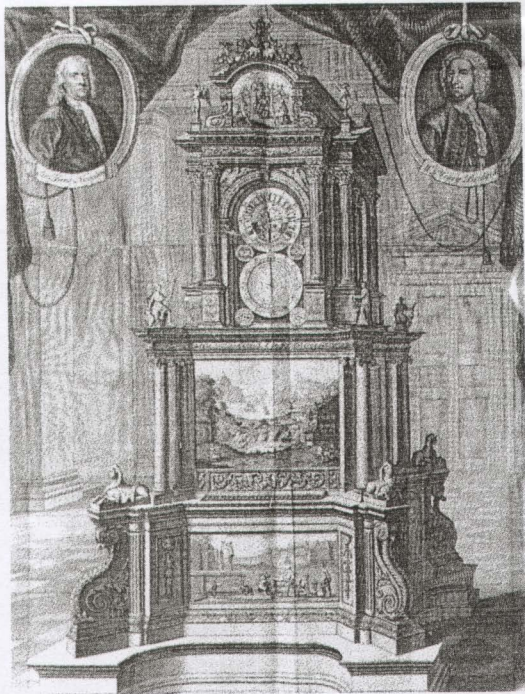


WASC 1979
wai 490

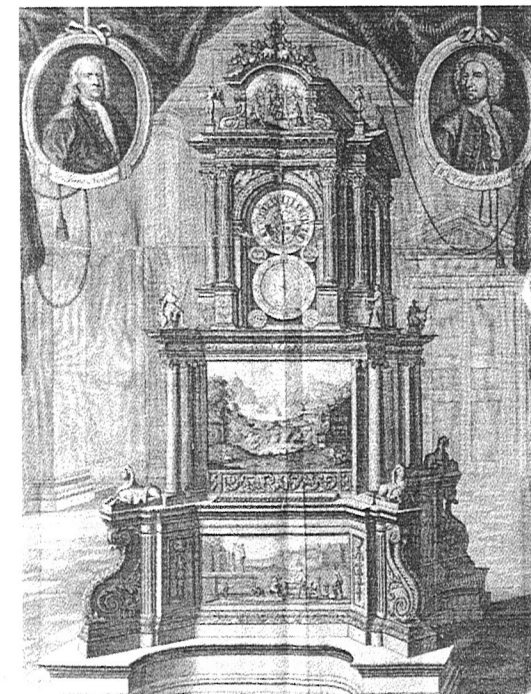
Copy of Microcosm
image and
Winter commentary

The Microcosm. Apart from a great deal of astronomical data, the moving parts included ships, coaches, carts, horses, a windmill, various animals, a gunpowder mill with a flow of water, workmen, maids, a carpenter's yard and two boys playing see-saw!





The fame of Henry Bridges rests on one achievement only, the construction in about 1734 of an elaborate monumental clock called the Microcosm. In 1741 it was on view at the Mitre near Charing Cross, and was purchased by Edward Davis. In 1756 it was exhibited in America, after which nothing is known of it until it was recognized in Paris after the First World War and bought by the British Museum.



The Microcosm. Apart from a great deal of astronomical data, the moving parts included ships, coaches, carts, horses, a windmill, various animals, a gunpowder mill with a flow of water, workmen, maids, a carpenter's yard and two boys playing see-saw!



The monument, in Waltham Abbey churchyard, to Henry Bridges, who died in 1754.

Walton, second daughter of William and Philippa, both late of Balam, in the parish of Streatham, and county of Surrey. She died unmarried 29th May, 1772, in her 66th year.

