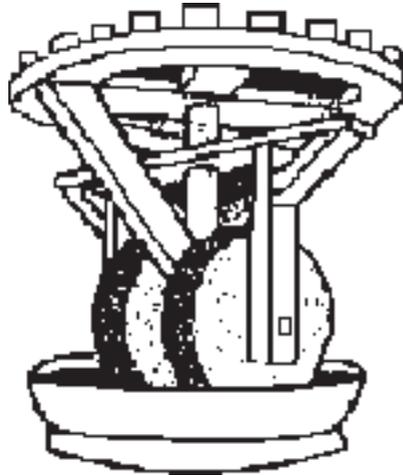


# Touchpaper

The Newsletter of the  
**WALTHAM ABBEY ROYAL GUNPOWDER MILLS  
FRIENDS ASSOCIATION**

[a registered charity No. 1115237]



**MARCH  
2009**

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PLEASE NOTE: Deadline date for submissions to the  
next issue is 15th May 2009



## *Editorials*

*Welcome to the first issue of 2009 and the start of a new season at Waltham Abbey Royal Gunpowder Mills.*

*The new season runs from 25th April to 27th September. A good programme of special events have been booked which can be seen in the site leaflet accompanying this issue.*

*The AGM and Reunion date has now been set (see p 3) and members will find a booking form for the Reunion enclosed, together with a reminder notice for those of you who have not yet renewed your membership. Please do come to the AGM as well.*

*Now unfortunately (or fortunately depending on your point of view) I will be giving up editing Touchpaper at the end of 2009 and so we are looking for a new editor. We are looking for a volunteer who is reasonably computer literate and, above all, enthusiastic. All the software needed to produce Touchpaper will be supplied, together with help and advice from yours truly. Any volunteers please contact me by phone or email.*

*Malcolm Bergh  
Touchpaper Editor*



## **Chairman's Chat**

Welcome to the March edition of Touchpaper.

The new season starts on the 25th April with a 'behind the scenes' look at the Railway Project. The Railway Group will be very pleased to see any of the Friends and other visitors on the Saturday or Sunday.

We have been changing the main Rocket Exhibition in L157 to make it more chronological and to add newly received rockets and associated items.

Also in L157 is the full size replica of a gunpowder edge runner mill in the position where it would have been in the 1870s. This major project has been masterminded by Dave Sims and is looking very impressive. The millstones are much bigger than you expect them to be. Although the mill is not yet complete, the 'stones' are in position and it will be possible to see progress through one of the doors. Full marks to Dave for inspiration and a lot of work!

The Rocket and Space weekend will be on 4th and 5th July. We are working on exhibits to go in the marquee which, as last year, will be on the concrete slab next to the tower. Although our plans are not complete, children will be able to fire rocket powered flying saucers on Queen's Mead.

The committee look forward to seeing Friends (and friends of Friends!) at weekends during the season and on Wednesdays during the summer holidays - children's activities days.

**John Wright**

# **2009 AGM and REUNION**

## **ANNUAL GENERAL MEETING**

The Association AGM will be held in the café of the Royal Gunpowder Mills on Friday 8th May 2009 commencing at 11.00.

Nominations for Committee Members and Officeholders should be sent to the Secretary at least two weeks prior to the meeting.

Any motions or amendments to the Constitution should be made in writing and be sent to the Secretary at least two weeks prior to the meeting.

## **ANNUAL REUNION**

Following the AGM at the Gunpowder Mills on Friday 8th May we will be holding our Annual Reunion.

This will start at midday with a buffet lunch served at around 12.30pm.

