from the R.80, R.100 and R.101 all the British airships were copies of German Zeppelins.

In August 1915 the Admiralty sent two naval officers, Lieutenants Burke and Flower, to find a suitable site in the North East of England for the location of an airship station. The main purpose of this air station would be to provide air cover for shipping using the East Coast ports. The Merchant Navy using the northern ports was taking heavy losses from German U-boats and much-needed supplies of food and materials to Britain were under serious threat. On realising how efficient the Blimps were in protecting the convoys the Admiralty built another 200.

The site chosen for the airship station was on the outskirts of Howden, between the diverging roads to the villages of Bubwith and Spaldington. The area was very flat, mainly agricultural, and subject to flooding, cutting winds and fog. The area was immediately requisitioned by the Government, under the Defence of the Realm Act, much to the dismay of the farmers and tenants who received orders to quit. By the end of September 1915, the Admiralty had purchased the 1,000 acres of farmland and an Admiralty construction team had started work. All the trees, hedge-rows and some farm buildings on the acquired land were cleared until an open space of nearly a square mile was created to provide a flat approach and landing area.

In the October construction of the men's quarters and the first Coastal Shed was commenced followed by the building of facilities akin to that of a small town, including water, sewerage, electricity, telephones and the necessary system of drains. Also the construction team had to provide the necessary road and rail links to the site. This included laying a branch railway line (called locally the 'Pilot' line) to the site from Howden Station on the North Eastern Railway (the present Howden Station). In 1915 Howden boasted two railway stations - some achievement when there was only a population of some 2,000 inhabitants. One was on the Hull and Barnsley Railway, and was near the town centre, while the existing North Howden station was on the Hull and Selby Railway linking Hull directly to Leeds. It is about a mile north of the town centre and nearly the same distance from the airship station. The new branch line passed through the rear gardens of the railway cottages adjacent to the station, continued along the left hand edge of the Bubwith road to Brind where it crossed the road (now the B1228) into the airship station.

Once inside the airship station the track ran diagonally across the airfield, splitting into numerous spurs, supplying sidings for coke and coal, a weighbridge, fuel dumps, technical stores and even providing lines into the airship sheds. Of course a locomotive could not enter the airship sheds for safety reasons and therefore two powerful horses were provided to pull the necessary materials the last few yards into the sheds. Some of the airships arrived in flat packs and were assembled on site. There was also a gantry straddling the track where it crossed the approach road so that heavy loads could be transferred from road to rail transport and vice-versa.

Vic Marsden who, as a young boy, lived in one of the railway cottages and had the train running through his garden, recalled that the line had to be fenced all the way to the base to keep the children from playing on the tracks. At the end of the war, when the Service guards had been demobbed, Vic and his young friends were able to use part of the airfield as their playground.

An 18 feet (5.4m) wide approach road for the air station was taken off the Bubwith road and a guardroom built at the entrance. Other roads on the site were only 9 feet (2.7m) wide. The approach road divided the station into two parts and stretched about 1,000 yards (914 m). At the very end of the approach road on the left were the wireless hut, a blacksmith's, a carpenter's shop and the station store. Still on the left-hand side of the approach road were the general amenities for the running of the station. There was a parade square, known as the quarterdeck, which no naval establishment would be without. The living quarters (single-storey brick-built bungalows) for the officers were nearest to the main gate. Next were NCOs quarters, a garage with oil and petrol pumps at each end and a first aid room. Further down the road was the accommodation for the chief petty officers, petty officers, and the other ranks, all housed in wooden huts. Continuing another 200ft (61m) in the direction of Bubwith, were the detonator and magazine stores.

Also provided on the station was a chapel, YMCA, sports fields and a post office. Adjacent to the other ranks' huts were the cookhouse and works department office in a block of buildings nearer the approach road. A pigeon loft was positioned about 70 feet (21m) north of the guardroom and only a few feet from the main Bubwith road. This housed the carrier pigeons that were carried, two per airship, and which could be released to carry messages back to the station, if the unreliable radios on board failed. The pigeon was launched overboard, in a paper bag to protect it from the slipstream. Past the pigeon loft, in the direction of Bubwith, was the meteorological hut.

Beyond the living accommodation, was the technical site. This consisted of a huge hydrogen plant which tended to dominate the site, water and gas plant, electric powerhouse, battery room, stores, fuel dump, various workshops, compressor house, six massive gas holders (the large circular base foundations of these are still visible) and a boiler house all on the left-hand side of the road.

On the right hand side of the approach road, and strictly parallel to it, were three airship sheds. One shed was for the rigid type airships, flanked by two smaller sheds, which housed



Model of Howden Air Station pre-R.100

the non-rigid Coastal, type airships and provided a windbreak for the larger shed. Separate windscreens, which were made of a steel framework and corrugated sheeting and were nearly the height and length of the walls of the sheds, similar to a giant cricket sight screen, also extended forward from the Coastal Sheds. Another shielded the rear approach to the Rigid Shed. Large concrete ducts carried the hydrogen and water mains to these buildings.

