



# NEWSLETTER SUMMER 2014



BARNES WALLIS MEMORIAL TRUST  
CHARITY NUMBER 518023



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**Cover Photo:** *Tirpitz Attack* by Gary Saunt. Note the reflection in the bomber's window!

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## Editorial

**T**HIS issue of the Barnes Wallis Memorial Trust newsletter includes the chairman's Annual Report for the past year and articles relating to the life and work of Sir Barnes Wallis.

The most significant event in the Trust's year has been the move of our artefacts from the Museum of Science and Industry in Manchester to the Brooklands Museum in Surrey. This was followed by a meeting of the trustees in Sir Barnes' old office in March this year together with the re-opening, by Dr Mary Stopes-Roe, of the Brooklands Stratosphere Chamber after an extensive restoration programme.

As described later in this newsletter, the Trust is to be re-registered with the Charity Commission as a Charitable Incorporated Organisation, or CIO and will be re-named the Barnes Wallis Foundation.

**Chris Henderson**  
**Editor**

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## Articles for Publication

**C**ontributions 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 post to the address on the rear cover or email to [newsletter@barneswallistrust.org](mailto:newsletter@barneswallistrust.org) or.

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

# **Barnes Wallis Memorial Trust**

## **Annual Report - 2013/14**

### **Annual Public Meeting 2013**

The first event of the year was our annual public meeting held at Howden School of Technology on 23rd May. The topic for the evening was the 70th Anniversary of the Dams Raid by 617 Squadron – Operation CHASTISE. The guest speakers were Robert Owen (official historian of the 617 Sqn Association) and James Holland (historian, author and TV presenter). Dr Mary Stopes-Roe, daughter of Sir Barnes Wallis, also attended together with Sqn Ldr George 'Johnny' Johnson DFM, the last surviving British Dambuster. Both Mary and Johnny took part in a Question and Answer session after the main presentations. It was estimated that about 250 people attended.

### **The Barnes Wallis Award (Howden School)**

Dr Mary Stopes-Roe, Jonathan Stopes-Roe, Ken Deacon and Gerry Carroll, all trustees, judged the students' work and declared Joe Allan the winner.

### **York Exhibition**

We had a very successful exhibition at the Merchant Adventurers' Hall, York from 11th to 23rd June 2013 for the York Festival of Ideas. Peter Rix presented his illustrated talk on the life and work of Sir Barnes Wallis.

### **Museum of Science and Industry/Brooklands Museum**

For some years some of the Trust artefacts have been stored at the Museum of Science and Industry in Manchester for which we are very grateful. During this time we have been looking for a secure home for all the artefacts and papers of Sir Barnes; Brooklands Museum has now taken on this task, and over the next few years everything will be professionally catalogued. The Trust had its first meeting of the year in Sir Barnes' old office at Brooklands on March 13th 2014, on the same day that the Brooklands stratosphere pressure chamber was reopened to the public by Dr Mary Stopes-Roe. The extensive restoration of the chamber was supported by a grant from the Association of Independent Museum's Biffa Award Scheme.

### **Howden R100 Trail**

The Howden trail is coming closer to the final layout with a meeting on Thursday 5th June 2014 with the company who will be doing the work.

## **Beverley School**

Mr Tim Gosling, who was responsible for the Barnes Wallis award, has now left the school and Mr R Oldridge has taken over his responsibility. Unfortunately he was not briefed about the award and it was given to Jacob Birch for 2013 without consulting the Trust. A meeting with Mr Oldridge will be arranged to clarify the procedure for making the award in future.

## **Gartree Community School**



The trust has been approached by Ben Peak, Head of Communications of Gartree Community School in Tattershall, Lincolnshire (near RAF Coningsby). The David Ross Education Trust is developing a network of schools and academies. Gartree Community School will become an academy sponsored by the David Ross Education Trust in September 2014. The students would like the school to be known as the Barnes Wallis Academy (or the Sir Barnes Wallis Academy as suggested by trustee, Chris Henderson), and would like to have closer ties with the Trust.

