

# SHEDDING A GLORIOUS LIGHT

## STAINED-GLASS-WINDOW SUNDIALS

By CHRISTOPHER ST J.H. DANIEL

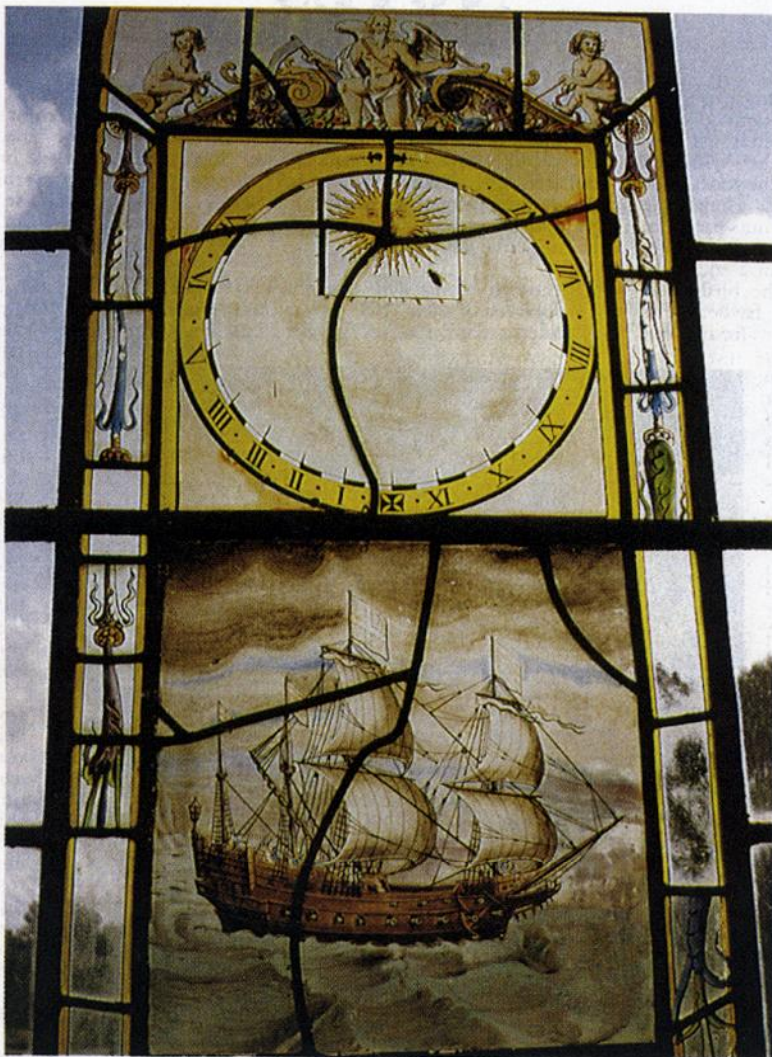
**V**ERTICAL sundials were once common on the walls of principal buildings throughout the country. They were set up both to indicate the time of day and to regulate public clocks, not noted for their accuracy much before the 19th century. A less common form of vertical sundial, but one that was popular during the 17th century, was the painted-glass or stained-glass sundial set in a window, which could be viewed from inside and was decorative as well as functional.

Stained-glass sundials usually took the form of an oblong or oval glass panel, with the gnomon (the indicator that casts the shadow) fixed to the outside of the windowpane. The glass was backed with a coat of white matt or coloured semi-opaque pigment, upon which the hour-lines and numerals would be painted in black (reversed to be read from inside). The surrounding decorations were usually in matt and stain with some enamel washes, occasionally in flashed glass or, more rarely, pot metals.

During the 16th and 17th centuries, the practice of constructing sundials grew and flourished. It was a popular pastime for gentlemen and an important part of a commercial mathematical instrument-making industry. Anyone well educated was expected to have more than a passing interest in the subject, which was regarded as both a science, gnomonics, and a mathematical art, that of dialling. Newton, Wren and Flamsteed recorded their study of this art, which, in clear weather, determined the time from the position of the sun by day and from the moon and stars by night.

With the improvement in clock movements in the late 17th and early 18th centuries, tables for the equation of time were often provided on sundials, to correct observed sundial time (apparent solar time), and enable "clock" time, local mean time, to be deduced. This allowed the sundial to continue its role of keeping clocks and watches properly regulated.

