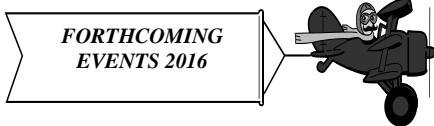


*Spring is here—at least from time to time, and we are looking forward to arriving at meetings in the light. It also means our AGM is imminent, and you should find all the details in a letter along with this newsletter. Subs will be due at the AGM, but don't worry if you can't get there, as a reminder will go out with the next newsletter, but we hope you will be able to join us for what will be an interesting evening.*

*To continue celebrating our 20th birthday, our back page features a list of projects which we have achieved during our existence. We think this is quite a list, and would like to thank everyone for their continuing contributions, interest, and support.*



*All talks are held at **St Mary's Centre for the Community, Stream Close, Byfleet** and will begin at **8.15pm** (except for the AGM which begins at 7.30pm)*

**Thursday 8th September: Jim Allen** reviews the **Local Stars of Variety and Music Hall**. Come and find out about the stars who lived nearby.

**Thursday May 19th: Society AGM** (Please note earlier start time of 7.30pm), followed by Byfleet Heritage meeting. Join us this month as we celebrate the 20th birthday of the opening of the Heritage Room. **Mike Webber** takes us through **"The Changing face of Byfleet as seen by David Chapman in 1971."** A look again at the pictures that made up David Chapman's exhibition in the Library.

**Thursday 6th October: Members' Short Talks.** This month, our members take the floor with short talks on their own subjects of interest. Come along for an evening of variety and interest.

**Thursday 3rd November:** Join us as we meet the **Lord-Lieutenant of Surrey, Mr Michael More-Molyneux**.

**Thursday 16th June: Helen Gristwood** tells us about her research into Broadoaks in **"Broadoaks: the story of a house."**

**Thursday 1st December:** Christmas Social. Join us for a mince pie while **Mike Webber** reviews the **new photographs** the Society has come by throughout the year. Don't forget, we are always pleased to see your photographs and to take scans for our archive.

**Thursday 14th July: Speaker TBA**

**Members free, Guests £2  
Everyone very welcome!**

**Don't forget—if you have a topic or an idea for a talk, please let us know.**

After Phil Wilson's interesting talk in April on the history of maps and mapping, Jeff has found that the National Library of Scotland web site allows you to browse the Ordnance Survey six inch maps of England and Wales from 1842-1952. Not only this, they now allow you to look at the old map and then, by sliding the transparency bar, look at it overlaid on to a current aerial image.  
Hours of fun can be had at <http://maps.nls.uk/os/6inch-england-and-wales/>

## For the Record...

We kicked off 2016 with a talk by **Chris Glasow** entitled “**A Trip Down Memory Lane**”, exploring mankind’s use of technology, particularly memory systems, from Stonehenge to computers.

Man’s use of these systems goes back further than you might think. Stonehenge is a famous example, built around 3500BC to provide a way of understanding star patterns. Stonehenge was used to mark the solstices, or the northernmost and southernmost lunar moonsets, which were important for marking not only the timing of rituals, but also the farming year.

In around 2500BC, the Chinese were using a device to ‘remember’ which way was south, using a south pointing chariot. A figure was placed on top of a chariot and set to face south. Then, using a system of differential gears, the figure stayed pointing south. But perhaps the most complex instrument of all the ancient devices was the Antikythera mechanism. This was found in the Aegean sea by sponge divers in around 1900, in a Roman ship wreck. At first it seemed to be an unpromising, corroded lump of metal, but closer inspection revealed a series of cogs, which when reconstructed made a calendar that predicted and computed eclipses, moon phases, the zodiac, the movements of the planets and more. Being built c 80-100BC, this is incredible technology.



However, early knowledge of gearing was lost to Europe, and clockwork travelled to the East where the first astrolabes appeared, which only travelled to the West much later. Clocks appeared in Europe in the 15th century, and later clockmakers in Switzerland began to produce automata to show off their mechanism making skills. Jacquet-Droz made three dolls in the 1760s, a writer, a musician and a draughtsman. The punch card mechanism which allowed the dolls to perform these tasks is thought to be the earliest form of programmable memory and the oldest example of a computer. The use of punch cards developed, with Basile Bouchon’s Loom (1725), an example of programmable weaving, and Hollenth’s punch cards (1887) which could do a range of calculations. The first memory storage on magnetic tape took place in 1928, and Fritz P Fleumer’s Magnetophon later played the first public recording on November 19th 1936—of the London Philharmonic Orchestra.