## **Harmondsworth Plaque**

A memorial plaque was unveiled by the Mayor of Hillingdon, Cllr Allan Kauffman recognising the work carried out by Sir Barnes Wallis at The Road Research Laboratories whose buildings were originally on the site. Guests, including Sir Barnes Wallis' daughter Dr Mary Stopes-Roe, grandson Jonathan Stopes-Roe and members of the 617 Squadron Association were entertained by music played by the RAF Halton Area Band during the ceremony, which took place on the day of Sir Barnes' birthday.

## **Outreach Program**

We are still very much involved in our outreach program; Peter Rix, Ken Deacon and Chris Henderson give talks to a variety of bodies throughout the region and further afield. Donations from these events are a useful form of income for the Trust. Talks can be arranged via email: [talks@barneswallistrust.org](mailto:talks@barneswallistrust.org) or by telephoning Peter Rix on 01423 871909.

## **Barrow-in-Furness, Dock Museum Exhibition**

The trustees have agreed to organise an exhibition at the Dock Museum, Barrow-in-Furness in 2016, as well as exploring the possibility of Brooklands Museum and the RAF Museums at Hendon or Cosford hosting an exhibition.

### **Gary Saunt**

We are indebted to Gary for his graphic support for the Trust. A limited edition of his digital creation of the Dams Raid was produced last year and has become a collector's item – only a few copies remain for sale. Gary's latest work featuring the attack on the Tirpitz has also been used for the open evening poster.

### **Goole High School 'Spirit of Goole'**



In October 2012, the Light Aircraft Association, joined forces with the staff and pupils of Goole High School to launch an ambitious and truly inspirational project to build a complete aircraft, a Sherwood Ranger XT Biplane. It is a unique organisation providing an engineering and aviation project for disabled and under-privileged youngsters. Mr Jack Milnes, project manager of the Goole High School 'Spirit of Goole' construction, contacted us to discuss developing closer ties with the Trust. There is open day on Saturday 14th June and it is hoped that a number of trustees will attend.

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The Trust continues to receive very active support from the Wallis family and we appreciate this support. I would like to give a big thank you to all the trustees of the Trust for their help and guidance over the past 12 months, it makes life a lot easier.

**Gerry Carroll**  
**Chairman**

## Behind the Great Door

### Stratosphere Chamber is opened at Brooklands Museum

A unique high-altitude research facility originally built in 1947 for the famed inventor Sir Barnes Wallis at Brooklands, was re-opened today by his daughter, Mary Stopes-Roe. The “Stratosphere Chamber” was built to investigate high-speed flight at very high altitudes, and has been restored and re-interpreted using a grant of £120,000 from the Association of Independent Museums (AIM) Biffa Award Scheme, with a new exhibition highlighting Wallis’ research work for the Vickers aircraft company after 1946. The restoration means that the huge building which houses the Stratosphere Chamber and the Museum’s world-class collection of aero engines, is now fully open to the public as an exhibition space for the first time..

The Stratosphere Chamber was constructed by Barnes Wallis in 1947 as a huge laboratory in which high-altitude conditions could be simulated for research into high-speed flight. It formed part of his Research and Development Department, which was set up after the Second World War at the Vickers aircraft factory at Brooklands. The Chamber, which operated until 1980, is 25ft (7.6m) in diameter and 50ft (15.2m) long, and was able to accommodate complete aircraft up to the size of a De Havilland Sea Vixen, fuselage and cockpit sections of larger aircraft and guided weapons. It was also used for cold-weather testing of objects as diverse as North Sea fishing trawlers, diesel engines and Arctic clothing, as snow, ice and blizzards could also be created. It was capable of generating temperatures between -65°C and +60°C, and being evacuated to 1/20th sea-level air pressure.