A bar will be available from 12.00

The cost has been held at £7 per head

**MEMBERS WILL RECEIVE A SEPARATE  
BOOKING FORM WITH THIS ISSUE .**

**PLEASE NOTE THAT CARS MUST BE PARKED IN THE  
MAIN CAR PARK AT THE END OF BEAULIEU DRIVE.  
ENTRANCE TO THE SITE WILL BE SIGNPOSTED.**

**DURING THE AFTERNOON THE MAIN EXHIBITION, FILM AND  
OTHER FEATURES OF THE SITE WILL BE OPEN TO VIEW.**

## John's Wildlife Diary for January 2009

I haven't had a chance to take a walk around the site for some months now, due to the demands of L180 workshop etc, and while taking a slow stroll on Saturday the 3rd, it struck me that a short description of what has been seen, plus any relevant photos may be of interest to you all. So this is my first attempt at a wildlife diary.

I usually bring in a couple of bags of Tesco carrots for the deer and any stale brown (not white) bread that I have accumulated, and the deer now seem to recognise me and start heading in my direction once I have parked on the concrete pad next to L180.

There were two groups of fallow deer on the Meads, a large adult buck who was accompanied by about 7 young spikies, and a group of 7 adults who are the most forward in expecting to be fed.

After the 7 adults had finished off my carrots & bread I raided Brian's deer food store, broke up a bale of the compressed hay and spread it across the Meads. At first none of the deer would touch the hay but I noticed on the return leg of my walk that two, the tame one with the broken R/H antler and a spiky were eating some of the hay, so perhaps desperation had set in.



On the walk up Long Walk I spotted some siskin on the elders, elder seeds being one of their favourite foods. This is the time to look out for these small finches, but you have to keep an ear open for their twittering as they stay in touch with each other, and it can be a strain on the neck as they feed high up in the canopy. Another bird to watch out for on the Meads is the redwing, a member of the thrush family and often seen feeding on the Meads at this time of year. It's so called because of the red patches under the wings.



No I haven't printed the picture upside down. This is how you will often see them feeding.

Redwing

Look out for small flocks of both birds.

At the top of the Meads I diverted off Long Walk and took the path up the side of the dry canal bed hopping to see a great spotted woodpecker, and I wasn't disappointed.

No sooner had I passed the observation tower, when to my right I was greeted by the rat-a-tat-tat of a calling bird. It was too far away to get a photo, but I have attached one I took earlier. The female starts calling first to let any males know she's available, then the male takes up the call to mark his territory.



The lesser spotted woodpecker which is about the size of a sparrow



The greater spotted woodpecker is much bigger, about the size of a blackbird.



The green woodpecker is the largest of the British woodpecker family and about the size of a rook or collared dove.

While on the canal walk it is well worth keeping an eye open for our other two woodpeckers as shown above, as with the trees leafless & the nettles gone, you stand a good chance of spotting them. The green woodpecker is a ground feeder, but if frightened it flies into the nearest tree and this is the time when you stand a chance of seeing one. The lesser & great Spotted are best found by simply listening for their rat-a-tat-tat call or their quieter tap-tapping when digging for grubs & insects in the tree bark. As with all wildlife spotting, patience is a virtue (pity I haven't any) and if you are prepared to stand and listen, you will reap the rewards.

Also keep a look out for treecreepers. You aren't likely to hear them so keep an eye on the trunks of the trees you pass. Their habit is to land on the trunk close to the ground and the work their way up the trunk, probing with their long curved beak, for any insects or grubs in the bark. Once they reach the top of the tree they then fly down to the bottom of the next tree to start the journey up again. They are a small bird about the same size as a wren and of similar marking, but you will not mistake one when you see it.



This is a tree creeper I photographed earlier in the year.

As I reached the top of the canal walk I flushed a small group (4 to 6) fallow does, which I have never seen this far west on the site before. One animal I nearly forgot to mention is the muntjac. There were around 4 of them by the climatic stoves as I reached the top of Long Walk, another pair were in the wood to the right of the dry canal walk, two more close to the does and a further one on the right after Newton's Pool, which make the greatest number I have seen at any one time on the site. Mind you, with no undergrowth to hide in, they are much easier to see.



There are two muntjac in this photo, can you spot the second one?

