The Original Sundial At All Saints' Church

History

This sundial was erected on the southern parapet of the church at the end of the seventeenth century or early in the eighteenth century. It was certainly in place by 1727, because it can be seen in the drawing of All Saints' Church included in Francis Peck's book of that date "Antiquarian Annals of Stanford" (sic).

The role of William Stukeley–arguably All Saints' most famous vicar–in the sundial's installation is much debated. Stukeley moved from London to live in Grantham in 1726. It was not until 1729 that he moved to Stamford, was ordained, and became vicar of All Saints'. In 1747 he left Stamford and returned to London. On balance, it seems unlikely that he had anything to do with the installation of the sundial.

The sundial was removed from the parapet on 9th January 2013, and taken to Cliveden Conservation's workshop for conservation.

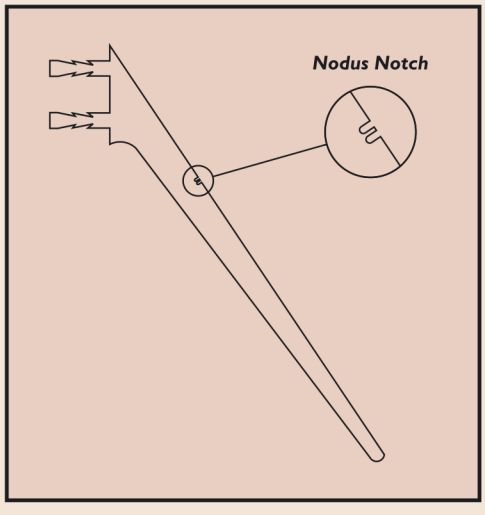
Condition

The iron pins used to secure the pediment to the dial and the dial to the parapet had rusted and expanded, forcibly splitting the stone and leading to its failure. In addition, the iron fixings used to secure the gnomon to the face of the dial caused a longitudinal crack extending the full length of the dial. Inappropriate cement mortars were then used to repair this damage - probably on two separate occasions in the late nineteenth century: these mortars exacerbated the damage.

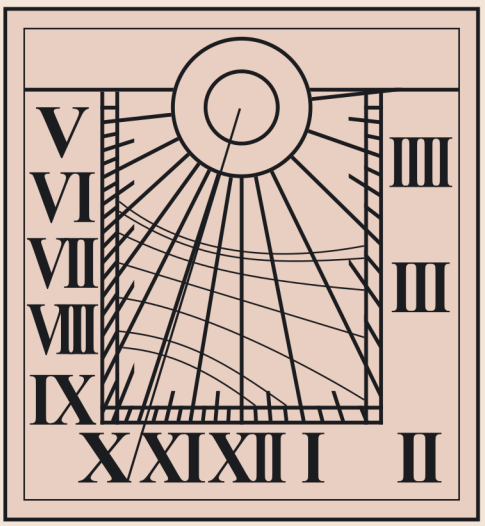
Almost 300 years of surface erosion has rendered the face of the dial largely illegible. The original design is only really visible in strong raking light (this was also confirmed by taking a surface rubbing - as one would a brass monument). Both these techniques have been used to reveal the design, which is shown below.

Interpretation

It is widely known that a sundial measures the time of day. It is less well-known that it can also measure the date. It does this by means of *Declination Curves*.



Examination of the gnomon (left) shows a w-shaped notch on the upper edge. This is the nodus. Every day the shadow of the nodus traced a path across the face of the dial. These paths are called declination curves. Even though the stone is heavily eroded, several declination curves can be seen. We cannot be certain which dates these were intended to mark but it is probable that the first one (counting from the top) marked the winter solstice, (around 21st December) the shortest day in the northern hemisphere. The seventh one probably marked the summer solstice (around 21st June), the longest day in the northern hemisphere. The fourth line may mark the equinoxes – the two days in the year when day and night are of equal length (around 23rd September and 20th March). With the exception of the two solstices, all declination curves mark two dates–one when the sun is southbound the other when it is northbound. Thus a declination curve cannot claim to mark a unique date, but a pair of dates. The second, third, fifth and sixth declination curves probably mark 20th January; 18th February; 20th April and 21st May when the sun is northbound. Correspondingly, the sixth, fifth, third and second curves probably mark 23rd July; 23rd August; 23rd October and 22nd November when the sun is southbound.



The declination curves in this case are asymmetrical because the south parapet of the church, and therefore the sundial in its original position, faces 23.5 degrees east of south.

Conservation

Once demounted, the sundial and pediment comprised five major pieces. Using careful conservation techniques, the cement repair material was carefully removed, to leave the original stone. Holes were drilled and 316 marine grade stainless steel dowels inserted to join the five pieces, secured with a two part epoxy resin.

On 26th February the conserved sundial and pediment were installed within the church, on the east wall of the tower. The sundial is supported on two stainless steel corbels which have been inserted into mortar joints in the church fabric.

Conservation and Installation:
Cliveden Conservation Workshop Limited

Technical Consultant:
Sunnydials

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