For many years the Chamber was able to be viewed in only a limited way, and much of its operating machinery was disposed of or moved to make way for other developments, but now all the areas surrounding the chamber including the elevated Control Room and the refrigeration/vacuum plant room have been made accessible giving a ‘backstage’ view of this extraordinary area of industrial heritage. Also on display in the Stratosphere Chamber building is the Museum’s collection of aero engines ranging from the simplest early piston engines up to Concorde’s mighty Olympus power plant and, in the Chamber itself, the forward section of a Vickers Vanguard airliner just as it could have been seen on test in the 1950s. Allan Winn, Director of the Museum says: “Until now the Museum has not had the resources to restore and properly interpret this unique research facility, so we were delighted to receive this grant from AIM, under its Biffa Award Scheme. This restoration has seen a fantastic level of co-operation between our contractors, volunteers and staff, and the finished

exhibition is wonderful tribute not only to them, but also to Barnes Wallis and his team who created and utilised this extraordinary Chamber”.

The intention is that this exhibition will inspire people of all ages, including young people who may be considering careers in science and technology, using the technological achievements of people at Brooklands, both in the days of the motor racing circuit and during the 80 years of aviation on the site. This project will further this aim by sharing the inspirational story of Barnes Wallis, especially now that the extensive archives owned by the Barnes Wallis Memorial Trust have been placed on loan with the Museum and will be available for display and research.

### **Brooklands Museum Press Release**

13 March 2014



**Left:** Dr Mary Stopes-Roe opening the restored Brooklands Stratosphere Chamber on 13 March 2014

**Right:** The vacuum/refrigeration plant room and rear of the stratosphere chamber



## Unearthed

### Secrets of the devastation caused by Grand Slam, the largest WWII bomb ever tested in the UK



**T**he Barnes Wallis creation left a hole 70ft deep and 130ft wide - now hi-tech methods are revealing just how far the devastation spread.

The final secrets of Britain's largest-ever conventional weapon of war are being 'unearthed' by archaeologists.

Geophysics experts are using ground-penetrating radar and other high tech methods to 'x-ray' the ground, in a remote area of the New Forest in Hampshire, to shed new light on the most powerful top secret World War Two weapon test ever carried out in the UK.

The weapon - a bomb designed by the British aircraft and munitions inventor, Barnes Wallis, and codenamed 'Grand Slam' - was almost 26 foot long and weighed 22,000 pounds, substantially bigger than any other wartime explosive device ever developed by Britain.

The New Forest test is historically important because it heralded an expansion in the crucial strategic air offensive against key infrastructure targets in Nazi Germany. The first RAF bomber command Grand Slam sortie got underway within hours of the successful test of the bomb.

Four geophysical techniques - ground penetrating radar, magnetometry, electrical resistivity and electrical resistivity tomography - are being used by the archaeologists to assess the damage done to the large concrete target building which has lain buried under a vast mound of earth for the past 66 years.

Barnes Wallis' Grand Slam bomb was designed to seriously damage and destroy buildings, bridges, viaducts and other structures without necessarily



having to achieve a direct hit against them. It worked by creating a severe yet localized artificial earthquake.

The one and only test of the bomb took place on 13 March 1945. The weapon was released from a specially adapted Lancaster bomber flying at 16,000 feet over the River Avon just east of the Hampshire town of Fordingbridge, almost two miles west of the New Forest target building. Half a minute after release, the bomb, with its specially designed aero-dynamic fins, hit the target area at more than 700 miles per hour.



The 70 ft deep and 130 ft diameter crater which Grand Slam created in the New Forest on 13 March 1945 - with the target building in the background (Crown Copyright)

Penetrating deep into the ground it produced, after a predetermined nine second interval, a massive explosion which generated the desired artificial earthquake - and created a 70 foot deep 130 foot diameter crater. It was the biggest bomb ever dropped on Britain before or since.

The geophysical investigation and the research operation in the National Archives are expected to reveal just how much damage the earthquake effect had on the target building - but oral history research recently carried out by the New Forest archaeological team suggests that the entire structure was seen to physically move when the bomb exploded some 250 feet away.