Chris explained how computers use memory. The Central Processing Unit (CPU) needs to store information, but also to know from where to retrieve it. It uses a cache memory to move data back and forth, but which clears each time the computer is switched off. This is quick, but the information is not kept. There are two ways for the computer to access the information it needs: sequentially, like a tape, which means the computer has to run through all the information to get to the correct point, or Random Access, which is quicker as the information is accessed via an address based on a grid system. Random Access Memory (RAM) is the basis of the hard disks and memory that we now use. When the computer is switched on, the operating system is loaded from the disk to the RAM, with the Basic Input Output System giving the CPU instructions on how to access the information it needs. However, when the computer is switched off, this memory is wiped. Hard disks provide a non-volatile way of storing the operating system on the boot disk which contains instructions for the computer to start everything in the right order. The term “boot” refers to pulling yourself up by your bootstraps. The CPU takes the information off the hard disk in a certain order, loading it into the RAM and going back to the disk to load the next stage. Early computers, such as those pioneered at Bletchley Park, had to have each part of the start up program loaded manually, using paper tape to run a program showing the computer how to access the hard disk.

The first real high speed memory was the drum memory, with data stored on a magnetic drum with head readers. This was a big advance on paper tape, but of low density. Then in 1946, the Williams-Kilburn tube was developed, using a cathode ray tube to store binary data and forming the first RAM device. This was further refined to create the smaller, lighter Selectron Tube. In 1949, research was carried out on the Delay Line Memory, using mercury; this provided a good way of storing data, but was sequentially accessed, and so too slow. The 1950s brought in the more successful Core Memory, where power fed through ferrite cores could be switched on and off. After this breakthrough, things advanced quickly, and sizes started to reduce.



The biggest advance in computer memory came in 1954 when Reynold Johnson developed the hard disk drive for IBM. In these drives, a magnetic platter rotated beneath an actuator arm which moved the heads which read and write the information to and from the disk. The technology involved in these disks means that the platter rotates at 7,200rpm. Air is sucked under the head at approximately 80mph, keeping the head floating above the platter at 100nm above the surface. When you consider that a human hair measures approximately 75,000nm, you can appreciate the precision involved. In the high density disks that you can now buy, the head flies at 10nm!

Who knows what wonders the future will bring as each development is refined and improved. We thanked Chris for a look at the way mankind has moved from stone calculators, to clockwork gearing to the incredible precision engineering of today.

February saw a welcome return to **Iain Wakeford** who took us on a tour of **Old Woking As It Was (and Will Never Be Again)**.

Iain began his tour in Rydens Way, formerly farm land, and part of the common fields of Old Woking. It had been the scene of strip farming in medieval times, and the area was known as Town Field. The two other open fields in the area were King Field (now the Woking College site) and West Field, split into Upper and Lower, where the football stadium now stands.

A picture of a farmer with his carthorse contrasted with one of Rydens Way in 1965, after the present housing had been built. There has been recent controversy over the open, grassy area near the college, which the residents wanted to keep as a village green. The land was originally left clear to be used in the building of the proposed Woking By Pass in the 1920s. The developers agreed to leave it clear, but wanted the land back for housing if the By Pass did not appear. Once the By Pass was finally declined in the 1980s, the developers made good on the original agreement, so despite arguments to the contrary, their actions are legal.

The original footpath cut across the fields that now house the 6th form college, going from Old Woking Church to Horsell Church. This has now been diverted around the edges of the former fields.

The timber framed building on Old Woking High Street is a lucky survival. It was almost demolished in the 1930s when road widening was planned, but this did not take place. It dates from the 16th century and is probably an open hall house. There is another one opposite, although this is not so noticeable as it is more set back and has had a front added in the 18th or 19th century.

The petrol station was once a car showroom. Iain's picture showed that the beautiful cars on sale would have set you back £200.

Old Woking has always been vulnerable to flooding, the last ones as recent as 2014 and Iain showed pictures of other floods from the 1900s and 1928. The Wey Valley relief scheme in the 1930s was supposed to stop flooding, but plainly hasn't, as Iain's pictures of the famous 1968 floods plainly showed. An aerial photo of these shows three "islands" in the area, containing the mill, the church and Woking Palace—earlier residents obviously knew where to put their buildings.