At the top of the canal walk I continued on along Long Walk, stopping off for a chat with the railway team. I must say they are doing a great job up there, with the new sidings looking very professional.

Apart from rabbits, which are everywhere on the site, I saw little of interest after the railway stop, apart from the lazy flap of a Heron as it passed overhead. I had hoped there might be a kingfisher at Newton's Pool, but no such luck on this occasion, but this is a place to stop and watch for one if you have the time. One point to mention about the heron is that they will soon be nesting, so look out for any untidy large nests in the very tops of the trees, as this is where they nest. If you do spot a possible nest, please let me or a member of staff know.



Another photo I took earlier, the grey heron.

It must have been cold on Saturday as all the waterways, apart from the canal that runs along the back of the Incorporating Mills, were frozen over. Even Newton's Pool had a film of ice in places, which probably explains the lack of a kingfisher.

Did you know that kingfishers move to the coast in extremely cold weather to feed, as the sea in the UK seldom freezes.

These jottings will only be an occasional thing, but if anybody would like to report their sightings or comments as regards wildlife on the site, please feel free to tell me your experiences.

Happy New Year to you all.

John Wilson  
5th January 2009.

# ERDE in the News



SCIENTISTS at Waltham Abbey's explosives research establishment walked out on strike on Wednesday to protest against their "poor" wages.

About 120 top-secret workers marched out of the Government-run Explosives Research and Development Establishment at midday bearing placards and posters. Then, while some stayed behind as pickets, the rest drove off to join hundreds of colleagues in a mass protest rally at Downing Street.

The strikers are members of the Institution of Professional Civil Servants. They were protesting at the delay by the Civil Service Department in answering their claim for an interim pay increase.

Scientists say that their salaries are 25 per cent. lower than they should be compared with people in other divisions of the service, particularly the executive division.

#### BEHIND

Mr. Geoffrey Williams, an official for the Institution at ERDE, said: "Negotiations have been going on for years and we have been falling behind all the time. Some people felt that this was not the right time to take action in view of the change of Government, but others decided that they had put up with the situation for long enough."

The main problem, said Mr. Williams, was that scientists were dissatisfied with the methods used to arrive at a suitable pay scale.

"Our officials have talked and talked," he said. "The Department seems willing to talk, but not willing to listen."

A young man with a scientific degree who takes a job as a junior scientific officer can expect a salary in the region of £1,318 a year, and Mr. Williams said that they should be entitled to at least £500 a year more.

#### RIDICULOUS

"The whole situation is ridiculous," he said. "Some of the younger chaps are working alongside less qualified people doing less responsible work, but who could be earning about £6 or £7 a week more."

This is the first time that the scientists have staged any national official action.

This newspaper article and the one on the next page were sent to me by David Debenham. He identified John (Blanco) White on the extreme left and Bob Brown in the centre. If anybody recognises any of the other striking scientists, please let us know.

David worked at Waltham Abbey from 1962 to 1970 and 1980 to 1990. He retired from Fort Halstead in 2000 and now spends part of his time farming in Kenya ! He runs an educational charity by the name of Sevenoak Kenya Education Trust ( SKET ). They help poor teenagers, often orphans, to complete secondary schooling, usually by sponsorship. A little money goes a long way in Africa. For further information contact David on daviddebenham@waitrose.com



# SCIENTISTS MAY BEAT SKY PIRATES

**A**N instrument has been developed at the Ministry of Technology's Explosives Research and Development Establishment at Waltham Abbey which could provide the world with the much-sought answer to the problem of sky pirates and aerial saboteurs.

This was revealed in an article by Dr. Anthony Michalski, the science correspondent of the Daily Telegraph.

This instrument can detect one part of nitroglycerine, the explosive constituent of dynamite, in 20 million parts.