After the New Forest test, Grand Slam bombs were used between 14 March and 19 April, 1945 against nine strategically important German targets including the Schildesche railway viaduct near Bielefeld, the Arnsberg railway viaduct, the Nienburg railway bridge, submarine pens near Bremen and German gun batteries on the island of Heligoland.

The Grand Slam campaign played a key role in helping to speed up the defeat of German forces in the final two and half months of the war. Almost 100 Grand Slam bombs were produced of which 42 were used in nine major Bomber Command sorties. Today only five publicly accessible examples survive - in the RAF Museum in north-west London, Brooklands Museum in Surrey, Dumfries and Galloway Aviation Museum, the Battle of Britain Memorial Flight Visitor Centre at RAF Coningsby in Lincolnshire and Kelham Island Museum, Sheffield.

The New Forest National Park Authority's current geophysical survey and historical investigation into Grand Slam is part of a wider project researching and surveying the park's often unappreciated wartime role. Quite apart from Grand Slam, the New Forest was used as a test site for the first Barnes Wallis bouncing bombs, the development of the 'Tallboy' predecessor of Grand Slam, as well as early demonstrations of the Churchill tank. The forest was also home to nine wartime airfields, many of which played a key role in D-Day.



British aviation engineer Sir Barnes Neville Wallis (1887 - 1979), inventor of the bouncing bomb that destroyed the Ruhr dams, of the Wellington bomber, and of the Grand Slam bomb.

The vast concrete bunker which formed the centre of the Grand Slam target area had originally been built in 1941. Up till now, historians had thought that it

was constructed as a replica enemy submarine pen complex - so as to develop bomb strategy against such targets along occupied Europe's coastline.

However, a series of once-secret documents found in the National Archives by the New Forest National Park research team over the past year have now revealed that the building was originally constructed as a test structure to help develop more effective public air raid shelters.

It appears to have been experimentally constructed out of successive layers of different types of concrete - designed to inhibit the transmission of shock-waves through its walls and roof.

The researchers have even found a previously unknown plan of the building, showing the points at which test detonations were carried out on its roof to assess the effectiveness of the newly developed experimental multi-layer air raid shelter technology.

Bizarrely, Barnes Wallis had actually designed Grand Slam back in 1940 - but political disinterest, bureaucratic obstacles and weapon delivery problems conspired to prevent its final development until early 1945.

“Our geophysical and historical research is helping us to more fully understand and appreciate the testing of Grand Slam - and the New Forest's more general major, yet little known, role in World War Two,” said James Brown, an archaeologist at the New Forest National Park Authority.

**David Keys**

**Archaeology Correspondent**

Wednesday 22 January 2014

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## **2014 Annual Public Meeting**

The 2014 Annual Public Meeting will be held on Thursday 26th June at Howden School of Technology at 7pm. The title of the evening's presentations is 'From War to Peace'. The guest speakers are Dr Iain Murray of Dundee University with a talk entitled 'Hard and Fast - the technology behind the bomb that sank the Tirpitz', and Julian Temple from Brooklands Museum who will talk about the Brooklands Stratosphere Chamber designed by Sir Barnes Wallis.

Admission is free and the school has full access facilities for disabled people. An exit collection will be taken to support the work of the Trust and Howden School of Technology.

The school is located off Derwent Road, Howden, DN14 7AL.

# The Dambusters

**First published in the Old Godolphins Association Magazine 2013**

This has been an eventful year for the RAF, in particular 617 Squadron, or to use the popular name, the 'Dambusters Squadron'.

70 years ago on the night of the 16-17 May these highly skilled and courageous airmen inflicted a crushing blow on the Nazi war strategies by delivering what at first had seemed to be an impossible weapon - a child's game of pebbles skimming over the sea, or marbles hopping along a water tub.