Vertical sundials that face directly north, south, east or west are termed direct-facing dials. However, most buildings have walls that face away at some angle between these points. Such walls are regarded as declining and sundials situated on them are termed vertical declining dials, measured in degrees from



1—17th-CENTURY, DIRECT SOUTH-FACING SUNDIAL, WITH A WARSHIP BELOW. In St Botolph's Church, Lullingstone, Kent



2—SUNDIAL, UPSIDE DOWN, HIGH ON A WINDOW-SILL IN LEDBURY CHURCH, HEREFORDSHIRE

south or north towards the east or west cardinal points of the compass.

Glass-window sundials conform to the same principles that apply to vertical wall dials. More often than not, the surviving examples of this beautiful mathematical art are found to be declining, if only by a few degrees.

The earliest recorded window sundial seems to have been one dated 1518 in the castle of Kurfürsten von Sachsen in Altenburg. The earliest surviving example, dated 1535, is in the collections of the Kunstgewerbemuseum in Berlin. In the 16th century Germany already had a reputation for instrument-making and sundial construction, particularly in Nuremberg and Augsburg.

It is not known when or by whom the first painted or stained-glass window sundial was introduced to Britain. The earliest known example is the exquisite little roundel, only 2½ in. in diameter, set into the magnificent heraldic window in the Great Chamber at Gilling Castle in Yorkshire. In 1571 Sir William Fairfax succeeded to this property, which he held until 1597, and he rebuilt the 14th-century house, including the Great Chamber.

To this day it is almost unaltered, a very fine example of a late-Elizabethan interior richly panelled in English oak. Its windows portray in painted glass the genealogy and heraldry of the Fairfax family.

The main, south-facing bay windows are the work of Bernard Dininckoff, whose signature, with the date 1585 and a tiny portrait of himself, appears just below the sundial in the bottom right-hand light. Dininckoff was possibly a member of a refugee family from Bohemia, which had been annexed in 1526 as part of the Austrian Empire. Many of the European scholars and craftsmen who came to England in the 16th century were fleeing war, plague or religious intolerance, although some, such as Nicolas Kratzer, horologist to Henry VIII, were enticed over. Thus the established English centres of learning and craftsmanship were enriched with fresh ideas and new skills.

Dininckoff appears to have become a member of the York school of glass-painting and much respected, since he was made a freeman of the city of York in 1586. The small circular sundial is the final embellishment to his glass masterpiece for Sir





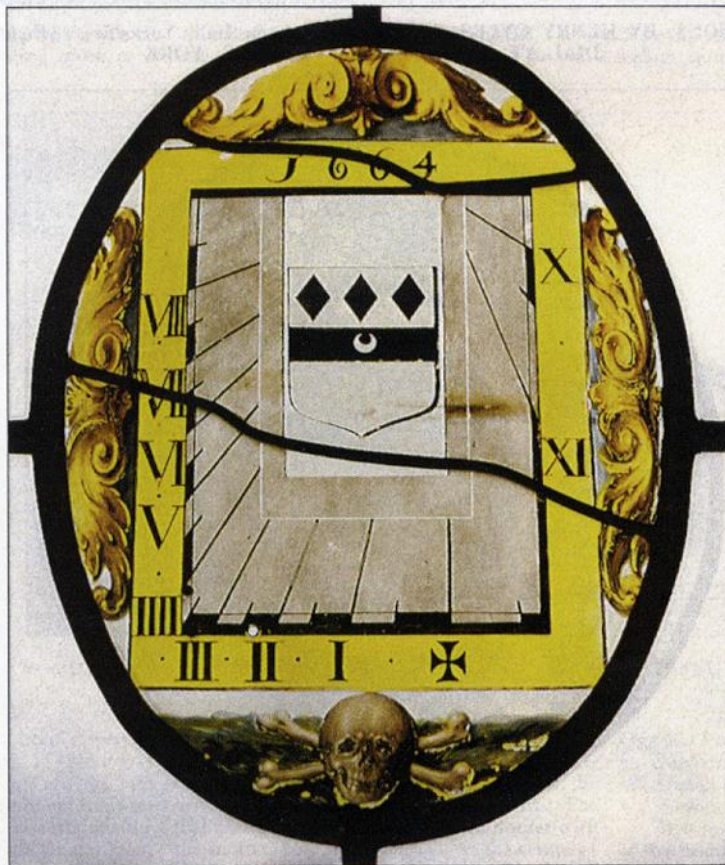
3—EARLIEST KNOWN STAINED-GLASS SUNDIAL IN ENGLAND. By Bernard Dinickoff, 1585. In Gilling Castle, North Yorkshire

