

London's Lost

In 1852 a telescope stood on Wandsworth Common in London. It was the brain child of one man, the Reverend Mr. John Craig, vicar of Leamington Spa, and it represented the biggest refracting telescope in the World at the time.

In about 1849, the Rev. John Craig approached several engineers and opticians to start work on his dream telescope - the world's largest refractor.

He presumed that by employing the skills and expertise of professionals, the instrument would be the very best. However, a phrase that sums up Craig is, "if a job's worth doing, then do it yourself"; for while he sought the opinions of experts on a number of projects he would often mistakenly promote his own; inevitably the more deferential would be carried along swayed by his vigour and enthusiasm.

Craig himself was a man with no astronomical qualifications nor was he a member of any astronomical body, but his love for the subject was undeniable and his lectures on the cosmos were well met by the public.

By the time the telescope was underway, Craig had had several disagreements with the rectory of the parish of All Saints church in Leamington about its rebuilding programme. After one particular episode where Craig was accused of misman-

aging church funds, they decided to remove him from the running of the church's redevelopment.

Craig's ideas for the telescope were limited by his need for all its

components to be British, no doubt reflecting the empirical attitudes of the time and those presented at the Great Exhibition in Hyde Park in 1851.

His choice for "chief engineer" was William Gravatt, who had worked with such eminent pioneers as Marc and Isambard Kingdom Brunel; and it was while working on Brunel's Thames Tunnel Crossing that Gravatt had



Bevington's photograph of the Craig Telescope taken in the autumn of 1855.

teamed up with the famous engineers John and George Rennie. This engineering match was not wasted on Craig who saw the advantage of using men who had worked together previously. Seemingly, Gravatt himself was not a man well disposed to conflict and it is likely that many of his ideas were changed or modified to suit the eccentric needs of Craig.

The Site

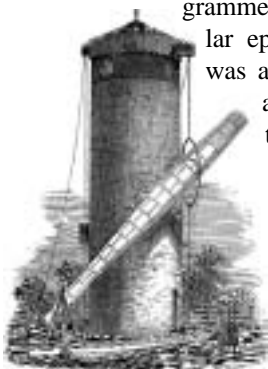
Craig clearly imagined that by siting his "monster" near England's Capital, astronomers would be keen to use his behemoth, pushing it to the limit of scientific endeavour, unlocking many of the secrets of the universe.

So where was he to find a suitable piece of ground for his telescope?

Via an extremely circuitous route he found an ally in the 4th Earl Spencer, Lord of the Manor for Battersea, Putney, Wimbledon and Wandsworth, who promised him a two acre plot just to the west of Trinity Road on the Wandsworth Common. Craig purchased the site for a single payment of £1, on the understanding that he would restore the land to its original state should the instrument fall into disuse.

The Money

The telescope was to prove expensive and in March 1852 despite his relative wealth (especially after marrying his



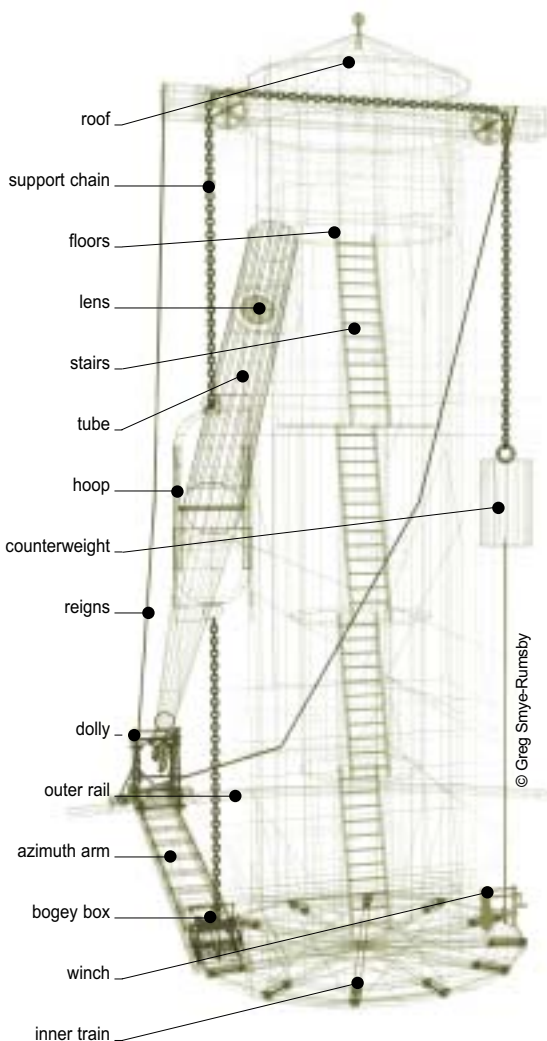
© Illustrated London News

Leviathan

second wife), Craig organised a loan from his brother, Robert Rutledge Craig, for £5,919 17s 9d - a considerable sum. Although details for the purpose of the loan are not specified, its date is more than coincidental. A short while later, he secured a further loan in the form of a mortgage from two of the original trustees - his brother and Francis Mitchell - for £9,816 7s 10d (about £500,000 in 2004), also probably for the telescope project.