The Mill was used to process corn, then snuff, then paper. Then Unwins moved there from Chilworth, and it is recorded that some workers used to walk from Chilworth to Woking and back again each day. The Mill has now been sold to developers, who were supposed to keep the old frontage, but sadly they have stripped the roof and demolished much of the site and original mill buildings.



Iain also showed reports from 1874, when a traction engine pulling a threshing machine fell through Broadmead Bridge, which at that time was an old wooden bridge. One man was killed at the scene and one man scalded so badly by steam from the engine that he later died of his injuries. The bridge was patched up, but a new one was not built until 1919.

Many of Old Woking's old buildings have disappeared since the 1870s, and although it has been designated a Conservation Area since 1976, there have been several new developments. However a house called the Old Manor House still stands, although this is not the manor house for the manor of Woking, but rather a for a sub manor of Emley. The Brewhouse still survives, the home of the brewer, with the brewery probably running behind the house toward the Wey.



Old Woking used to have an array of shops. The Post Office in London House used to be a drapers, with A C Flemings opposite on what is now Manor Mews. Opposite the Brew House originally stood the White Horse Hotel, a coaching inn. There was an archaeological survey carried out before its demolition, but only the foundation trenches had been looked into. Iain thought these were probably not deep enough to reveal anything significant, as it seems very strange that a site in the centre of town going back centuries should offer no finds.

Old Woking was granted a market charter in 1665, and the Market House stood opposite Church Street. The back wall of the cottages there are said to be the old wall of the Market House, and the dotted line in what is now the middle of the road would have been its front. The timber framed buildings which stood opposite it were rebuilt in 1908 as the present row of houses.

Even Church Street, which looks old and untouched, had changed. The old almshouses which stood at the beginning of the street were now gone, and other cottages were replaced in the 1950s. The 17th century house Wylea is so tall as a former resident who lived across from the church had fallen out with the vicar and so made built a house tall enough to block out his view of the church.

Woking Palace has had its effect on the layout of Old Woking. The sharp corner in the road as you come from Byfleet came about to divert the original road around the Palace deer park. One of the few remaining parts of the palace above ground was used as a barn for Woking Park Farm. There are various theories as to its original use, ranging from the King's private hall, to an accommodation block, to a royal tennis court.

Iain shared many more pictures and snippets about Old Woking as it used to be, and we all enjoyed an interesting step back into the past of our near neighbour.

In March, Dick Alder came to tell us about the **Ancient and Heritage Trees** in Elmbridge. Dick's project was to record the old and interesting trees in the area onto a database, and this became something of a personal crusade. The measurements and grid references of the trees were recorded, and most have been photographed. Dick and his colleagues also researched all references to trees in local history. There are now about 3,500 trees recorded. The database records native trees, and must measure at least 5m around to be included. Many large trees have been planted by man, and some species we consider native are in fact alien, such as the Horse Chestnut, which was introduced in 1616. The term "ancient" also varies according to variety; for instance, oak trees can live for hundreds of years, and yew trees even thousands, but a birch may only last 100 years.



The Painshill Park cedar

Dick showed us a wonderful variety and number of beautiful trees, and there is only room here to recount a few of them. Local lore says that Joseph Spence, 18th century poet and writer who lived in Byfleet, planted 500 pine trees on St George's Hill before 1768, but Dick still has to gain access onto the estate to see if any of those trees remain. However, he has been able to get to the Brooklands Oak, situated at the top of Brooklands Museum. It is one of the biggest in Surrey, measuring 26ft around the base. Caens Wood covered the area 200 years ago, but was mostly cleared for Brooklands racetrack. This tree possibly survived because it was on the edge of the forest, or perhaps it was an old boundary marker. Also at Brooklands Museum is a large cedar planted in 1906. The track cut through the hill on which the first Brooklands House was built in 1768. This had a large lawn with a cedar tree. When the track was built, the cedar tree was kept and is now the last remnant of the house. Dick has found that many of the old trees on his database have survived because they were formerly part of aristocratic parks and gardens.

Churchyards can also be the home of ancient trees. Weybridge church is a new building from about 1840, but the site is old, and the churchyard contains an old Strawberry tree, arbutus unedo. This is native to Ireland, and the fruit is actually horrible! Near the wall of the same church is a Hybrid Buckeye, grafted onto a Horse Chestnut. Dick reckons this is the largest of its kind, although now perhaps on its way out.