Water was an essential commodity to any airship station as not only was it required for domestic use but was also needed, in great quantities, to provide the tons of ballast required for the large rigid airships and lesser quantities for the blimps. In addition, water was a raw material of hydrogen manufactured by the steam-over-coke process that was employed at Howden and thus indirectly provided the lift as well as the ballast. It took three wells, a powerful pumping station and two water towers to fulfil this task.

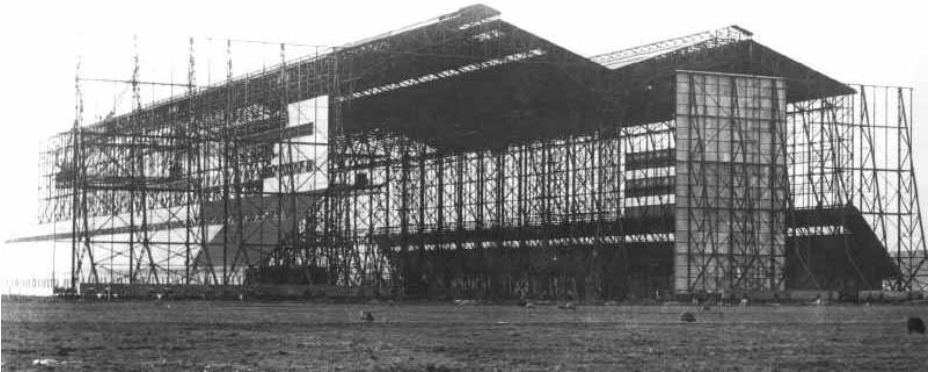
The Coastal sheds A and B measured 320ft (97.5m) in length, 110ft (33.5m) wide and 80ft (24.3m) high. The first rigid airship shed measuring 700ft (213.36m) in length, 150ft (45.72m) wide and 100ft (30.48m) high. In front of the No.1 rigid shed was the southwest landing area for the airships and at the rear of the No.1 rigid shed was the northeast landing area. With the completion of the No.1 rigid shed the building scheme was completed.

In 1916 Rigid Airship Trial Flight under the command of Commander Masterman RN was established at Howden in readiness for the delivery of HMA No.9 that was being built by Vickers at Walney Island, Barrow-in-Furness. Out of the eighteen rigid airships produced by the British, sixteen were to be operated from the Howden station at one time or another. When the Royal Flying Corps was formed, the Royal Navy was given the airships that had been owned by the British Army, plus twelve aircraft to be used in conjunction with its ships.

No sooner had the original building plans been completed than the Admiralty decided that, in view of the now increased development of the rigid airships, they would increase the Howden air station to nearly twice its original size. More plans were drawn up and a contract was given to the Cleveland Bridge Co. for the building of a twin rigid shed which when built would be more than double the size of the first rigid shed and consisted of two bays. The erection of this shed meant almost a duplication of all the work that had previously been carried out. The living quarters were extended, a further generating plant of a much more elaborate and costly design was erected, and two more huge gasometers added, making eight in all. There were also additional roads, water, and electric light, petrol, and telephone mains etc, included in what was known as the No.2 Double Rigid Shed scheme.

By 1919 Howden airship station boasted the largest airship shed in the world. Built of corrugated iron on a steel framework the No.2 Double Rigid Shed measured 750ft (228.6 meters) internally with two 150ft (45.7m) bays and had a clearance height of 130ft (39.6m) at the doors. In addition to the berthing space, the rigid sheds each had two 35ft (10.7m) annexes along both sides of the shed used for offices and workshops. The floor area of the two bays covered seven and half acres. Unfortunately by this time

airships were becoming unwanted and all but the most modern airships were being scrapped, and by 1920 very few non-rigid airships were still in service.



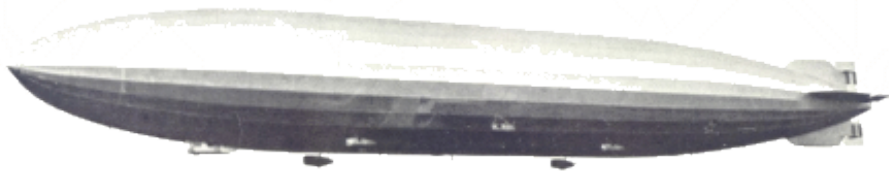
No.2 Double Rigid Shed under construction

In the summer of 1920, when the Howden air station was a hive of activity, a message was received from London stating, that all work must end. This of course was impossible but a couple of days later a party from London arrived and all contracts that had not been started were cancelled. All work in hand was stopped; buildings in construction were hastily finished and made waterproof. Immediately dismantling of the non-rigid sheds was started and they were eventually sold for scrap. The roads and paths on the base are today exactly as they were left underneath the grass and weeds. Hundreds of the workers were dismissed, departing in groups every weekend, leaving only enough men to work on the various plant and machinery necessary so long as RNAS personnel remained. In due course nearly all the servicemen left until only one or two could be found on the immense base. Only the fact that an American detachment had just recently arrived at Howden and it was still home to the Rigid Airship Trial Flight prevented the station closing completely. At one time there had been more than 80 airships at the station, over 700 officers, ratings etc. plus 300 workmen, and now only a skeleton staff remained.



