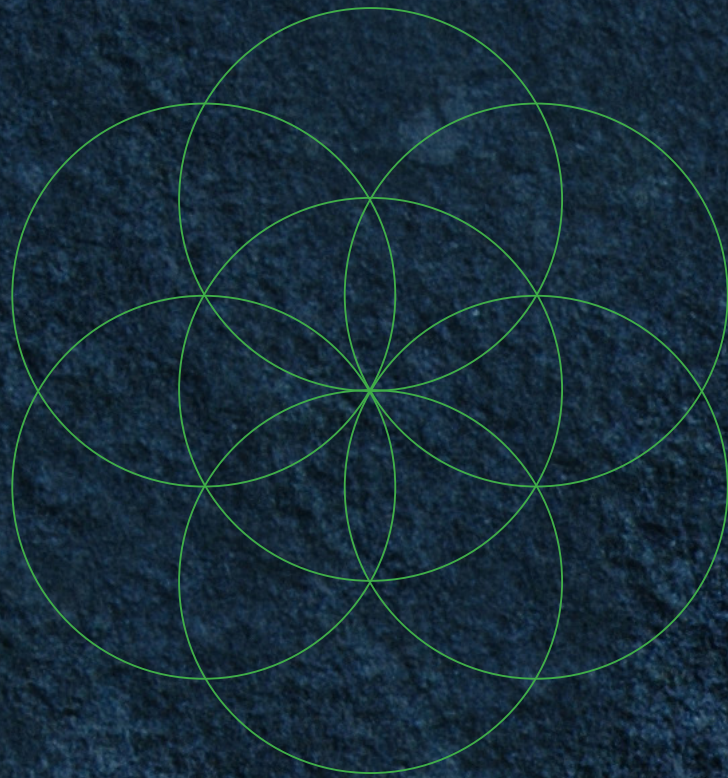
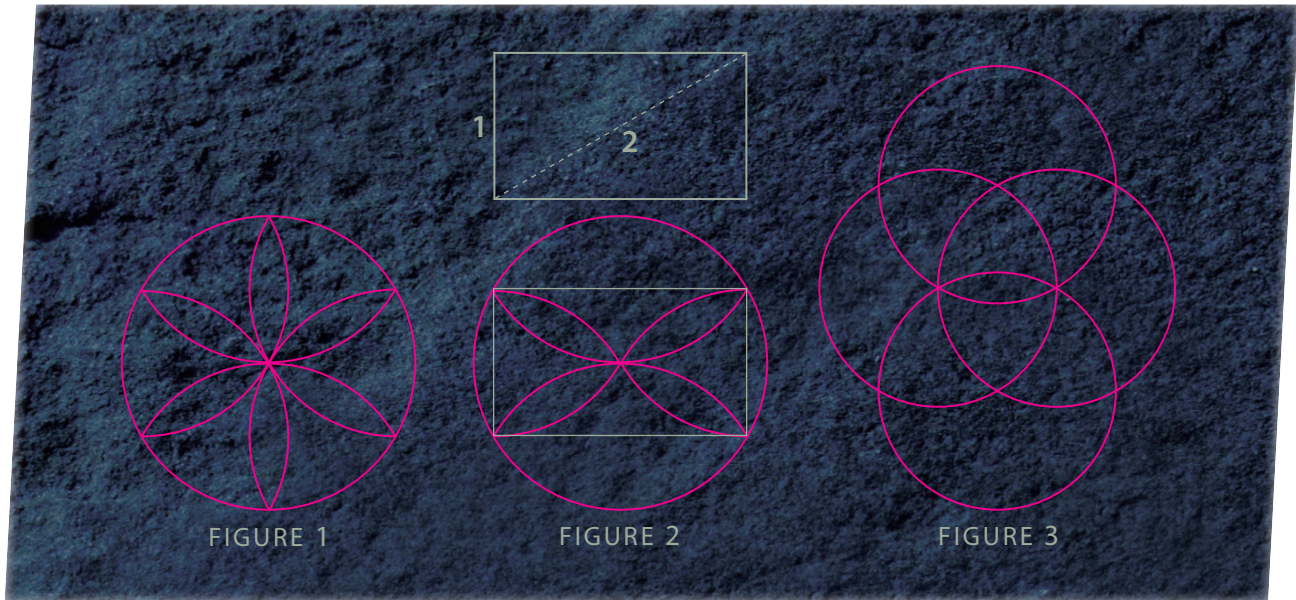


Finding and Recording
Geometrical Symbols
in Historic Buildings



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RECOGNISING GEOMETRICAL SYMBOLS IN HISTORIC BUILDINGS

Geometrical symbols are found in many historic buildings. Some, like the six petalled compass drawn daisy wheel at Ely Cathedral, figure 1, are carved in high relief in stone but many are found scribed delicately into the surface of timber framed buildings. Symbols can vary in size from over a foot to as little as an inch across.