There are but few vestiges of the ancient works remaining that were known in the quiet days of the merchants. Some of the old buildings are extant that were in use in John Walton's time. A fine pillar sun-dial still exists in the Government works, which formerly belonged to John Walton, and upon the metal plate of it appears the name engraved of its owner. This dial has stood for, at least, one hundred and fifty years on the green sward approximating the offices of the Royal Works. John Walton was a person highly respected in this town, as stated by John Farmer. Henry Bridges, a local horologiographer, paid a noble compliment to Mr Walton by the insertion of a clever portrait of the Gunpowder Works on front of a beautiful timepiece made by himself. Henry Bridges was by trade a carpenter; he laboured for nine years in constructing what was then considered a most wonderful musical clock, or *Microcosm*. This clock struck the hours in the notes of a cuckoo, and the dial of it was illustrated with various astronomical signs. The adornment of the lower part of it consisted in rural scenery, with a picture in miniature of the Gunpowder Mills. Many were the Waltham bards who sang to the praise of worthy Master Bridges, whose remains have rested upwards of a century and a quarter beneath a pyramidically-shaped tomb on the right hand side of the churchyard path leading to the south entrance of the Abbey Church, and directly under the shadow of the large elm tree. Of him *Philotechnos* sang—

“Nor need you fear the want of being known,
Since Britain's masterpiece in yours is shown.”

The same local poet sang of John Walton and

W. Winters 1857

his Gunpowder Mills, as portrayed on Mr Bridges' clock—

“A Mill for making of Gun-powder's there,
And Water flows amazing and more rare;
Which from a model on River's took
Of worthy Walton's Works; (whose soul can't
brooke
With thing that's mean; but like a generous Heart,
Encourages all learning, Honesty, and Art).”*

The poetry of *Philotechnos*, of course, can only be regarded now for the local history interwoven in it, and not for its loftiness of diction.



ACCOUNT OF THE GUNPOWDER WORKS FROM 1783 TO 1811,

By SIR W. CONGREVE.

STATEMENT of facts relative to the savings which have arisen from manufacturing gunpowder at the Royal Powder Mills, since the year 1783. Dedicated to the Right Hon. Lord Mulgrave, Master-General of the Ordnance, by W. Congreve, Comptroller of the Royal Laboratory, 10th April, 1811. The writer says:—“These sheets have been written to satisfy the public with respect to the economy of manufacturing in the Royal Gunpowder Mills instead of purchasing whole supply from contractors, and to show the great improvements that have been made

* Farmer's History of Waltham Abbey, 1735, p. 12

TOURS AND OPEN DAYS AT COPPED HALL.

Guided tours of Copped Hall, lasting about two and a half hours are conducted on the third Sunday of each month. Tours cover the gardens, part of the mansion, the cellars and the stables. The gates on Crown Hill Upshire are open from 10 am and the last entry is at 11am. Tea, coffee and home-made cakes are available in the Racquets Court, and second-hand books are on sale in the Education Room. The next Tour Day is Sunday March 20th and the cost is £7.

The Musical Clock or Microcosm made by Henry Bridges.