The weapon was invented and designed by my father Barnes Wallis, and unsurprisingly it was not brought to fruition as readily as a simple child's toy. The intricacies of design and the calculations involved were time consuming and prolonged: the exact placement of the bomb in relation to the dam wall, the proximity and the depth required to discharge the explosive, the exact distance from the dam wall for the



delivery of the bomb, the exact height of the 'plane above the water when releasing it, all these severally and in conjunction had to be correct. And after the months of calculations, designing, re-calculating, re-designing, and testing, finally on a clear moonlit night the invention was proved. It has gone down in history most memorably as illustrated by the fine film 'The Dam Busters' of 1955. But as my father always firmly made clear, in his view the real honour goes to the airmen, pilots, navigators, gunners, bomb aimers, ground crews, who carried out the raid. I well remember him saying "any fool can invent something; it is the people who make it work..." and he gave all the honour to his beloved squadron. There are only a handful of old-timers who experienced the event who are left to remember. I was 15 at the time, very happy at Godolphin, but well aware of events in my own home and in Europe; so I have been asked for my memories of the time, the event, and of my father.

Of course my memories are not of the designer and inventor, but of the family man, and I have become very interested in his earlier experiences. Whatever made him intent upon engineering - his father was a doctor, his grandfather

a priest; the Church, the army, and education were the professions of his background. Yet, Barnes decided for himself, against the wishes of parents and teachers, that he would leave school in 1904 when he was 16 and become an apprentice engineer. The only clue to this decision that I can find is in his early childhood. Until he was three, his father had a practice in Ripley near Derby, and Ripley had several coal mines and a very large iron foundry. Barnes' mother Edie was a lively woman, and interested in what was around her, so she took her two little boys, Barnes and his elder brother John, aged three and five, to the pit heads and the foundry to watch the workings of the men and the machinery. The men were friendly to the little boys, and Barnes even at only three must have been fascinated by the size, the power, the noise of machinery, and the light of the flames from the foundry furnace. Perhaps there is a lesson there which Health and Safety might consider!

So Barnes apprenticed himself to the sea, and worked on destroyers in Cowes in the Isle of Wight. He loved the sea, swam, had a small sailing boat of his own, and showed no interest whatever in the burgeoning excitement about flight. The early 1900s saw the Wrights in America, Alliott Verdon Roe in Britain, Bleriot and his Channel crossing. Edie talks of all these in her letters to Barnes, but he mentions them not at all. It seems that pure chance drew him away from the sea into the air.

In 1911 Barnes' seven year apprenticeship ended, and he was promoted to the drawing office. Another new recruit here was a young man whose previous job had been in airship design. He and Barnes become good friends and enjoyed sporting and social life in the Island. But in 1913 the Government, becoming anxious about German military development of airships, turned to the armaments firm of Vickers Armstrongs to re-invigorate the airship industry. The likely young chap from Cowes whom they had dismissed in 1911 was called back to his airship job; he in turn brought in his talented young friend Barnes Wallis. So Barnes was launched into the air, to design ships of the air not the water. But they were still ships, under Admiralty control.

In the end the air won without too much difficulty; a strong feature of Barnes' character was a need to be looking ahead, to be considering future possibilities for development. He stayed with airships until the works closed in 1919, and then, in need of a job he taught maths for a couple of years. He was a fine teacher, and his lessons, passed on to the young lady whom he was courting, are highly individualistic, a delight to read, and a treat to learn from. Twenty years later I learnt from them too, but that is another story. When the commercial airship industry opened in the 1920s, Barnes joined Vickers again to design the R100 airship, a perfect silver fish gliding through the air to Canada, America,

and safely back, a luxury liner compared with the sardine-tin passenger aircraft of to-day. And NEVER to be confused with the disastrous R101 whose brief life ended in a burnt-out heap on a hillside in Northern France. But that again is another story.