Local legend can slightly embroider the truth. James I is reputed to have planted mulberry trees at Oatlands Palace to provide food for silkworms to aid the English silk industry, and while there are some mulberry trees in the area today, Dick doubts that any of them are old enough to be James' trees. Also, sadly for James, his good intentions for the silk industry went astray, as the mulberries were the wrong type for silkworm food. Oatlands Palace is where James' son, Charles I, spent his last night before his trial at Westminster. Charles' gardener at Oatlands was the famous John Tradescant, who collected plants from all over the world, some of which may have been planted at Oatlands. After Charles' execution, Cromwell chopped down all the trees at Oatlands to sell for timber. There is a large Cedar of Lebanon in the park, which has a plaque recording that it was planted in 1645 to celebrate the birth of Prince Henry, but Dick says that sadly the tree is not old enough for this to be true.

Burhill Golf Club is home to a dozen very large oaks that sit along the original road which once led to the old Burhill House in the 1700s. The house had gone, but the trees remain, and Dick said that a former captain of the golf club would fine any golfer who hit one of the trees. There are also some 200 year old oaks at the Scout campsite at Walton Firs, which would have lined the original road from Hersham to Cobham before the Seven Hills Road was built.

Whiteley Village is proud of its Arolla Pine which was planted by King George V in 1921, while Painshill Park has the largest tree in Elmbridge, and perhaps Surrey. Their Cedar of Lebanon is 36ft around the base and 120ft tall, and was planted by the Park's original owner, Charles Hamilton. There used to be a large, rare example of a Pencil Cedar, once the largest in Britain at 12ft around the base, but this has now gone. However, a cutting was taken from the original tree and planted, and this is now 6ft tall.

Dick finished on the wonderful Downside Oak, possibly the oldest tree in Elmbridge. It is 27ft around the base, and possibly 600 years old. The field in which it stands has now been bought, and Dick is keeping a keen eye out to watch what happens.

I have only been able to cover a selection of the beautiful trees that Dick showed us on the evening, and we were all inspired to get out and about this summer to see some of them for ourselves.

I have only been able to cover a selection of the beautiful trees that Dick showed us on the evening, and we were all inspired to get out and about this summer to see some of them for ourselves.

The Downside Oak



**“Putting Byfleet on the Map”** was the subject of our April talk, given by **Phil Wilson**.

Phil had originally wanted to be a land surveyor, and joined the Ministry of Defence with this in mind.

However, he found he was not too fond of being out on gunnery ranges in all weathers (although now he loves being outside), and after 18 months, he went into cartography instead at an indoor desk.

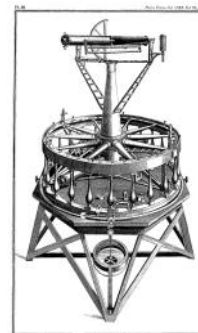
Phil took us on a tour of the precursors and origins of the Ordnance Survey, illustrated with maps of the local area. He began with the John Norden map of 1607. King James I wished to take an inventory of all his parks, and the Norden map shows their size, who owned them, and even the number of deer that lived in them. The map was not mass produced, but a few copies were hand drawn on vellum, and John Speed produced a map based on the Norden version in 1610. These maps were very pictorial, being more concerned with the positions of churches, parks and manors, rather than roads. Interestingly, Phil noticed that Woodham Lane appears on many of the early maps.



In the 18th century, William Roy carried out a body of work which nicknamed him “the father of the Ordnance Survey”, which was formed in 1791, a year after his death. Roy was a Scots engineer, surveyor and cartographer, who had surveyed roads for the Post Office. Then in 1747 he joined the campaign to map the Highlands. This project brought about a need for consistency in map-making, and Roy also found a way of shading and representing high ground not previously done. Roy took 8 years to map all of Scotland.

Roy’s next task was to take part in the Anglo-French Survey from 1784-1790. This was to map the relative positions of the Greenwich and Paris Observatories, and it was Roy’s work on this project which developed into the work of the Ordnance Survey. The distances would be calculated using a series of triangulations. This required a reliable baseline from which to measure the triangles. The first base line, the Hounslow Heath baseline, was measured from Hampton Poor House to King’s Arbour, near a little village

called Heathrow. To complete this task, Jesse Ramsden, a clockmaker and engineer, created the Great Theodolite. This was made of brass, weighed 200lbs and measured 4ft across, but was extremely accurate. But it had to be manhandled to all of the measuring points, wherever they may be. It was transported between locations in a carriage with the best suspension of the time. Ramsden took three years to complete the theodolite, which annoyed Roy, as he could not use his baseline measurement until the instrument was ready, which led to the two men falling out. Roy died before the project was completed, and Messrs Mudge, Colby and Dalby carried on. The theodolite was even erected at the top of St Paul’s cathedral to take sightings, with a man staying in a tent up there at a height of 355.5ft for several days.