## URNS PINK

It consists of a small white disc which turns pink within 15 seconds if dynamite is present in a container. The instrument itself, inside a wooden box measuring about 12in. x 12in. x 12in., will cost about

£10. It could be installed in great numbers to safeguard valuable property or be carried by bomb disposal units and police to distinguish a box from a real bomb.

A probe which is attached to the dynamite detector can quite easily be pushed into a suitcase, car boot, ships' hold or the baggage hold of an aircraft. Wrapping up the dynamite or otherwise attempting to disguise it does not have the slightest effect on the detector.

## 300 YEARS

Dr. Michalski recognises that the Waltham Abbey establishment have been practising the art and science of explosives for more than 300 years, longer continuous service than anywhere else in the world.

The director, Dr. I. J. Bellamy, told Dr. Michalski that 80 per cent of his annual budget of £12 million was spent on the wages and salaries of the 900 people employed there, including 175 professionally qualified.

## COMBUSTIBLE CASE

Dr. Bellamy also revealed that amongst the establishment's latest developments was a combustible cartridge case which is being sold to one of

TWO E.R.D.E. scientists, Mr. G. S. Welby and Dr. R. J. J. Sitkins, are pictured holding the new device which they have been concerned in developing—an instrument that detects nitroglycerine, the explosive constituent of dynamite, and which may help to foil sky pirates and bomb hoaxers.

## **Membership Renewals**

Thank you very much to all those people who were very prompt with their renewals. You should all now have your 2009 membership cards and your cheques will have cleared.

My apologies to any one who sent in their renewal during February, the membership secretary was away on holiday hence the delay in cashing your cheques and sending out the new cards. She is now back and, by the time we go to press, service should be back to normal!

Daphne Clements

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## **Rocket and Space Weekend**

A copy of the 2009 events leaflet accompanies this edition of Touchpaper. Please make a note in your diaries for the weekend of the 4th/5th of July, when we will be holding the Rocket and Space weekend.

This event was held for the first time in 2008 and was a great success, even though the weather was decidedly dodgy. We would like this years event to be an even greater success, so please try and come along.

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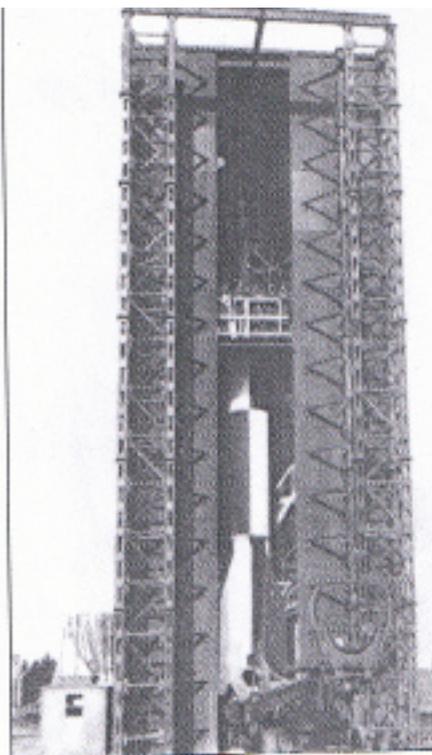
## **Touchpaper 15th December 2008**

There were two errors in the Dave Manners profile that appeared in the December issue of Touchpaper. Dr. G. Herty should be Dr. Gherty and Dr. Shepherd should be Dr. Shephard.

Both errors were the fault of the editor in not reading the original correctly nor the proof copy. Must do better.

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Deadline date for submissions to the next issue is 15th May 2009.



**WASC 2013**  
**Extract from the Archive No.4**

**The Bailey Bridge and the V2**

John Wilson's article in the December 2008 Touchpaper on the versatile Bailey Bridge called to mind an application which its inventor could hardly have envisaged.

At the end of WW2 Operation Backfire was instigated, under which British personnel, including scientists from Fort Halstead, in order to gain an understanding of the operation of German rockets, launched three disarmed V2s from their base in north Germany.

To assist inspection of the weapon in the vertical position it was mounted in an upended Bailey Bridge construction.