R38 at Howden Air Station

Meanwhile at Cardington the R.38 was still being built. On this airship rested the future of the British airship programme. This seemed to be guaranteed when the Americans had decided they would buy the R.38 for their Navy. They had been so impressed by the R.34's trans-Atlantic flight that they had decided to buy British. The Germans had been stopped from building airships at the end of the war; except for the building of the 'Los Angeles' for the Americans in 1924 as part of war reparations



R.38 in flight

In April 1920 a detachment of United States Navy personnel under the command of Commander Louis Maxfield, who would also be the captain of the R.38, was sent to Howden for training on airships in readiness to fly the R.38, to be renamed ZR-2 (Zeppelin Rigid-2) back to the States. The R.38/ZR-2 was finally completed in 1921 and her third trial flight was to fly from Cardington to Howden where she was to be based. On the flight she sustained damage to several of the frames that required repair before her next flight. On August 24th, during her fourth trial flight, which was to have been a combined final trial and hand over flight, she broke in two over Hull's Victoria Pier while attempting a high-speed turn. Forty-four crew, 28 British and 16 Americans were killed, only five of the crew survived.



Wreckage of R.38

for scrap. From the sheds down to the furniture in offices, everything went under the hammer. The wooden huts were dismantled, sold and reassembled on various farms etc. One hut was used as a church hall in Spaldington. Because of the fall in scrap metal prices at this time, it was decided not to sell the Number 2 Double Rigid shed or the railway track.

With everything of value sold the station was abandoned and allowed to deteriorate, all the drains filled up with rubble from the demolished buildings and the station became overrun with grass and foliage. And so it remained until in 1924 when the Airship Guarantee Company bought the Station and the Number 2 Double Rigid shed.

Kenneth Deacon

Next Issue - The Airship Guarantee Company and R.100

Tirpitz Survivors

We are all aware of the demise of the German Battleship Tirpitz that was destroyed by the RAF in November 1944. Much has been written about the event but often some personal stories come to light.

On the first attack in September 1944 when the Tirpitz was anchored in the Kaa Fjord, the aircraft flew to the advanced base of Yagodnik in northern Russia to refuel and to say the least, the accommodation for the air and ground crew was very sparse and the food left a great deal to be desired. Ted Harrison, a flight engineer on the raid, commented how he was fed up with powdered egg in so many different forms - he recalls having it served up two or three times a day. On one occasion as he was leaving the aircrew dining room he walked past the Russian kitchen and noticed a large pile of empty cardboard boxes. Most of the boxes were labelled 'A Gift of the American Red Cross'. He then realised that the Russians had so little food of their own and were living almost entirely on food from Britain and America. He further realised that almost all of the food had to be brought into Russia at great risk by the Merchant Navy convoys. After that he told me he never complained again. He survived all three raids.

During a reunion of Tirpitz survivors held in Tromso in June 2005, I had the privilege of meeting some of the survivors from the Tirpitz and took the opportunity to interview Klaus Rohwedder one of the anti aircraft gunners on the Tirpitz. He told me he had been on board the vessel when it was anchored off Haakoy Island and was attacked by the RAF for the second time in October. When a warning was given that the Lancasters were approaching from the south-east in the direction of Sweden, he thought to himself, 'If it's the same aircraft and bombs that were dropped the previous month, we won't survive.' Before the aircraft were in sight the ship's main heavy armament opened fire. Due to the limited elevation the shells exploded short of the incoming Lancasters. Soon after they had finished firing the Lancasters came into view and Klaus commenced firing. When one of the Tallboy bombs hit the starboard side, amid ships, the vessel commenced a very slow roll. Klaus continued firing until a point at which Tirpitz had rolled to around 45 degrees and he realised it was going to turn onto its side. He and the rest of the gun crew left their positions and climbed onto the handrail which at this point was parallel to the water. There were hundreds of German sailors in a similar position; some had already jumped into the fjord. Amid the carnage the vessel continued to roll and Klaus decided to walk on the side, climbing over the side armour until he reached the bottom of the vessel, at which point Tirpitz had



Klaus Rohwedder (with flowers) and two other Tirpitz survivors

view and Klaus commenced firing. When one of the Tallboy bombs hit the starboard side, amid ships, the vessel commenced a very slow roll. Klaus continued firing until a point at which Tirpitz had rolled to around 45 degrees and he realised it was going to turn onto its side. He and the rest of the gun crew left their positions and climbed onto the handrail which at this point was parallel to the water. There were hundreds of German sailors in a similar position; some had already jumped into the fjord. Amid the carnage the vessel continued to roll and Klaus decided to walk on the side, climbing over the side armour until he reached the bottom of the vessel, at which point Tirpitz had

turned over almost 180 degrees. The group of sailors with him decided that jumping off the bow of the ship would be too dangerous because of its distance out of the water so they walked to the back of the ship where the propellers were sticking out of the water, walked down the side of the propeller shafts and jumped. They were only about 100 metres from Haakoy Island and they walked to a barn to take off their wet clothes. There was total carnage in that area of the island. Eventually Klaus met up with the remaining survivors and they were taken by boat to temporary billets in Tromsø, suffering from shock.

