Stained glass sundials were very popular in the 17th century but largely died out in the early 18th century, before making a comeback in the Victorian and Edwardian periods. Of the known 18th century dials, most were made by the London-trained Price family but two came from a John Rowell, provincial plumber and water engineer who appears to have become a self-taught glass painter.

Most of what we know about John Rowell comes from an excellent short biography of him by local historian Sidney Gold. Rowell was born in 1689 and married Mary Berry, from Hackney, in 1712, where Rowell’s father may have originated. They settled in (High) Wycombe where Rowell’s relations had lived for many years. The couple had several children but only Francis, b.1714, survived into adulthood. Rowell bought property in Curney Lane and established himself as a tradesman, particularly as a plumber and glazier. He was evidently an intelligent and enterprising individual as he was soon in demand as a water engineer at many large houses in the area. He was also a painter and there are some accounts of his work on canvas in the 1720s. It was not until 1733, however, when he was well into his forties, that he promoted his services as a glass painter with advertisements in the London Journal (27 Jan 1733, new style) and the Craftsman (3 Feb 1733) giving a list of his recent achievements in this field. These were chiefly religious subjects in churches and large houses. He also produced a tradecard (Fig. 1) along similar lines advertising

The Antient Art of Staining of Glass with all the Colours, revived and Performed by John Rowell, at Wycomb,...

The advertisements also state that
He also makes Sun-Dials and Coats of Arms in the Stain’d Glass, and repairs any ancient works in that Art.

They make it clear that his son Francis is expected to carry on the business and that experiments and demonstrations are to be seen in his house in Wycombe. This, together with observations of his existing work, indicate that he was self-taught and developed his methods himself. This was not altogether a good thing as many of his colours were merely painted on.
Francis Rowell died young in 1744 after a long illness and although he is known to have done some plumbing jobs he is not believed to have painted glass. John Rowell took an apprentice, William Truss in 1743 but again he is only known for his plumbing work. We do owe to Truss the fact that we have a portrait of John Rowell whom he clearly regarded highly. The actual pencil drawing he commissioned is now lost but the preliminary sketch, in black chalk, does exist (Fig. 2). On it is written, possibly in a later hand, “John Rowell plumber and glass painter of Reading, Berks., - extremely like. J Weller Delin”. Weller was an obscure contemporary of Rowell who lived in Reading. Rowell appears as a rather distinguished gentleman: despite being a tradesman he was relatively wealthy due to inheritances.

The Arbury Hall Dial
Rowell’s first stained glass sundial is now at Arbury Hall near Nuneaton, Warks. (Fig. 3 in colour on page 183). Its original location is unknown as it was moved to Arbury Hall in 1785 when Sir Roger Newdigate, the 5th Bart, bought it from a dealer, James Broden, among a job-lot of stained glass with which he wanted to adorn his newly built cloisters. Presumably, the original house had been demolished. The dial is signed only “IR 1733” but there can be little doubt that this is Rowell’s work because the form of the dial follows closely that shown in the top-right corner of his tradecard (Fig. 4). Strangely, the drawing shows a dial which is mirror-imaged for a vertical stained glass dial though the actual dial is correct. It is 235mm wide by 300mm high and although now cracked it is painted sufficiently accurately for the traditional fly to be identified as a flesh-fly (Sarcophaga carnaria) though the butterfly seems to show characteristics of both a large and a small tortoise-shell. The dial is rather badly cracked and clumsily repaired but there do not appear to be any holes in the glass for mounting the gnomon.

Where did Rowell obtain the knowledge to allow him to delineate a sundial? One strong possibility (though pure speculation) is through his father-in-law, Francis Berry. Berry was a clockmaker, working from Hitchin: at least one longcase clock by him is known (Fig. 5). Many clock-makers also produced dials. Berry’s will, written in 1723, bequeaths “…and to her husband John Rowell I give my large horizontall dyall showing the azimuths and point of the Compass and every second minute”. Thus we can assume that Rowell knew of this dial 10 years before he made the Arbury Hall one though he had to wait until Berry’s death in 1741 to inherit it.

The Purley Hall Dial
Rowell’s other known dial was made in 1734 for Purley Hall near Pangbourne (Fig. 6), quite close to his home. I first became involved with it when the new owners of the Hall sought more information about it from the Stained Glass Dial website. Through a message from John Carmichael, I was able to visit and to assess this fine dial...
This time the dial is signed in full and it also has a complicated monogram for FS. It was painted for Francis Hawes, then the owner of the Hall. Rowell painted two other windows at the same time, these being armorials for Hawes and his lately deceased brother-in-law John Leng, Bishop of Norwich (Fig. 8).