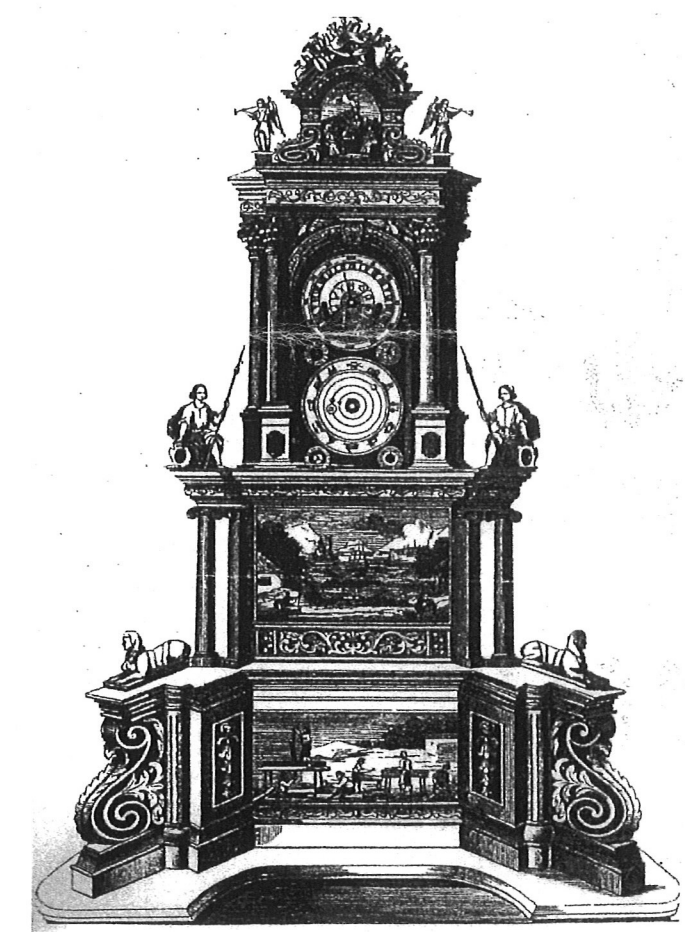
Peter Huggins

Many members will have heard of the Musical Clock or Microcosm made by Henry Bridges, the carpenter, and may have wondered what part of it he actually made. John Farmer, in his History of Waltham Abbey of 1735, included a small engraving of it and eulogised over it, saying Henry had spent nine years of study and application in its construction. Henry had bought six copies of Farmers' book, perhaps to suggest he was something more than a run-of-the-mill carpenter.

Although the mechanism of the clock has been in the British Museum since 1958, it is not on show. The mechanism or movement of the clock is all that survives. It was re-discovered in Paris in about 1920; it then ended up in the Ilbert Collection and was bought by the Museum. The 'case' is said to have been destroyed at the French Revolution. It has been more recently housed in a modern case which stands like a grandfather clock.

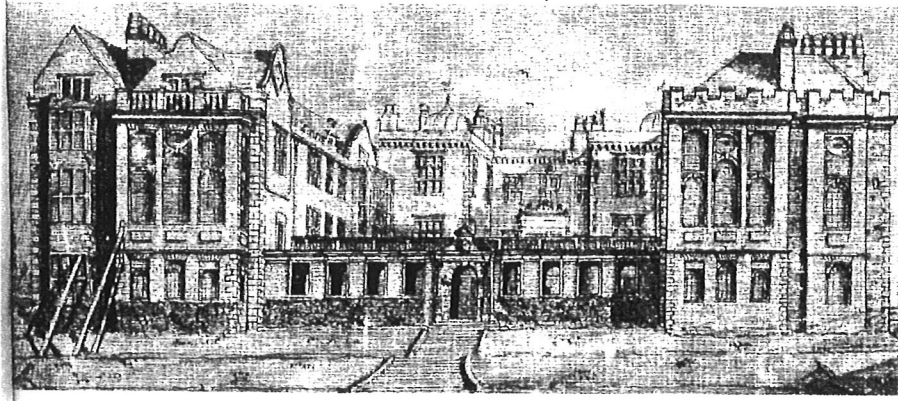
Henry Bridges married well. His wife was Sarah Trevis of Stapleford Tawney. Sarah's father, out of 'love and affection' for the pair, devised to them the fine house, No.41, Highbridge Street; this is presently St Kildas, but was then known as the Falcon. After Henry's death in 1754, his son James sold the freehold property to Thomas Jessopp and so began the long connection of that legal family with the property and to No. 39 which until recently housed Curwen, the solicitors.

As can be seen from the illustration, the clock has two main dials. One tells the time of day, the other is of a Copernican planetarium. There are four small dials which together tell one everything one could wish to know about the movement of the planets, the position of the sun, the time of sunrise and sunset, and the phases of the moon.



The Musical Clock or Microcosm by Henry Bridges the engraving is from a French source

The clock and the Bridges family are of special interest to Barb Drummond, a researcher of Bristol. It was she who invited me to join her to see the clock in the reserve collections of the Museum a few months ago. Barb is particularly interested in Henry's son James, born in 1725, who was the architect for the renewal of Bristol Bridge. This James was apparently rejected by society in Bristol and ended up with estates in Antigua.