Jim Shortland



THE DAMBUSTER LECTURE
**THE LIFE AND WORK
OF
SIR BARNES WALLIS**

SPEAKER

CHRIS HENDERSON
SATURDAY 7TH NOVEMBER
2.30PM

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The Dam Busters

A Remarkable Group of Men

One hundred and thirty three men flew to the dams on the night of 16/17 May 1943. Twenty-one per cent of them were Canadian, ten per cent were Australian or New Zealanders, the rest from the UK. What more do we know about them?

The question may seem odd: are there not books galore through which we can approach the men who breached the dams? Are there not biographies? Did not a number of those who took part write about their experiences? Are not figures like Gibson or Martin still household names, people we imagine we would recognise in the street – in Gibson's case, as a result of the portrayal by Richard Todd, someone we almost feel we know?

Even so, let us ask that question again – how much do we know? In later May 1943, 491 men and women made up 617 Squadron. Of these, 41 were officers and 450 were NCOs. (April's strength had been 58 officers and 481 NCOs, May's lower figure in part reflecting the losses on the Dams Raid that had not yet been made up.) While we do indeed know a little about some of them, and a fair bit about a handful, our information about the majority ranges from sparse to nil. Moreover, some of what we think we know is wrong. For historians, personal witness is both priceless – because it captures human detail not found in written records – and treacherous, because memory often plays us false. Thus when Gibson tells us in *Enemy Coast Ahead* that his flight engineer John Pulford was a Londoner, he is wrong: Pulford came from Hull. There are other such slips, for instance that Young had been to Cambridge, whereas in fact he was an Oxford man, or that Young was an American, when in fact he was British. Taken individually, such errors seem trivial, and to draw attention to them seems pedantic. I do not do so in criticism – there are plenty of mistakes in my own books, all of which were written with the luxury of access to references and sources, and none of which are half as compelling as *Enemy Coast Ahead*. But history is in part built up from detail, and it is not for us to say where the boundary between triviality and significance may lie. If we don't care about accuracy in tiny things then the cumulative picture may itself be affected.

Even among the aircrew, uncertainties abound. Take age. It is a truism that aircrew were young – but how young? The youngest was 18. Three, possibly four, were 19. Sixty five per cent of those who flew to the dams were between 20 and 25, the single most frequent age being 21. After 25 the frequency falls off sharply, reminding us that in Bomber Command the odds against survival beyond your mid-20s became vanishingly short. All the more remarkable, then, to find that 18 were in their thirties, and that the oldest, the flight engineer Robert Paterson, was 35. A degree of uncertainty arises because while history knows the birth month and year of approximately 109 of 617 Squadron's aircrew, in some 18 cases we know only the year, which widens the potential age bracket, while in six cases the age is unknown. In reply to our first question, then – how much do we know? – we are soon brought up short: not as much as we think.

Historians have a way of dealing with this. It is called *prosopography* – the analysis of data about social groups whose members are difficult to approach as individuals through

available historical sources. concerns itself with the micro-histories of ordinary people. The sociologist Michael Erben, for instance, has used information about occupations and household arrangements available from census records to write the collective biography of otherwise un-remembered people who lived in a 19th-century street.

What might prosopographical methods tell us about the men led by Guy Gibson? The question is limited to the aircrew, as for present purposes we know too little about those who worked on the ground.

Even for the aircrew, our information is patchy. For what follows I am using a sample of fifty, the data having been provided by Robert Owen. I know that this sample is not large enough to be statistically useful. We all understand, too, that to do this job properly we would need the profiles of other 5 Group squadrons with which to compare 617's data. What follows is thus tentative, and impressionistic.

Let us begin with the captains. Of the eleven RAF and Volunteer Reserve captains, almost all were ex-public school, and from professional backgrounds. Hopgood and Maltby had been to Marlborough. Young was an alumnus of Westminster. Astell had been educated at Bradfield, Ottley at Hurstpierpoint. Gibson had attended St Edward's Oxford. Maudslay was an Old Etonian. Townsend was educated at Monmouth School. Only two appear to buck the trend: Plt Off. Geoff Rice who attended Hinckley Grammar School, and Wakefield-born Flt Sgt Cyril Anderson, about whose schooling we do not know.

Looking to background, Young's father was a London lawyer, his American mother Fannie coming from a Connecticut family that had amassed wealth through developing property. Maltby's father was a headmaster who came from a clerical family. Maudslay was the son of a midlands industrialist who in turn came from an industrial-entrepreneurial background. Gibson's father had been a senior officer in the Indian Forest Service, his mother the daughter of a Cornish sea captain. Astell's father Godfrey was company director of a Manchester cotton mill.

The milieu of the British captains, then, was strongly middle class, and characterised by teaching, law, industry, technology and empire.

If we now assimilate Australian, New Zealand and Canadian captains to this picture, we find it partly reinforced and also subtly transformed. Those from Australia and New Zealand came from professional classes or agriculture. Martin, 25 years old at the time of the raid, was the grammar school educated son of a Sydney doctor. Shannon, 20 in May 1943, was the son of a South Australian MP. Robert Barlow had been educated at Melbourne Grammar School and had then gone into the motor trade. At 32 he was among the oldest captains to fly on the raid.

Les Munro grew up on a New Zealand sheep station, and after high school had worked on dairy and sheep farms.