Other non-military map-makers were completing their own surveys. William Fadden (1790), and Lindley and Crossley (1789-90) surveyed the land-owners of Surrey. Lindley and Crossley based their map on Roy’s work, and is known as one of the first really accurate maps of the county. John Cary’s Survey of Roads from London (1790) showed all the things you would see along a certain route, along with information such as where to buy your ticket for the turn pike, and the names of the owners of the land you were passing.

The Ordnance Survey was created in 1791, and in 1801 produced the first 1” to 1 mile maps, a series which was completed in the 1870s. In 1841, a fire at the Tower of London meant that the Survey had to move from their base there to an empty barracks in Southampton, where they have been ever since. In 1855 photography was introduced as an aid to map making, but the basis for the 2” to 1 mile maps were pen and ink drawings done on the spot, which were later engraved in reverse onto metal plates ready for printing.

The OS 6” to 1 mile maps of the 1860s-70s show a huge level of details, while the 25” maps were produced in colour, the shading being done by hand by boys or women on piece work. The OS produced a booklet to go with each Parish, giving details of landowners’ names, the acreage and a description of the land’s use.

If Byfleet’s population had exceeded 4,000 in 1850, the village would have been mapped at 1:500, like Guildford, Dorking and Chertsey. These maps were extremely detailed, and the surveyors even measured the insides of public buildings. However, the series was cut as being too expensive.

Today in Byfleet there is little evidence of the early surveyors and map-makers. The bench marks have gone and many of the high towers used have disappeared. There should be a bench mark on one corner of St Mary’s Church, but Phil has been unable to find it. There is also a trig point on top of St George’s Hill, from the 1930s, but this is not on public land.

Phil finished by showing that Roy’s original base-line markers still survive, and two upturned cannons mark either end of his Hounslow baseline. This completed a fascinating look at early mapping in Surrey.

?  
**SOCIETY NEWS**  
 ?

I'm sure I'm not the only one who is a bit bamboozled to realise 2016 is our 20th birthday, and I thought it would be a nice trip down memory lane to review the projects that the Society has completed over the years. These are the ones I've compiled by going back through the Society's files, but if anyone remembers any more, please shout and I'd be delighted to add them to the list.

Many of these could not have been completed without the support, help and interest of our members, for which we are very grateful, and we look forward to many more interesting and fun times ahead.

As you will know, the Heritage Room at Byfleet Library opened on 1st February 1996. Since then, we have:

- \* Won the Interpret Surrey Award 1996 for our Heritage Room
- \* Compiled a self guided walk leaflet around Byfleet for Woking Borough Council
- \* Ran a poster competition with the local schools to design a poster for the heritage society
- \* Produced a Quiz for the Golden Jubilee based on the heritage room for children visiting the library
- \* Republished L R Stevens' book, "Byfleet A Village of England "
- \* Set up the Byfleet Oral History Group who collected a number of interviews, and are still active today
- \* Threw our 10th anniversary celebrations with a play by the Woking Community Play Association
- \* Set up a temporary exhibition of Rev Callendar Wake's daughter's collection of pictures which she donated to us
- \* Erected a plaque to Howard Cook inside the Village Hall
- \* Ran a temporary exhibition at the Bowling Club to commemorate and celebrate Howard Cook's life
- \* Ran a photographic competition which led to the production of our yearly calendar
- \* Set up the St Mary's churchyard interactive website  
and
- \* Erected the blue plaque to the Stoops at the Village Hall

Our Chairman, Jim Allen, also produced his book, "Byfleet and The Great War", which went into reprint, and the committee continue to attempt to keep Byfleet Fire Station as a well-loved feature of our village.



**From Our Archive**

This photo of High Road is from a little booklet entitled "Byfleet and its Environs". The booklet is undated, so if anyone had any ideas on the date of the picture, we'd love to hear from you.

There are several differences, including the buildings next to the pub, which is now open car park, and the fence and trees along what is now the open Plough Green. Also—no need for drivers to weave in and out of the parked cars that now line the roadside!