The Lens

Finding an optician capable of figuring the huge 24-inch blanks that had been cast by the Chance Brothers of Birmingham and the Thames Plate Glass Company in London, was a challenge. It is possible that there were a number of men Craig approached.



William Sims was already committed to figuring large ground-breaking lenses for the Astronomer Royal - George Airy. So Craig settled for Thomas Slater, a man who never missed a chance to extol his own talents. Slater was possibly known to Gravatt through a mutual friend - Dr John Lee, founder of the Royal Meteorological Society.

Slater's work was, for the most part, admirable. However, once he had brought the blanks to a reasonable shape with machines, and figured and polished them by hand, his ability to check the accuracy of his work was compromised in some way, leaving the flint glass component slightly undercorrected. Once installed in the telescope at Wandsworth, stars could not be brought to final focus, so the lens had to be centrally stopped out, masking some of the error while reducing the light grasp. Despite Slater's protestations, Craig prevented him attempting the corrective work, insisting that any intervention might make the situation worse. Slater was extremely unhappy, as he must have felt it would reflect heavily on his reputation.

The Telescope

Having secured a lease for the site the builders set to work immediately, building not only the tower, but also the numerous "outhouses". The Bevington Photograph shows a number of single storey workshops and storerooms, including what may be a heated astronomers' accommodation block, complete with weather station. The image also reveals something else - that the Rennie brothers' very long workshop for constructing and balancing the tube was not on the two acre plot, but outside on the adjacent property of the Burntwood Estate. Finding that the site would have become cluttered during construction, Craig may have negotiated with the owners of the estate, that should he build the necessary workshop on their property, they would be at liberty to take ownership once the observatory was complete.

The design of the telescope was outdated. A cursory look at Hevelius' 17th

The Builders

Rev John Craig 1805 - 1877



© Learnington Reference Library
Creator

Powerful presence - loved debate and was no stranger to controversy. While generally well liked by his parishioners, some members of the rectory found his attitude difficult and opinionated. His eccentric idea of the telescope was not a successful one, eventually causing him financial loss.

William Gravatt 1806 - 1881



© Institute of Civil Engineers
Engineer

Well respected civil engineer. Superintended projects for both Marc and Isambard Brunel. Especially remembered for the part he played in the construction of the Thames Tunnel Crossing. Despite his capabilities, his skills were not employed to the full by Craig.

Rev J B Reade 1801-1870



© Royal Astronomical Society
Photographer

Developed photosensitive films by means of gallic acid and silver nitrate. Unbeknownst to Fox Talbot, Reade had accidentally found that photographic images could be developed in the dark. However, the discovery was claimed by Fox Talbot - a claim sustained, even after a lawsuit.

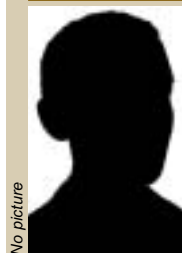
George Rennie 1791-1866



© Science & Society Picture Library
Fabricator

Made his name as a railway engineer, with achievements including the London & Brighton Railway. Some success in marine engineering. Worked on the Thames Tunnel Crossing project, it was here, no doubt, that he met up with Gravatt. Fabricated the tube of Craig's telescope.

Thomas Slater 1817 - ????



No picture
Optician

One of the finest optical technicians in the 1840s. At his address in London he had his own skillfully made 15-cm aperture refractor through which he observed Donati's Comet. Although we don't know when Slater died, by the time of the 1881 census, he had remarried and had had a son.

century 60-foot telescope, for example, bears more than just a passing similarity to Craig's design.

The Operation

Using the instrument would not have been an easy task. The first manoeuvre would have involved turning the winch to raise the tube to roughly the correct height. Nudging the azimuth arm would then have brought the target object into view within the finder. Fine adjustments were achieved within the dolly, the exact mechanism of which is still unknown. Despite contemporary press reports of the telescope's debut, movements in azimuth would have been very difficult, since the 52-foot arm rested on the rough ground, bent by its sheer weight! Indeed most observations would have been undertaken much in the manner of a transit instrument - allowing celestial wonders to pass in front of the lens when transiting the meridian. In this mode, only right ascension needed to be controlled.