The lasting legacy from the R100 was the adoption of geodetic design which Barnes developed for strength and lightness in curved structures. But even before the R100 gasbags were fully inflated, Barnes was looking beyond the present beautiful lightweight lady, to the possibilities of heavier-than-air craft. The application of geodetic structures here was hugely successful in the development through the '30s of the larger aircraft needed for wartime operations. But as ever, it was the next step which preoccupied Barnes. He knew that carpet bombing would not end German resolve, nor achieve more than minor checks on industry, any more than these tactics did in Britain. What was needed was precision bombing to destroy set targets of particular relevance to the armaments and transport centres; and out of this came first the plan for destroying the energy from water power contained in reservoirs. The well known success of this venture made clear that our airmen had developed the amazing skills required for precision bombing.



But sources of power other than reservoirs, and their dependent factories, the pens, bunkers and launch pads for submarines and rockets, means of transport such as bridges, viaducts and tunnels, could not be reached by rolling balls across the countryside. So Barnes had moved on to the earthquake bombs of much larger explosive power, such that a hit within some yards of the target would cause a shattering of earthquake proportions.

Before the war ended, however, Barnes's familiar need to move on had made him shift his thinking to the possibilities of a peaceful world. He held very dear the position of the British family of nations which had been known to him as the Empire and had now developed into the Commonwealth. An aim which he set himself to achieve was to devise a craft which would fly at a speed sufficient to reach Australia nonstop in a few hours. The family joke was "finish your lunch and get to Australia in time for tea". To achieve such speeds supersonic flight is necessary, and this requires a streamlined wing position. But take off and landing need wings in the traditional position - solution, the variable geometry plane, known in a friendly way as the 'swing wing'. Very large scale radio-controlled models were successfully flown and test pilots were keen to try the real thing; but Barnes would not have this. In his distress at the loss of life over the Dams raid, he had sworn that he would never endanger another man's life, and he never did. Before the machine could be thus tested, the research funding was stopped. Our industrial expertise was being reduced, and the design was sold to the USA Boeing (sic) made use of it, but as Barnes sadly said, "they spoil his beautiful design by adding a tail plane".

At the same time he was pursuing another line of thought, that of efficiency of long distance transport. This produced designs for submarines which could take the shortest route to the antipodes, which is under the polar icecap. And further, designs for what he called the 'universal aircraft', a machine with a rectangular inner structure into which slid containers of seats for passenger transport, or carriers for goods. To the family, "the flying shoebox"! Our industrial might having been severely reduced, BAC decided in 1971 that it was time for their figurehead designer to retire. Barnes was adamant; he did not retire, he was made redundant, and he carried on his own consultancy from home. His fame did not abate, and he had endless calls upon his time and expertise. I think his most treasured were those from the young and aspiring, whom he never failed.

This has been a memorable year for me. I have had so many requests from TV, Radio, phone-ins, to describe my father. What an impossible question, how can a complex character be described in a few words. For me he was admirable, sometimes rather strict it is true, and often absent in his study or at work, or suffering from endless migraines. He was a devout Anglican, devoted to learning, to inspiring, to encouraging the young, and to serving his local community — the village where the family lived for 50 years, and the wider community of his country. All this sounds rather pompous and pious, but as a family man he was warm, loving and relaxed and humorous. Our summer holidays through the '30s camping with Territorial Army precision were an unforgettable pleasure. We were taught to be personally responsible, and allowed to explore as we wished.

He was a keen player of outdoor games, and of the more intellectual indoor sort; he and my mother were energetic walkers, and he was a great swimmer. But all this was not what I needed to say in the interviews of the last 4 months.

I was so glad to have the opportunity to correct some misconceptions. Barnes was not a man of war. He was a man of peace whose duty it was, when necessary, to fight to preserve his country, his beliefs, his own people. He looked always to the future, to development, to the young. And he was humble. In time of success he gave thanks to the Lord who had endowed him, and St Joseph the carpenter who supported him. This may sound a little pious, but he never preached it or spoke of it, or claimed to be in any way virtuous, rather the opposite. He was devoted to, and dependent on, my mother, and his colleagues and friends, and he was proud and very fond of his children, a quiver full of grandchildren, and a legion of great grandchildren, who met in troops at the family home.