# A History of H10 Part 2 Continued

1971 - 1988 Malcolm Bergh

I left this history in the December issue at the point where I had rejoined WA in 1973, after leaving university. Most of H10 was occupied by Dr Reg Powell's mass spectrometry section and among his staff were Dr Ian Wallace, John Rowley, John Williams and others that I can't remember. I was in the computer office, with Wendy Day and Daphne Snazell, as a sort of one man mathematics section. Also in H10 were Dr Tony Osborn and his PA Sheila Senior, George Wilsheer the photographer and Ray (surname ?), and the two most important people in H10, Kath and Maureen, who supplied us all with tea, rolls and sandwiches.

I was working with Tony Osborn to procure a new computer system for the establishment and in 1974 we finally took delivery of a Hewlett Packard 1000 system. It cost £70,000, filled a whole room and had as much memory as a Commodore 64 home computer which appeared a few years later ! Such is the rate of progress in the computer world.

Although it was a fairly powerful computer, some of the calculations were extremely complex, especially when calculating the shelf life of double base propellants. I would have to set the program running on Friday afternoon, come in on Saturday evening to change the magnetic tapes and then get the results on Monday morning. When I came in on Saturday evening, I would stop off at the social club for a couple of pints, then report to the police office so that they could let the on site patrols know that there was someone there. One Saturday there was a bit of a mix up and as I was passing the library on my way to H10 I heard a quiet but firm voice in the dark saying "Would you mind standing very still sir, only the dog is a bit nervous.". I have never stood so still in my whole life, as the police officer radioed back to get clearance !

Eventually I was promoted to the dizzy heights of HSO and they combined the computer and mathematics sections into one and made me section leader. This entitled me to attend the monthly GC safety meeting, chaired by Tony Osborn.

I never had anything to report to the meeting, apart from rain coming through the roof of H10 and falling onto the computers. Then one month Liz Howes, who had replaced Daphne Clements, asked me to raise an item at the meeting. At the time the MOD police were on a higher security alert and had erected a chain link barrier across the entrance to the site. They would open this to allow cars in, but pedestrians would have to step over it. At the meeting I said that a member of my staff had complained about the difficulty of stepping over the fence in a tight skirt and high heels. After much discussion it was decided to ask the police to remove the barrier from the pedestrian entrance. Then, just as we were finishing the meeting, Dr. Dave Tod suddenly said “ Of course all this could be avoided if you would only stop going round the establishment dressed like that Malcolm.” I think that this could have ruined what little remained of my standing with the other section leaders.

During the early eighties, Mike Farey’s compatibility and stability section moved into H10 and Mike asked me to provide him with a computer system. He wanted it for controlling some of the stability experiments and to hold a compatibility database. He specified what data the computer should hold and how long it should take to answer a query. Then he had one other stipulation, he wanted a card printer that would give him a printed card every time a record was entered. This was so that when he queried the database he could check the answer with his card index system. Mike was a very sensible scientist and didn’t trust computers at all.

Later on in the eighties, John Jenkins took over as superintendent of GC following the sad and untimely death of Tony Osborn. John Jenkins also inherited a section of RPE Wescott in one of the reorganisations and I spent a lot of time running backwards and forwards between Waltham Abbey and Westcott, trying to look after two computer systems.

By 1988 it was obvious that the establishment was going to be closed and, not wanting to commute to Fort Halstead, I took a post in London. Details of my career after Waltham Abbey will appear in Touchpaper one day when I get round to writing the rest of my profile.

North site closed in 1991 and H10 was demolished in 1995 to make way for the housing development next to the mills. The paintings below , by Freda Titford , show H10 and H8 being burned out prior to demolition.