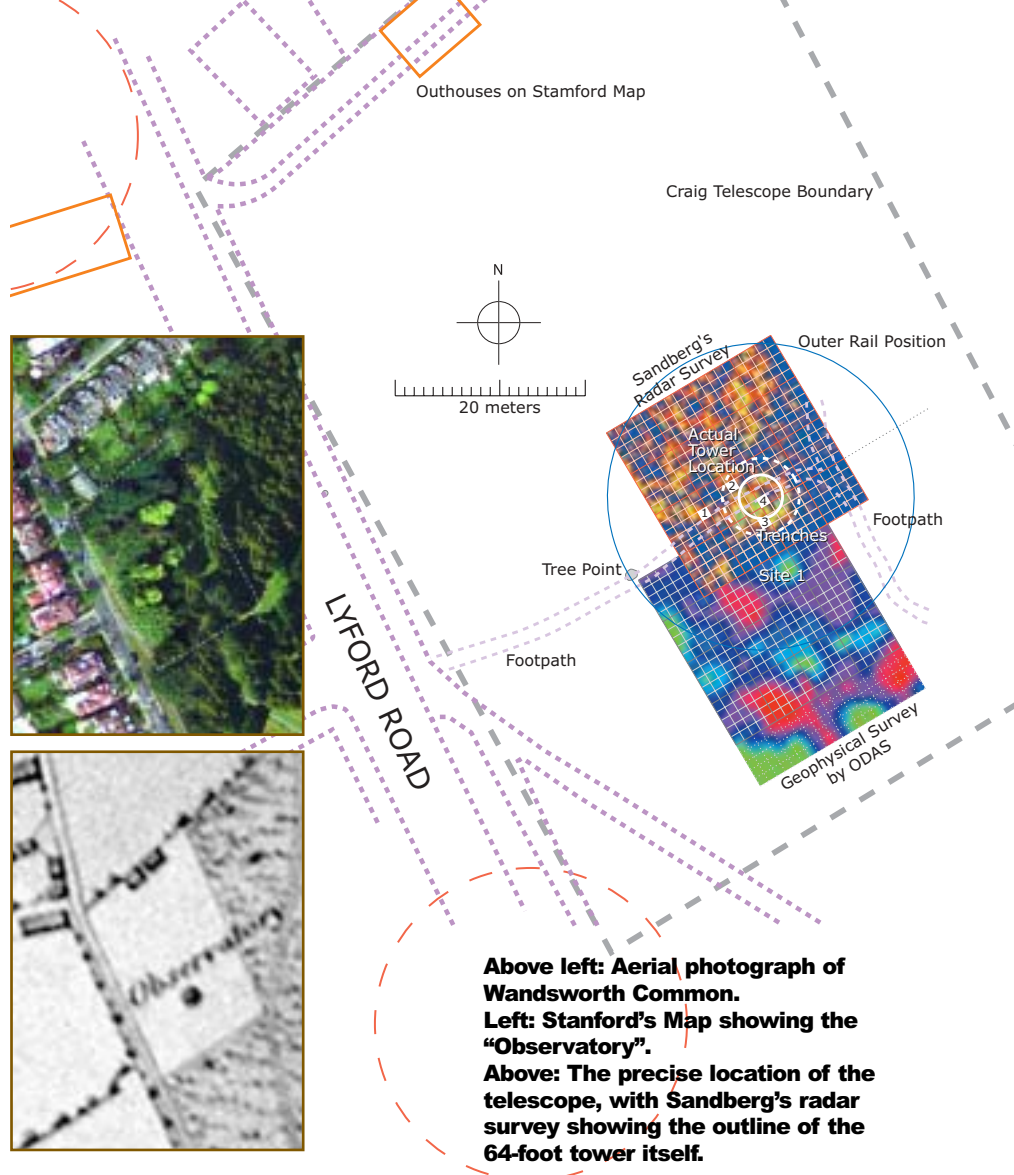
The Big Dig

In 2003, Channel 4's Time Team programme provided the opportunity to find remains of the Craig telescope. At the time its exact location was unknown, although there were several pieces of circumstantial evidence that the telescope lay in the south west extension to the Wandsworth Common, west of Trinity Road.



© Stewart McLaughlin
Stewart McLaughlin's photograph showing what may have been salvaged parts of the outer rail of the telescope.