William. It is fortunate that it has survived, escaping 18th-century renovations and 20th-century commercial interests. After this branch of the Fairfax family had become extinct, the vendor of the property in 1929 removed the wooden panelling and the glass, and sold them off separately. Fortunately, with the help of the Pilgrim Trust and many friends, it was recovered for Gilling and restored to its proper place in 1952.

A glass sundial, by its very nature, is a fragile instrument, particularly since the glass must normally be drilled with two or more holes to allow the gnomon to be fastened in place. As this is normally made of brass, sometimes of iron or lead, the strain upon the glass must contribute to damage and loss.

However, neglect, vandalism, accidental damage (particularly from tennis balls) and the misguided notion that a glass sundial is valuable for its own sake have caused a large number of these sundials to disappear without trace. Sometimes a painted-glass dial will turn up in a public or private collection, usually without a provenance and therefore open to speculation.

The real value of the glass sundial is that each dial, as



4—DECLINING SUNDIAL, 1664. In Leigh Park Hall, Staffordshire. Sundial construction was a popular pastime for 17th-century gentlemen

with other ordinary vertical sundials, was calculated and made for a particular window, in a particular building, for a given latitude and for the declination of the wall and window in question. Such a dial would be useless if removed and placed in a different window. Indeed, if every glass dial were properly recorded, it would take very little effort to trace it to its proper location, should it have been removed for any reason. The delineation of the hour-lines on the glass provides the details already mentioned, and almost every painted-glass dial differs in decorative subject, quality and style.

Excluding those in collections, such as the 18th-century dial in the British Museum, which is thought to be German, there are some 32 painted or stained-glass sundials surviving *in situ* (or almost *in situ*) in Britain today. It is true that the dial in Ledbury church is upside down, high on a west-facing window-sill, and that in Bucklebury church is in a north window, despite its being a south-facing dial; but these are better fates than losing their glory altogether. It would be preferable, of course, to have them restored to their original windows.

Most of these surviving sundials are the product of the





5—SUNDIAL AND THE SEASONS, BY HENRY GYLES, 1670. Nun Appleton Hall, Yorkshire. (Right) 6—17th-CENTURY GLASS DIAL AT GREY'S COURT COLLEGE, YORK

latter half of the 17th century. Puritan views against the use —of ornate, colourful windows in churches obliged the glass-painter to look towards secular and domestic buildings for his livelihood. As a result, a number of beautiful examples of the glass-painter's art can be found in castles, country houses and colleges.

Probably the finest complete glass sundial, with the gnomon intact and undamaged, is the dial at Tong Hall, near Bradford, West Yorkshire, attributed to and wholly typical of the work of the well-known glass-painter Henry Gyles of York (1645–1709). As Gyles was a friend of Sir George Tempest, who was building the hall in 1702, it is improbable that Sir George would have had any other glass-painter to carry out this work.

However, the sundial has been removed from its original lead and placed in a wooden framework, which has probably destroyed the proof that Gyles was the maker. Gyles was known to have used a glazier's vice, the wheels of which would have impressed his name and possibly the date onto the leadwork. The dial