The Tudor Copped Hall

The building had become run down and renovation work was considered before plans were drawn for a grand new Palladian mansion. In the end only the main block was actually built. Prior to demolition about 1750 two drawings were made by the architect Richard Newdigate. The details of the outside and plans of the ground and first floors have been invaluable to the archaeologists.

The 'new' Copped Hall was built on a different site to the south-east. Part of the demolished area was landscaped as gardens and although much material from the original walls was robbed out some remained. These included a brick and stone pillar, and parts of the cellar of the east range which were recorded in 1984 by County archaeologists

The first WEAG dig in 2002 was to investigate the area around this standing pillar. Brick and tile drains were found, probably from just below the courtyard. There were two narrow brick walls and another about 3 feet thick that matched the position of a fireplace on Newdigate's plan. The next year a new trench was opened, in an area that had been a rose garden in the 19th century. Cellar walls were revealed with more being uncovered in following seasons. Their position in the south-eastern part of the great hall corresponds with the 1748 ground floor plan. Below-ground evidence suggests this is the oldest part of the original Hall. Although the bricks can only be generally dated to c.1450-1650, there are clues from the position of walls butting each other and the type of mortar and coursing.

Annual excavations since 2003 have provided more details of the structure of the Hall and ways in which it has been altered. There was a lot of demolition back-fill in the cellar and when removed part of a polygonal stair-tower was found. The 18th century plan showed that this led from the cellar to the great hall, and five steps survive to a height of about 1m. Underneath the staircase was a wall, evidence of an earlier structure. It is thought the spiral staircase was built to reach the upper part of the Hall where the rooms were grander as the existing layout was becoming old-fashioned. Many of the walls seem to have been built on crushed brick and this would have required a lot of work to create firm foundations; perhaps this was the reason for building the new mansion on a different site.

A geophysical survey by WEAG was carried out before the first excavation. More recently a ground penetrating radar survey by the University of East London on the lower great lawn showed a round feature. It had a circular platform about 7m. in diameter. Excavation uncovered massive foundations, probably dating to the 16th century and it is currently interpreted as a dovecote. Other work in this area has revealed pebble paths, landscaped layers and garden walls

The finds include pottery from the 13th to 17th centuries, both locally made at Harlow and near Ingatestone as well as imports from France and the Rhineland; floor tiles of similar date; a 1471 penny; the rim of a glass vessel used for urine inspection and a quick health check, and a clay pipe bowl which commemorated 100 years since the Enniskillen Regiment took part in the Egyptian Campaign of 1798. Christina illustrated her talk with these clues to human activity on the site as well as views of the field archaeology, and this provoked a lot of questions about the history on our doorstep.

The clock was such a wonder that it was exhibited by Henry and James around the country, and people would pay to see it. Sarah Bridges died first, in 1744, her name can be read on the obelisk memorial near the south-west corner of the present Lady Chapel. After her death Henry took the clock on tour. His inscription tells that Henry died in Hull on 27 June 1754. We know that the inscriptions have been re-cut. Barb thinks that at this time, Hull was misread for somewhere in Norfolk; I must try to find a newspaper reference to this event.

The clock is strangely dedicated to another James Bridges. The wording on an engraving of 1734 says: 'To the Most High Puisant and Noble Prince James Bridges, Duke and Baron of Chandos, Marquis and Earl of Caernavon, Viscount Wilton'. Whether there is any family connection is not known. But such people might well have offered financial support to such a venture.

The house was left to the son James who soon sold it. Third parts of the clock were left to a daughter Sarah, and two other sons, David and Thomas; Thomas had property in the Market Place, this needs to be followed up. Sarah remained a spinster and in her will left all her estate to Thomas Martin, who was said to be 'by nature a black'. One wonders if this will take us back to Antigua. What a wonderful story there is yet to unfold.

VICTIMS OF CRIME IN 16TH CENTURY WALTHAM.

Minnie Fenton

The consequence of being found guilty for a criminal offence in the C16 resulted in a gruesome outcome. In the Market Square stood the Old Market House; (demolished in 1852) attached to one of the immense pillars supporting this building were the stocks or whipping post dating back to 1598. This 'instrument of torture' measured about 5'9" high, and was made of oak with iron clasps for hands and feet.