The Canadian captains show a varied profile. Twenty-five-year-old Lewis Burpee was a graduate of Queen's University, Kingston, Ontario, where he had studied English

literature. Ken Brown and Vernon Byers were countrymen from Saskatchewan, Brown from Moose Jaw, Byers from Star City. Joe McCarthy grew up in the New York Bronx. The son of a fireman, he had learned to fly as a teenager and had joined the RCAF in Ottawa before the United States entered the war.

McCarthy was not alone in having had pre-war flying experience. Apart from Gibson himself, Cyril Anderson had been in the RAF since the mid 1930s, although he had started as ground staff and did not transfer to flying until after the war had started. Barlow had learned to fly as far back as 1928. Young had been in the Oxford University Air Squadron. Astell had learned to fly in the Reserve. John Sweetman long ago disposed of the legend that 617 Squadron's aircrew were all hand-picked veterans, although such is that legend's power that there are many who continue to believe it. Nonetheless it is interesting that all but three of the captains were commissioned (this is a higher proportion than one would find in other 5 Group squadrons at this point in the war), and that several of those with long flying experience were at the upper end of the age scale – Young was 27 at the time of the raid, Anderson 28, Barlow 32. Another 32-year-old pilot was the Canadian Vernon Byers, who had completed only five operations before joining 617. In due course it would not be surprising to find that he, too, had flown before the war. As a footnote to the question of experience, it is worth noting that while both Astell and Young were seasoned pilots, much of their experience had been in the Mediterranean theatre, on Wellingtons, in Malta and the Middle East.

Moving from the captains to the crews as a whole, we might expect more varied occupational backgrounds, and a more blue-collar tinge among the NCOs, perhaps especially among what Martin Middlebrook has described as the 'tradesmen' of a bomber crew – the flight engineers, wireless operators and gunners. When we look at the decorations awarded after the raid, it was the pilots, navigators and bomb aimers who received most of them, in each category eight, as distinct from just one for a flight engineer, and two for front gunners. Even so, the social picture is more intricate than this suggests, and in looking at it we should remember that for those who enlisted straight from school, there had been no time to establish an occupational background from which to come.

Over a quarter of crew members had indeed practised trades involving specialised technical skills. Pulford, for instance, had been a motor driver; Horsfall, a Halton-trained mechanic; Nicholson, a joiner's apprentice; Spafford, a fitter; Powell, a cinema projectionist; Rice, a maintainer of knitting machines; Gregory, a printer.

Fourteen per cent had been involved in clerical work. Among them, Shannon had worked in insurance, Guterman and Leggo had worked in banks, Hobday with Lloyds of London. The tedium of clerical and commercial jobs often acted as a stimulus to enlistment, and if to them we add those who had had jobs like salesman, grocer, or guesthouse manager, at least 22 per cent of 617's aircrew came from clerical or retail backgrounds.

An appreciable number, at least 12 per cent, had either passed through or intended to attend university or some form vocational training. David Maltby had been training as a mining engineer. Among Australians and Canadians, agriculture was prominent: Knight

planned to study farming; Burcher and Hay had enrolled to train at agricultural colleges; Walker had worked in forestry. Several of the navigators had trained as schoolmasters.

A number of aircrew were talented sportsmen. Harlo Taerum, for instance, Gibson's navigator, was an athlete as well as being academically outstanding; Maudslay and Young were oarsmen, Maudslay also an athlete. Sport and quick reactions go together, but so does coordination and musicianship. Again, then, it comes as no surprise to find that several of the pilots had backgrounds in musical performance. Hopgood, for instance, was a pianist and a clarinettist, and Lewis Burpee had musical interests, perhaps inherited from his mother who played in the Ottawa Symphony Orchestra.

A handful had been in and out of the services. Len Sumpter, for instance, was a former Guardsman as well as a steelworker, while Richard Trevor-Roper had previously been in the Royal Artillery, and like Gibson had family connections in the Imperial service in India. Trevor-Roper also possessed another background attribute of a kind with which we today are unfamiliar – a father who had died in the Great War. In this he was not alone. Edward Johnson's father, for instance, had also been killed in the First World War. Were we able to examine the family backgrounds of all members of the Squadron, it is likely we would find an appreciable number who had grown up under the shadow of such tragedies.

The idea behind the word 'prosopography' comes from the Latin *prosopopeia*, in turn from the Greek *prosōpon* 'face' or 'person', and *poieō* 'make', giving the rhetorical introduction of an imagined person. What do we see?

One clear finding is that 617's aircrew were not a cross-section of mid-20th-century British and Commonwealth society. Notable absences from the social spectrum are members of the aristocracy – only one family appears in Burke's Landed Gentry and one other in Burke's Peerage – and of the labouring working class. 617 was in the main a middle class organisation in which the optimistic industrial spirit of the 19th century still burned bright. Its rank and file was characterised by backgrounds of practicality, diligence, technical progress and self-improvement, and led by well-educated members of the middle class's upper echelon. This must have had a bearing on the unit's cohesion.