7—SOUTH-WEST DECLINING SUNDIAL BY GAY OGG, 1981. In Dulwich, south-east London

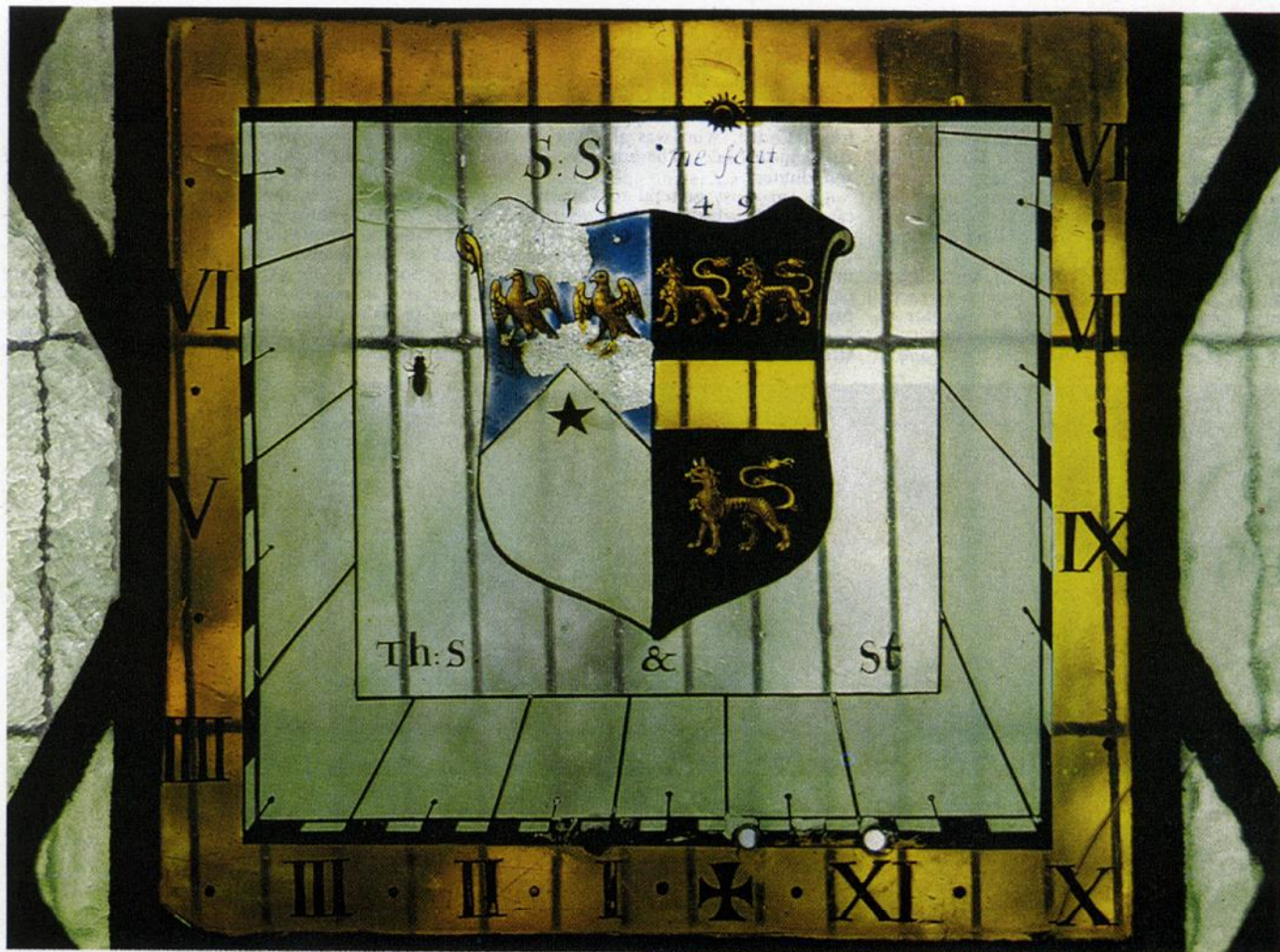
bears the inscriptions "Lat:54" and "Declines 14 deg:East". For the most part, Gyles signed on the glass itself and it is surprising, perhaps, that he did not do so in this case.

Henry Gyles was noted for his glass sundials, which he would sometimes include gratis when given a commission for a large window. A prime example is the dial made for University College, Oxford, depicting the figure of Christ (believed to be the first known portrayal of Christ in this context since the Reformation).

The Nun Appleton Hall glass sundial is fine, too. Signed and dated 1670, it is the earliest known work by Gyles. It portrays the four seasons and has certain characteristics in common with the dial made for Tong Hall, some 32 years later.