At his funeral in the village the community gathered, but the most moving tribute was paid by the RAF. It was a grey and misty November day and the flag of St George hung at half mast on the Church tower. As we gathered round the grave, out of the cloud over the tower from the West came silently, engines throttled back, a low-flying Vulcan, over the grave and the mourners, and disappeared as silently in the cloud eastwards. I shall never forget that. Nor shall I forget the most moving ceremony from the four days I spent in Lincolnshire from the 15<sup>th</sup> -19<sup>th</sup> May this year. A service in Lincoln Cathedral was wonderful, moving and beautiful, but for myself, the Sunset Ceremony at Scampton was a tribute almost indescribable. It was a freezing evening, windy and wet, but we gathered under an awning, impressed by the meticulous marching of the RAF and the playing of its excellent band. The BBC took comments from the old stagers, the Lord Lieutenant and the Commanding Officer took their places. A Spitfire and a Tornado took up their places on either side behind the flagpole, and finally the grand old Lancaster flew down, taxiing slowly up towards the stand until it was directly behind and very close to the formation of RAF personnel, standing guard over the troop. The Squadron standard was presented before the dais, and lowered as the RAF flag was slowly taken down from the flagpole as the sun set. The Last Post rang out into the silence, and the lost crews seemed very close. It was a tribute which drew tears, worthy of the courageous men who went to war for our freedom. May they never be forgotten.

**Mary Stopes-Roe**



## Memories of Barnes Wallis

In 1966 I was studying Physics at UMIST in Manchester and was also Vice President of the Students Union. We had just moved in to a brand new Union building and we were revelling in the luxury especially when compared to the cramped J floor in the Main Building that was our previous place.

The Union President, Johnny Carroll, had a letter from UMIST Principal, Lord Bowden saying that the Duke of Devonshire, then the University Chancellor, had been invited to formally open the building. John was furious and told Lord Bowden that as the leading technology university in the country we wanted a major technological figure to do the opening. This caused a bit of a stir but in the end UMIST backed down and asked us who we wanted and we chose Barnes Wallis. He was approached and accepted the invitation.

We issued a press release which was published the Guardian and Manchester Evening Mail. This led to a number of phone calls from local ex-members of RAF 617 Squadron, the Dambusters. In all about six of them contacted us and asked if they could be in the audience. We were happy to have them and on the day of the opening we sat them together in about the third row.

The opening ceremony was held in the main hall which seated about 500 and was packed with a mixture of invited dignitaries and students. I had a place on the stage when Barnes Wallis and his wife arrived. As he walked down the aisle to the stage he obviously recognised the airmen near the front and stopped for a chat. He even remembered many of their names.

He gave us a little talk about how he came up with the idea of the bouncing bomb. In particular he knew that Elizabethan warships projected their cannon downwards to get extra distance by skipping the cannonballs across the surface of the waves. His theme was that we students should be widely read and educated because you never knew where an idea might come from.

Just as he finished and came down from the stage, a flustered Guardian journalist arrived. She'd been sent to cover the event but was late and missed it. She asked him for a copy of his speech. Unfortunately he couldn't as it was all off the cuff. However he took her to one side and spent five minutes giving her the outline of what he said. I am sure it saved her a rollicking from her editor and the next day a very pleasant article appeared in the newspaper.

We then toured the new building. Barnes Wallis seemed interested in everything - even chatting to the chef in the refectory about the merits of his new steamer and with the secretaries on their new golf ball electric typewriters. Because of this we inevitably got behind on our timetable - in spite of Lady Wallis chivvying him along when necessary.