Among the Squadron's Australian and Canadian members there were sons of elite families, like Martin, Shannon or Burpee, but also volunteers from all backgrounds who simply felt that their proper place, in the words of Les Munro, 'was to help the old country'. Their relations with British aircrew would be worth further study. Twenty years ago I asked David Shannon why he and Guy Gibson had hit it off so well. Shannon replied on the instant: 'I wasn't frightened of him.' In class-bound, pre-1945 England, traversed by divisions between worlds of trade, commerce, and aristocratic land, an inexperienced sergeant pilot from somewhere in the UK could easily be both socially and professionally intimidated by a figure like Gibson. Coming from Australia's more socially level world, Shannon simply looked past this.

What, indeed, of Gibson? In many respects he epitomises the picture already drawn – an Anglo-Indian background combined with forestry and science, the muscular Christianity of a lesser public school, and a flying career that had begun before the war.

His influence on the motivation of those who flew on Operation Chastise was enormous, the more so for the fact that during the six weeks of training that led up to it, he was for much of the time elsewhere – at meetings in Grantham or London, at trials of Upkeep – leaving much of the day to day running in the hands of his flight commanders. That influence was exercised partly through discipline, informed by his keen eye for what was actually going on at the grass roots, his impatience for progress and intolerance of slacking. But it was also achieved through the inculcation of self-belief, at least among those who were close to him. To quote Shannon once again, when I asked if before they set out he believed that Operation Chastise would succeed, he said yes, he did. When I asked why, he said that Gibson had convinced him in a way that left no room for doubt.

Gibson reflects something else about the milieu in which 617 Squadron was formed – an outward cast of mind, and the international influence of Britain's industrial revolution. This is partly because Britain was then fighting not only for itself, but also to retain its empire and recover those parts of it that had been seized. But it was not only that. It is well known that Gibson was born in India and passed his first years there. He tells us nothing about that, but Rudyard Kipling gives a vivid account of such experience in infancy – 'daybreak, light and colour and golden and purple fruits' – which we might take as a proxy for the kinds of memory to which Gibson looked back. Through Kipling we can also re-feel the childhood journey from India's afternoon heat to boarding school in a 'dark land . . . full of cold', and parting from father and mother.

Gibson's father, Alexander, was born in Moscow in 1874, the eighth of twelve children. In his late teens, Alexander went to study forestry at Cooper's Hill college, and then to work as an officer in the Indian Forest Service, where he specialised in the industrial extraction of turpentine and other chemicals from timber products.

Alexander's father, Guy Gibson's grandfather, was Charles John Gibson. Born in 1838, Charles John had trained as an engineer in Bolton, married Elizabeth Gill from Berwickshire, and then worked in St Petersburg and Moscow, where among other things he managed the Neva Stearine Works. Neva was then owned by the British company William Miller & Co, who also owned the Kalinka brewery in St Petersburg and the Petersburg Oil Works. Charles John was in turn the son of James Gibson, born in 1811, also an engineer, who had worked both in Sweden and Russia, and for a time managed the Analore Paper Mill in St Petersburg. Charles John was in fact born in Sweden, in Norrköpping.

We thus have a cyclical pattern: the Gibsons are a dynasty of engineers and technocrats who train and marry at home, migrate to work in industry and raise their families abroad, and retire to Britain in middle age.

Alexander's Moscow childhood may well explain the Russophile sympathies that Guy Gibson expresses in *Enemy Coast Ahead*, while the spread of Alexander's siblings to other parts of the world gave Gibson aunts in several parts of the world. Gibson's brother went on to repeat the cycle by pursuing a post-war career in Pakistan. Although Gibson himself seems not to have been close to many of these relatives, the ground on which he stood was international: for as far back as his family could remember it was taken for granted that they would apply their industriousness and technical skill

in different parts of the world. When Guy Gibson died in September 1944, he was not fighting just for little England.

What happened to the other survivors of the Dams Raid? It is pitiable to find that out of the seventy-seven men who flew home on the morning of 17 May 1943, only 32 went on to survive the war. Of the 133 who took part in the Dams Raid, just 24 per cent lived to see the victory for which they fought. This reminds us that in some sense a bomber squadron was a community in mourning and a community of mourning. This was well disguised, there was an offhand vocabulary to cope with it, and acquaintance was seldom long enough to bring the acute pain that accompanies the loss of close friends. Nonetheless, one suspects that many bomber aircrew felt uneasy at their capacity to be outwardly indifferent to the deaths of others who had been near them.

Seven of the ones who died subsequently were the crew captained by Flt Sgt Cyril Anderson. They were part of Operation Chastise's mobile reserve, and having set out to attack the Diemel dam there were redirected to the Sorpe, which they could not find. After searching for 40 minutes, with a mechanical problem, and with dawn already showing, Anderson abandoned the sortie and returned to Scampton with Upkeep still on board. Gibson was not pleased, and posted Anderson and his crew back to 49 Squadron. They were shot down and killed in the course of a raid on Mannheim later in the year, and rest in the war cemetery at Rheinberg.