In 1859 Edmund Littler stated 'it is now 35 years since the stocks were used, - except in fun by the school boys of the Parish'. The stocks later stood near the entrance to the Girls Sunday Schoolroom opposite the Church, 'Exhibited', says Littler 'not in terrorem, but in memoriam of the old-fashioned modes of punishment in this town'.

THE NEW RIVER

(The following article is taken from a leaflet produced by Thames Water entitled The New River Path)

'The New River is neither new nor a river. It is a water supply aqueduct completed in 1613 to bring drinking water from Hertfordshire to London.

Before 1600 London's water supply was limited to the River Thames, local streams, wells and springs. These sources, often contaminated, were distributed by sellers carrying water in wooden buckets. In 1600 Edmund Colthurst considered bringing water from the springs of Hertfordshire and Middlesex to London. In 1606 an Act of Parliament granted the Corporation of London the power to make a 'New River' to bring water to the city from Chadwell and Amwell.

In 1609 Hugh Myddleton began work on the project. He employed Edward Wright to survey and direct the course of the river, and Colthurst as overseer. By 1611 Myddleton realised he hadn't sufficient money to complete the work. King James I agreed to provide half the cost of the works on condition he received half the profits, and that the New River should be constructed through his palace grounds at Theobalds.

The New River followed the 100 ft contour of the Lee Valley. The total fall on the 62 km original course was only about 10 cms. per km. Over 200 labourers were paid 10d a day to dig out the channel, while carpenters received 1s 2d to wharf the banks and erect bridges. Banks were raised and strengthened with clay to stop leakage. The water was brought into the city streets through hollowed out elm pipes.

The entire scheme was completed in 1613, at a cost of £18,500. An opening ceremony took place near the New River Head in Islington, and other celebrations were attended by the Lord Mayor and Aldermen of the City of London. The New River Company was created in 1619 with Hugh Myddleton as the first Governor'.

While searching through old copies of Essex magazines at the Puddephatt Rooms we came across the following poem, which includes the names of 22 Essex villages.

A Ballad of Essex

Young **Harold Wood**, with flashing eye,
Set out to court his love.
He wore his **Stock** and **Matching Tye**
His purple hat and glove.

He drove his gig and prancing **Grays**
Through sunshine and through **Rayne**,
'Good steeds, **Runwell**, and speed my ways
To see my love again'.

He'd brought her presents from the town,
Goldhangers for her dresses,
A **Bobbingworth** full half-a-crown,
And gold combs for her tresses.

His love she dwelt on **Southend** pier,
Her name was **Margaret Roding**,
She watched to see her man appear,
But felt a grim foreboding.

Howe Green the trees, how blue the brook,
Thought Harold as he drove,
Yet villain **Blackmore** black as rock,
Was lurking in the grove.

'I'll smite,' said he, 'until he die,
Where'er the blow **Mayland**,
And when **Ingrave** I see him lie
I'll claim fair Margaret's hand.

He **Boreham** down and Harold fell
In **Messing** and in mire,
The villain galloped off to tell
Margaret the news so dire.

'Your love is dead, fair maid' quoth he,
'Your hopes are gone for **Good-
Easter** our wedding day shall be,
Forget yon **Harold Wood**'.

'**Baddow** bad was the deed you did,
My love will never waver'
Said Margaret as her tears she hid,
'Go, marry **Magdaline Laver**.'

Poor Margaret died at last a nun,
For men she'd naught but loathing.
From **Steeple** tall the bell is rung,
It tolls for **Abbess Roding**.'

Subscriptions

If you have not yet paid your subscription for 2011 the treasurer would be pleased to hear from you.

Single ----- £7.00

Two people at one address----£10.00

Copy date for the August issue is July 10th. Please send articles for inclusion to Jean Church,
Monkwood Ave., Waltham Abbey EN9 1LB

26,