We ended up having tea together in the refectory. He was quiet and dignified and very modest. But he also had a charisma that shone out. I was particularly impressed by the airmen. They wanted to be there because in the war they had made a bond with Barnes Wallis which had lasted over 20 years. He still recognised them and even remembered their names. A thoroughly good man.

I was proud to have met him and still remember that day with great affection.

**A Monaghan**

## Re-Booting Our Charitable Status

The Trust Deed that originally formed the BWMT was made in 1986. A trust deed was never a good model for an organisation that aspired to own things, make contracts, and employ people. But the alternative then available for a charity – a company limited by guarantee – involved further red tape of its own. In 2013, however, the legal formalities governing charities changed, and in many respects simplified.

So we were interested when the Charity Commission introduced a new kind of constitution – the Charitable Incorporated Organisation, or CIO. A CIO need only register once, with the Charity Commission – a second registration with Companies House is no longer necessary. A CIO is a separate legal entity, enabling it to act in its own right, protecting its trustees from personal liability in most circumstances. Changing to a CIO would also give us an opportunity to review and update the charitable purposes for which the Trust exists. That is what we have done.

We therefore plan to make a submission to the Charity Commission this summer, creating a new CIO – the Barnes Wallis Foundation. Once that is established, the Trustees of the BWMT will be able formally to review the position, and to decide to wind up the Trust, rolling all its activities and resources into the new CIO.

Simple as it may seem, all this cannot be done overnight. However we will keep our friends and supporters informed through our new website, still under development, at [www.barneswallisfoundation.org.uk](http://www.barneswallisfoundation.org.uk).

**Jonathan Stopes-Roe**

Limited edition A2 fine art prints of Gary's *The Dams Raid* signed by Mary Stopes-Roe and Sqn Ldr George 'Johnny' Johnson DFM are available from the Trust at £50 plus £8 p&p - cheques made payable to BWMT, orders to:

Barnes Wallis Memorial Trust, Springfield Farm, Old Church Lane, Pateley Bridge, Harrogate, HG3 5LY.

## Letter from Molly Wallis

Every few days Molly Wallis wrote to Mary Morris, a long-standing friend. Molly poured family news into these letters, which sometimes included reports of her husband's work, or the effects of the work on the household. The following extract describes the first trial drop of a live Grand Slam, which Molly witnessed at Ashley Walk on 13 March 1945.

*White Hill House*

*Effingham*

*Surrey*

*20 March 1945*

*My dear Mary,*

*[. . .] This time last Tuesday Christopher<sup>1</sup> and I were having a day. You know what heavenly weather it was - utterly cloudless and the sun very hot. We left here early and drove to the New Forest. Just outside it we collected with all sorts of important people to see Barnes's bomb dropped - the first time a live one was dropped. And it was a sight - to see this great thing coming down - as big as a small house. Noise not very terrific, shower of earth enormous. We were about a mile away, and the noise of the bomb coming down (which of course you hear after you hear the noise of it hitting the ground) was the greater noise. We all went up to look at the crater afterwards. The thing that impressed C and me was the curious explosions that went on all the time in the crater, with jets of steam escaping, gas blowing out of little pockets in the earth, like miniature volcanoes. Poor Barnes, when all the Air Marshals, Admirals, Generals and Important People came up to him in great excitement and patted him on the back and shook his hand and so on, he properly blushed with - I can't think of the word - modesty? Disclaimingness? Anyway, we got away from everybody - fairly sneaked off - for our lunch and ate it lying in a little hollow on the hillside looking down on a lovely farm with hedges of blackthorn like foam around it. The sunshine and the larks and the blue sky. As Kiki<sup>2</sup> said very truly: 'I really think this is the best part of the day.'*

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<sup>1</sup> Molly and Barnes's youngest son.

<sup>2</sup> Family name for Christopher.

# **Barnes Wallis Memorial Trust**

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Published by the Barnes Wallis Memorial Trust  
Springfield Farm, Old Church Lane, Pateley Bridge, Harrogate, HG3 5LY

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**Charity Number 518023**