Anderson is the least sung of the Dambusters. I wish we knew more about him. A blurry photograph shows him slight but erect, hands in pockets, with a narrow face and black hair, no smile on his face but eyes alert. In 49 Squadron he was evidently not regarded as over-cautious, for almost immediately after his return he was commissioned. At 28, he had been among 617's older pilots, and several members of his crew were similarly on the old side. John Nugent, their navigator, was 29 and in civilian life had been a teacher. Arthur Buck, one of the gunners, was 28, and we have already seen that at 35 their flight engineer, Robert Paterson, was the oldest man to fly on Operation Chastise. When they died Paterson had actually turned 36, his birthday having fallen in the previous week. Two other members of Anderson's crew were only 21, but it is tempting to speculate that age and maturity were among the factors that originally caused the others to crew up together.

Cyril Anderson was married. His wife was called Rose, and one supposes that it was she who asked for the line that is engraved at the foot of her husband's gravestone at Rheinberg: 'In my book of memory is marked the happy story of a love deep and true'. If this is a quotation, I have yet to find it. It may be straight from Rose's heart.

Richard Morris

Richard Morris is the Head of the Institute for Medieval Studies, and Professor for Research in the Historic Environment at Leeds University. Richard was elected as a trustee of the Barnes Wallis Memorial Trust in May 2008. He is the author of 'Cheshire: The Biography of Leonard Cheshire, VC, OM' and 'Guy Gibson'. This article was the basis of Richard's talk to the Annual Public Meeting of the Trust at Howden School in June 2008.

BARNES WALLIS MEMORIAL TRUST

ANNUAL REPORT 2008/9

THE TRUST'S ORGANISATION AND OBJECTIVES

The Trust is run by the Board of Trustees which consists of between 11 and 15 people of whom three are nominated by outside organisations. Of the remainder two are, if possible, selected to represent Sir Barnes Wallis's family. The Trustees meet at least four times every year and at these meetings set policy and monitor implementation. In between trustees' meetings the Trust is managed by the Chairman and other officers with support from individual trustees acting within previously agreed policy decisions.

The Trust's main objectives are to broaden public awareness and understanding of the breadth of Sir Barnes Wallis' work and to encourage young people to consider taking up engineering as a career.

WORK OF THE TRUST

As usual the year started with our Annual Public Meeting in Howden. The theme was the Dambusters' Raid with the emphasis on the men of 617 Squadron. Amongst the speakers was Richard Todd, OBE who played the part of Guy Gibson in the 1954 film of the raid. The meeting was extremely well attended by some 250 people.

We were very pleased that Sir Barnes' elder son was able to do the judging for the Barnes Wallis Memorial Trust Annual Award at Howden School. We continue to sponsor an award at Hull University department of Engineering. The Trust has also made an agreement with Manchester University to support the University's application for a grant towards establishing a post- doctoral teaching course and to part sponsor an annual Barnes Wallis Award and Dinner.

As last year, we were one of the major sponsors of the Engineering Inspirations event organised by the North Yorkshire Business and Education Partnership. This is a competition open to students of primary and secondary school age across York and North Yorkshire. Typically some 500 students and around 100 teachers are involved. We supported this event as a Platinum Sponsor and sponsored the awards in the Engineering Solutions category.

Work continues in designing a pair of interpretation boards to be erected on the perimeter of the site of the old Howden Airship Station. We are working on this in conjunction with Howden Civic Society and the present owners of the site.

The Trust worked with the East Ridings Museum Service to put together an application for a grant under the Society's Local Heroes Project for an exhibition to mark the 80th anniversary of the R100's first flight. The application was successful and there will be an exhibition in December 2009 / January 2010 in Goole and summer 2010 in Beverley. After these two temporary exhibitions the display boards produced will be given to the Trust.

The outreach programme of giving talks to outside groups has continued. As well as making our activities more widely known this programme also forms a useful source of income.

For some 15 years the Trust had had an exhibition at the Yorkshire Air Museum. In April 2008, and with no notice, the museum stopped the Trust having access to this exhibition and to the Trust's other material held in store. The Trust sought legal advice and eventually the Trust was allowed to remove some of its material but, at the time of writing, some material still remains to be recovered. Unfortunately the Yorkshire Air Museum's actions necessitated the Trust incurring legal costs to confirm and defend its position. The difficulties with the Yorkshire Air Museum have absorbed much of trustees time and effort this year and this has led to a delay in launching the proposed Newsletter to be available on subscription. However it is hoped that this project will become live during the 2009/10 year.

The Trust continues to receive the very active support from Sir Barnes' family and we very much appreciate this. The Trust continues to have a good relationship with the 617 Squadron Aircrew Association.

FINANCES

The Trust's finances continue to be very sound. Although there were exceptional expenses incurred regarding the dispute with Yorkshire Air Museum donations also increased.

TRUSTEES

Stuart Warren's term of office expired during the year and he decided that he did not wish to stand for re-election. Stuart first joined the Trust as the representative from Howden Town Council and when he left the Council was elected as a trustee in his own right. For many years Stuart organised the supply of books for the Trust to sell. We thank Stuart for his work on behalf of the Trust.

In July Barnes W Wallis, Sir Barnes' elder son, died after a long illness. Barnes was one of the original signatories of the Trust's Trust Deed establishing the Trust in 1986 and had continued to be a trustee representing Sir Barnes' family ever since. Barnes was always willing to do what he could to help our work. When asked for his signature he asked, in exchange, for a donation to the Trust. He was one of the very few people who could explain many of the concepts that his father developed and an important direct link to his father has been lost. We in the Trust look back with gratitude for his commitment and support. We have lost a champion and friend. It was typical of Gill, his widow, that she asked for any donations in memory of Barnes to be made to the Trust and we are very grateful for this magnificent gesture, Thank you.