H10



H10



H8

Malcolm Bergh



## **Shock Archaeological Discovery in Anglesey**

There have been several archaeological discoveries which have overturned previous ideas of when technology was available to Man – the iron pillar in Delhi put up around 900 BC that has never rusted, the Sassanid Pot, the so-called ‘Baghdad Battery ‘ - a form of electro-chemical cell, the 2000 year-old Antikythera mechanism – the first ‘ computer ‘.

A recent discovery in Anglesey has thrown the archaeological world into a ferment. What was originally thought to be a Neolithic tomb has now been identified as an Iron Age nitrating hill complete with entry tunnel. It appears therefore that the techniques of chemical explosives production were known around 2000 years ago, then lost, to be rediscovered by Nobel and Abel in the 19th century.

## HELL EXPLAINED BY CHEMISTRY STUDENT

The following is an actual question given on a University of Washington chemistry mid-term.

The answer by one student was so ‘profound’ that the professor shared it with colleagues, via the Internet, which is, of course, why we now have the pleasure of enjoying it as well :

Bonus Question: Is Hell exothermic (gives off heat) or endothermic (absorbs heat)?

Most of the students wrote proofs of their beliefs using Boyle’s Law (gas cools when it expands and heats when it is compressed) or some variant.

One student, however, wrote the following:

First, we need to know how the mass of Hell is changing in time. So we need to know the rate at which souls are moving into Hell and the rate at which they are leaving. I think that we can safely assume that once a soul gets to Hell, it will not leave. Therefore, no souls are leaving. As for how many souls are entering Hell, let’s look at the different religions that exist in the world today.

Most of these religions state that if you are not a member of their religion, you will go to Hell. Since there is more than one of these religions and since people do not belong to more than one religion, we can project that all souls go to Hell. With birth and death rates as they are, we can expect the number of souls in Hell to increase exponentially.

Now, we look at the rate of change of the volume in Hell because Boyle’s Law states that in order for the temperature and pressure in Hell to stay the same, the volume of Hell has to expand proportionately as souls are added.

This gives two possibilities:

1. If Hell is expanding at a slower rate than the rate at which souls enter Hell, then the temperature and pressure in Hell will increase until all Hell breaks loose.
2. If Hell is expanding at a rate faster than the increase of souls in Hell, then the temperature and pressure will drop until Hell freezes over.

So which is it?

If we accept the postulate given to me by Teresa during my Freshman year that, 'It will be a cold day in Hell before I sleep with you,' and take into account the fact that I slept with her last night, then number two must be true, and thus I am sure that Hell is exothermic and has already frozen over. The corollary of this theory is that since Hell has frozen over, it follows that it is not accepting any more souls and is therefore, extinct.....leaving only Heaven, thereby proving the existence of a divine being which explains why, last night, Teresa kept shouting 'Oh my God.'

**THIS STUDENT RECEIVED AN A+.**

# The Puzzle Page

## The Rocket Quiz

1. Mother Carey's chicken.
2. An Italian city.
3. Fat Shakespearian
4. 'Bird though never wert.'
5. Sounds as if it should hold the Sunday joint together.
6. Passed by Parliament.
7. Used to track criminals.
8. Tragedy in children's playground.
9. Native hunting weapon.
10. A nudi branch
11. A bare interruption to a rugby match.
12. Brightest star in Ursa Minor.
13. Fine fencing weapon.
14. Used in field sports.
15. Large snake.
16. American desert snake.
17. A planet.
18. French flying fish.
19. Warning signal.
20. A lupine marine.

All the answers are names of rockets.

Contributed by Bryan Howard.

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### Answers to the December Touchpaper Quiz.

1. Skate
2. Carp
3. Witch
4. Kipper
5. Pilot Fish or Flying Fish
6. Dory
7. Weaver
8. Perch
9. Perch
10. Whiting
11. Dab
12. Fiddle fish or Bass
13. Nurse hound
14. Sole
15. Snapper
16. Smelt
17. Mackerel
18. Flounder
19. Herring
20. Conger

**ROYAL**  
**GUNPOWDER**  
**MILLS**  
WALTHAM ABBEY

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