Such was Gyles's reputation in this art that many unsigned 17th-century, painted-glass sundials around the country are attributed to him. Some of these may have been the work of another prominent glass-painter of the period, John Oliver (1616–1701), a member of the London Company of Glaziers



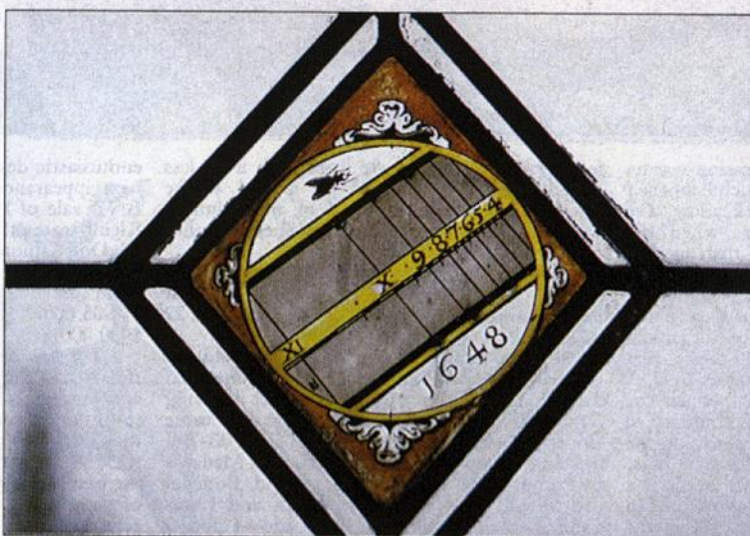


8—HERALDIC GLASS DIAL, 1649, IN BUCKLEBURY CHURCH, BERKSHIRE. A south-facing sundial, it has been restored in a north-facing window. Excluding those in collections, there are some 32 painted or stained-glass sundials surviving *in situ* (or almost *in situ*) in Britain today

and Painters on Glass. Oliver seems to have received many commissions following the Great Fire of London in 1666.

Like Gyles, Oliver had a reputation as a skilled maker of glass sundials. His regular inclusion of a fly is often supposed to be an allusion to the warning "tempus fugit", but flies were very common in domestic glass of that period. Not only were flies depicted on the glass, but sometimes bees, spiders and even their webs. Oliver appears to have included these life-like features on most of his dials.

Unfortunately, almost all of Oliver's sundials have been destroyed or removed to private collections. However, very recently, a glass-painted dial was discovered in a store belonging to the Weavers' Company. It was removed from the Company's old hall when the building was pulled down in 1856, and may have been displayed elsewhere for a number of years. In 1916 it was boxed up and sent out of the City for safe keeping during the Zeppelin bombing raids on London. This sundial is almost certainly the work of John Oliver, and probably dates from about 1669, since Oliver was employed by the Weavers' Company at about that time in reconstructing their hall.



9—SUNDIAL OF 1648 IN THE HISTORY OF SCIENCE MUSEUM, AT OXFORD

The dial is contained in a vertical, oblong panel with D-shaped ends, the uppermost semi-circle of which depicts a winged hour-glass; the lower semi-circle, the Company's arms. The dial itself has a plain yellow-stained border with the motto *Dum Spectas Fugio*. At the centre of the dial, a spider advances from its web to seize an unsuspecting fly. One hopes that the Weavers' Company will soon place the dial in a

suitable window in their London office, to serve a decorative if not a useful purpose.

Fewer glass dials were produced in the 18th than the 17th century, but a fine one by John Rowell of Wycombe is still set in its original south window at Purley Hall. Another very fine glass dial by Rowell is to be seen at Arbury Hall in Warwickshire, dated 1733. In the 19th century, Charles Kempe revived interest in the art of constructing glass sundials and produced some charming examples, but most of these have also disappeared.

Despite indifference and neglect, glass-painted sundials are very much a part of our heritage. Sadly, the number has been reduced by nearly half since the turn of the century. One small delightful modern glass sundial by Gay Ogg has been added in recent years to a house in Dulwich; and one has been replaced in Blackheath by a modern copy after the original was broken by a tennis ball.

It is to be hoped that the known examples of this beautiful art will be preserved *in situ*, and that unknown sundials will be brought to light, wherever they may be.

Illustrations: the author.