In September our Chairman, Peter Rix, had to stand down because of ill health. We thank him for all his work over more than 10 years as Chairman and we are pleased that he feels able to continue to support the Trust as a trustee. Gerry Carroll was elected Chairman to replace Peter Rix and David Patrick was elected Vice-Chairman to replace Gerry Carroll.

We welcome as new trustees Andrew Wallis and Jonathan Stopes-Roe, both grandchildren of Sir Barnes. They continue the strong family support for the Trust. We also welcome Professor Richard Morris OBE. Richard has extensive experience in the museum world and is a respected author including biographies of Guy Gibson and Leonard Cheshire.

Royal Society Local Heroes Project

As part of its 350th Anniversary celebrations The Royal Society invited applications from registered/accredited museums for funding to organise events to celebrate past or present Fellows of the Royal Society who lived or worked in their locality. The Trust worked with East Riding Museums Service to submit an application which, we are pleased to say, was successful. Barnes Wallis was elected a Fellow of the Royal Society in 1945 and in 1975 was awarded the Society's Royal Medal. This Medal is awarded annually by the Sovereign on the recommendation of the Council of the Royal Society. It was awarded to Barnes Wallis "In recognition of the originality of his ideas and the determination with which he pursued them."

The East Ridings Museum Service and ourselves are now working together to mount two exhibitions about Barnes Wallis with a degree of emphasis on his work on the R100 at Howden, which is in the East Riding of Yorkshire. The tentative title is 'BARNES WALLIS - The Yorkshire Connection and Beyond'. The exhibition will be mounted in Goole from 10 Dec 2009 to end-Jan 2010 to coincide with the 80th anniversary of the first flight of the R100 airship from Howden on 16th December 1929 and will be repeated in Beverley in the summer of 2010 to coincide with the 80th anniversary of the R100's flight to Canada and back in July and August 1930. After these two exhibitions the graphic panels which are being produced will be given to the Trust with a view to then seeking further opportunities to display them at other museums or suitable venues.

We are grateful for the support given to us in this project by the East Ridings Museums Service and to Jaane Rowehl, Museum Development Officer, in particular.

Articles for Publication

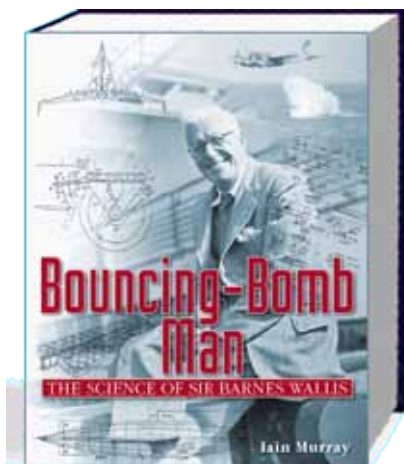
Contributions of articles and photographs for the Newsletter will be most welcome. Ideally they should be sent by email in Word format for articles and a common image format such as JPEG (.jpg) for photographs. However, typed articles and original photographs can be accepted and will be scanned and returned to the sender as soon as possible. Please send to chairman@barneswallistrust.org or mail to the address on the rear cover.

The views expressed by contributors of articles do not necessarily reflect the views of the Barnes Wallis Memorial Trust.

Bouncing-Bomb Man

(The Science of Sir Barnes Wallis)

Bouncing-Bomb Man (The Science of Sir Barnes Wallis) by Dr Iain Murray should be published in October 2009. The title of the book, presumably chosen for its marketing appeal, perpetuates the common perception of Sir Barnes' fame being based on the 'bouncing-bomb' and the successful attack on the Ruhr dams by 617 (Dambuster) Squadron. However, the contents of the book will excite his admirers as the 'bouncing-bombs', UPKEEP and HIGHBALL, only take up three of the eleven chapters; the remaining eight chapters examine each of his main inventions and designs with the first chapter devoted to a summary of his life.



I quote from Iain's preface to the book:

'There have been many books covering many of Wallis's inventions, the historical significance of their use, and the lives that were changed as a result. However, none have attempted to look in detail at the remarkable science and engineering skills that lay behind the inventions, and make these accessible to a general audience to reveal the true genius of Wallis. It is the thesis of this book to attempt to rectify this, and demonstrate that Wallis should be remembered not only for his eclectic inventions, but as one of Britain's greatest scientists and engineers.'

The book will be published in hardcover with 288 pages (27 x 21 x 1.7 cm). It includes 125 black & white illustrations (plans, photos and other images), glossary and unit conversion table. Also included throughout the book are a number of side boxes giving additional background information on, for example, Wallis's patents, *The Dam Busters* film and bomb aiming.

I have been privileged with sight of the proof copy on CD and although I prefer to read from hard copy the contents of the book have kept me glued to the computer screen - I have already ordered my copy in advance of the publication date. Iain Murray has produced a very readable book but one which has a great deal of depth and will serve as an outstanding reference document. Order your copy from your local bookshop today!

Next Issue.....



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