The dial is a large one (approx 25½" high by 18½" wide) on nine separate panes of glass with the lower-right one having a repaired crack. It is now protected by a single large pane of clear glass fixed in the stone mullion outside it with a gap of around half an inch. As in the Arbury Hall dial, there are no holes in the glass which could have served to mount a gnomon. It has the motto Umbrae Summas (we are a shadow) and, unusually, a second time scale delineated for Constantinople. The reason for this is not clear but may possibly be linked to the (in)famous South Seas Company, of which Francis Hawes was a one-time director. The time offset to local solar time is shown as 2¼ hours although for the true longitudes of Pangbourne (1° 4' W) and Constantinople (31° 0' E in Atkinson’s 1735 Epitome of the Art of Navigation, 29° 0' for Istanbul in a modern atlas) it should be more like 2 hours.

Looking at the main dial in order to calculate its design parameters for a gnomon reconstruction, it was quickly apparent that although the origin of the dial is clearly vertically above the noon cross patté and just off the top of the glass, not all of the hourlines point to it. Indeed, the hourlines for just after noon seem to have totally the wrong slope. The effect can be localised to the lines on the central glass panel and it was at first thought that this pane could be a replacement, especially as, when viewed from the outside, it has a mysterious white rectangle (Fig. 9). Close examination of a b&w photograph of the dial (Fig. 10) taken by Sidney Gold in c.1966 shows that this panel has since been restored as the red background colour had failed completely and only a few remnants of the hourlines were then remaining. The restoration must have been performed in the period between 1966 and the mid 1980s when Christopher Daniel photographed it looking essentially the same as it does today. Whoever did this restoration managed to
achieve a reasonable match to the red background colour by backing it up with a white undercoat on the outside but clearly had no idea of how a sundial is delineated. It also seems that they broke the bottom-right panel in the process as it is undamaged in Gold’s photograph.

Analysis of the original hourlines (Fig. 11) shows that a good match to the dial’s location can be achieved by assuming a window declination of 25.6° W, giving a standard deviation of the individual errors of 0.49°. This declination value was used for the gnomon reconstruction. It was also clear, from a bulge in the putty surrounding the dial, that the original gnomon was actually fitted directly into the frame. It was probably a simple self-supporting rod. The replacement gnomon (Fig. 12) was designed to be fitted directly onto the outer protective glass pane and is of patinated brass. It was attached by means of UV-curable adhesive. The fixing was purposely not made too secure so that, should a branch of the wisteria which grows up the south front, or the gardener’s loppers, hit the gnomon, it will detach rather than shatter the outer glass and endanger the dial.

Epilogue
Rowell continued to produce stained glass windows up to at least 1751 and is known to have been experimenting with painting techniques in his last years: he is said to have at last developed a durable red. No further stained glass dials are known and he died in 1756. One of the witnesses to his will was a Thos Blagrave so it is interesting to speculate whether this might be a descendant of the famous mathematician John Blagrave whose large memorial is in the nearby Reading church. After his death, his (second) wife sold off the demonstration glass panels which were at his home. One of these is *St Luke Painting Christ as the Man of Sorrow* which, together with other work by Rowell, is now at The Vyne (NT) near Basingstoke (Fig. 13). It has been suggested that the figure of St Luke is in fact a self-portrait. Certainly, comparison with Fig. 2 does show a number of common features, particularly the high forehead. The choice of the subject (St Luke is the patron saint of painters) also seems to be significant.

John Rowell appears very much a one-off amongst dial-makers. We can only hope that more of his work may one day be discovered.

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REFERENCES
2. Articles in *Bulletin* 19(ii), (June 2007).

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Fig. 3. The 1733 John Rowell dial, now at Arbury Hall.

Fig. 7. The 1734 John Rowell dial, still in its original location at Purley Hall.

Fig. 8. Stained glass armorials by John Rowell at Purley Hall. Above: Hawes impaling Barnes (west front). Below: Leng impaling Hawes (south front).

Fig. 13. “St Luke painting Christ as a Man of Sorrows” by J. Rowell, c. 1750. Now at The Vyne (NT), it is thought to be a self-portrait. © National Trust Picture Library.