Firstly, the area around Lyford Road has long been referred to as "The Scope". Secondly, a few years ago before their removal in a clean up operation, three metal rail sections were embedded into the pavement, preventing vehicular access to the many paths that criss-cross this particular area. Were these remnants of the outer rail? A fact brought to light by Stuart McLaughlin a



Above left: Aerial photograph of Wandsworth Common.
Left: Stanford's Map showing the "Observatory".
Above: The precise location of the telescope, with Sandberg's radar survey showing the outline of the 64-foot tower itself.

member of the BAA and a keen "Craigophile". And thirdly, that this is one of the highest points on Wandsworth Common.

The Stanford Map of 1862 shows this area clearly, revealing not only the site but also the position of the tower and two "outhouses" to the north; added to this are the words "Observatory", dispelling any doubt about its purpose.

Although it now seemed that finding any remains would be relatively straightforward, it was only prudent to do some investigative work to make the best use of the two day window that Time Team had provided. The Orpington and District Archeological Society had kindly offered to do a comprehensive resistance survey of the "Stanford" site or "Site 1" as it was to become known. This provided the first surprise - no evidence of any remains - no footings - nothing. Perhaps the scale Stanford had used to draw his map, introduced errors that were larger than predicted. Geological maps showed the whole area covered in gravel beds, laid

down some 300,000 years ago. It now seems these had effectively scuppered any chance of finding the tower's footings using this method.

After a long telephone discussion about "not being able to pay towards a radar survey", Sandbergs of Clapham very kindly provided the much needed signature of the underground workings.

In 2003, Channel 4's Time Team programme provided the opportunity to find any remains of the Craig telescope.

The faint radar outline of the tower was some four meters north of "Site 1".

With just two days to spare we were now ready to start the dig.

On day one, we spent a long time deciding where the first of our four 1-metre trenches should be placed. After several hours of peeling away one "context" at a time, it was becoming clear that despite the radar evidence, the finds were very meagre indeed, and by the end of day two only 5 kilogrammes



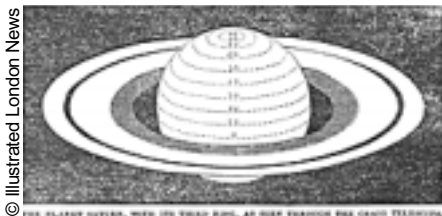
Above: The exact workings of the dolly are unknown, but evidence in the Bevington photograph agrees well with the simple mechanism in the engraving in the Illustrated London News .

of material had been salvaged, but it was equally clear that this *was* the spot where the tower once stood.

Ironically, by the end of the two days, the sheer amount of human traffic had flattened all the weeds, grass and brambles so efficiently that a shallow 8-metre depression revealed itself in the low evening sun - hard evidence of the tower's position!

The Observations

Although the instrument was supposedly built to confirm the existence of Saturn's "third ring", discovered by Bond in the US, and to search for any moons of Venus, in reality observations were rarely undertaken. The instrument proved too difficult to use. The Rev.



© Illustrated London News

Reade had attempted photographing both the Sun and the Moon through the telescope, but the results presented to the Royal Society were poor at best.

The telescope remained in use for about three years between 1852 and 1855, when it was completely abandoned. By 1856 it was dismantled leaving only the tower as a reminder of its

existence until 1871 when even that was demolished.

The Conclusion

Craig never returned to Wands-worth. His life had taken a turn for the worse. In 1852 just after work on the site had started in earnest, Craig's only son died at home in Leamington at the young age of twenty. By 1854, accusations concerning Craig's management of church funds were becoming matters for the courts. That same year his beloved second wife Helena died.

By 1856 Craig's life was becoming very difficult indeed. His own personal finances were strained. His brother, Robert Rutledge, who had loaned him money, had come home from his life in British Guiana, only to die shortly after. In September, Craig was incarcerated in Warwick jail for six weeks for contempt of court. To make matters worse still, he had a foot amputated after a bout of senile gangrene.

Although Craig lived as the parish's vicar until he died in 1877, for a number of years the running of the church was left to his curate. In his final years he seems to have become a grumpy, lonely old man embittered by a lifetime of disappointment in which the telescope played a major role.

Greg Smye-Rumsby is a member of the Orpington Astronomical Society.

The Finds

Tile



One of the red tiles which may indicate the colour of the conical roof.

Brick



A typical brick. The largest fragment was of a nearly complete imperial sized house brick. Notice the red colouring.

Nails



Although not numerous in quantity, these small nails were probably from the floor boarding covering the internal floors.

Mortar



Apart from chippings, this was the only piece of mortar found. It is a small piece of render, possibly from a door or window frame.