Analysis of the symbols has shown that they are often the source of specific proportions in the plans and sections of the buildings where they are found. A symbol, figure 2, scribed into a cross wall in a Welsh house, is

a simple example. Connecting the four petal tips forms a rectangle that is identical in proportion to the wall itself, with the perfect proportions 1:2 between their short side and diagonal. The carpenter who framed the wall scribed the symbol to record his geometrical method when the house was built in 1552.

Complete house frames can be designed using a symbol as a proportional guide. A timber framed house constructed in East Sussex in c1560 was designed using the four-circle symbol shown in figures 3 and figure 4 (*on the following pages*).

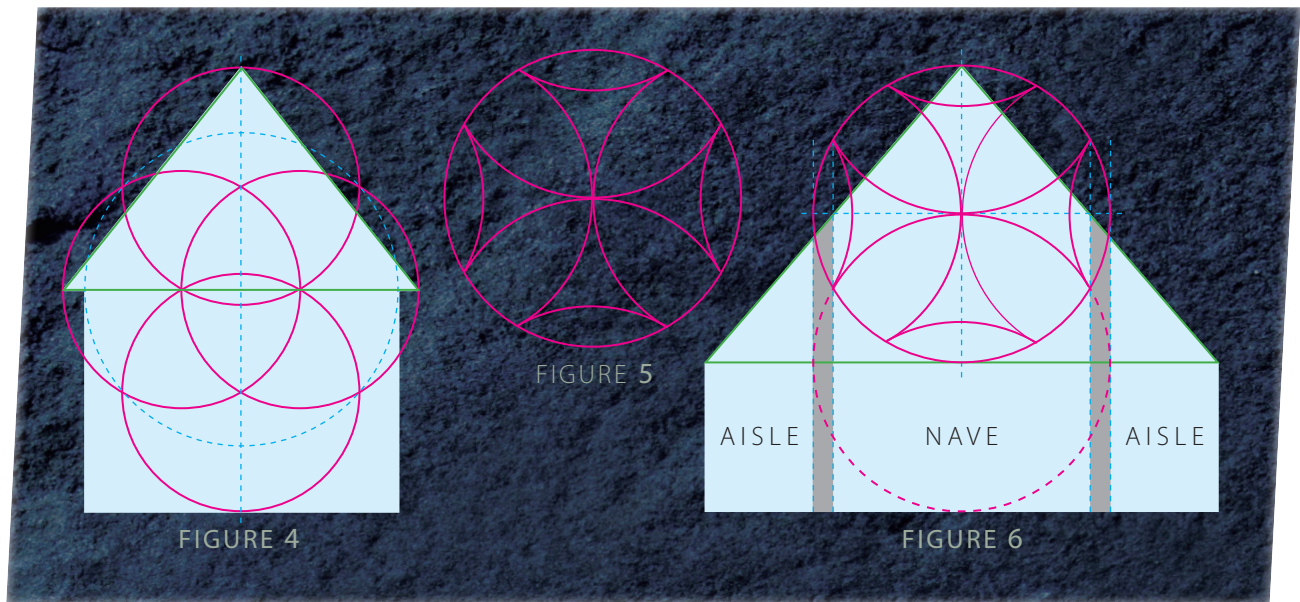


Figure 4 shows the section of the house, developed from the symbol in figure 3. Figure 5 shows the symbol scribed into the frame of the aisled hall Tŷ Mawr (Great House), built at Castle Caereinion in Mid Wales in 1460, and figure 6 shows how it can be used to design the cross section of the house by connecting points of intersection in the geometrical grid. The symbol determines the roof pitch and, with a second, lower circle, the building's height, width and the massive spere posts that define the division between the building's nave and aisles.

The more symbols that are discovered, recorded and analysed the greater our knowledge and understanding of early design systems. However, the symbols scribed into timber frames

are often visually elusive, especially if timber is soot stained or painted. A useful technique for highlighting symbols is to shine light sideways across the surface of the timber so that the scribing stands out as relief and shadow. Head on lighting conceals them. Modern abrasive cleaning techniques such as sand blasting, which can obliterate finely scribed symbols for ever, should be completely avoided.

Recording symbols is a hitherto neglected aspect of historic building research. For advice on finding, photographically recording, rubbing, measuring and recording symbols within your house please email me at ~

laurie@historicbuildinggeometry.uk

RECOGNISING GEOMETRICAL SYMBOLS IN HISTORIC BUILDINGS

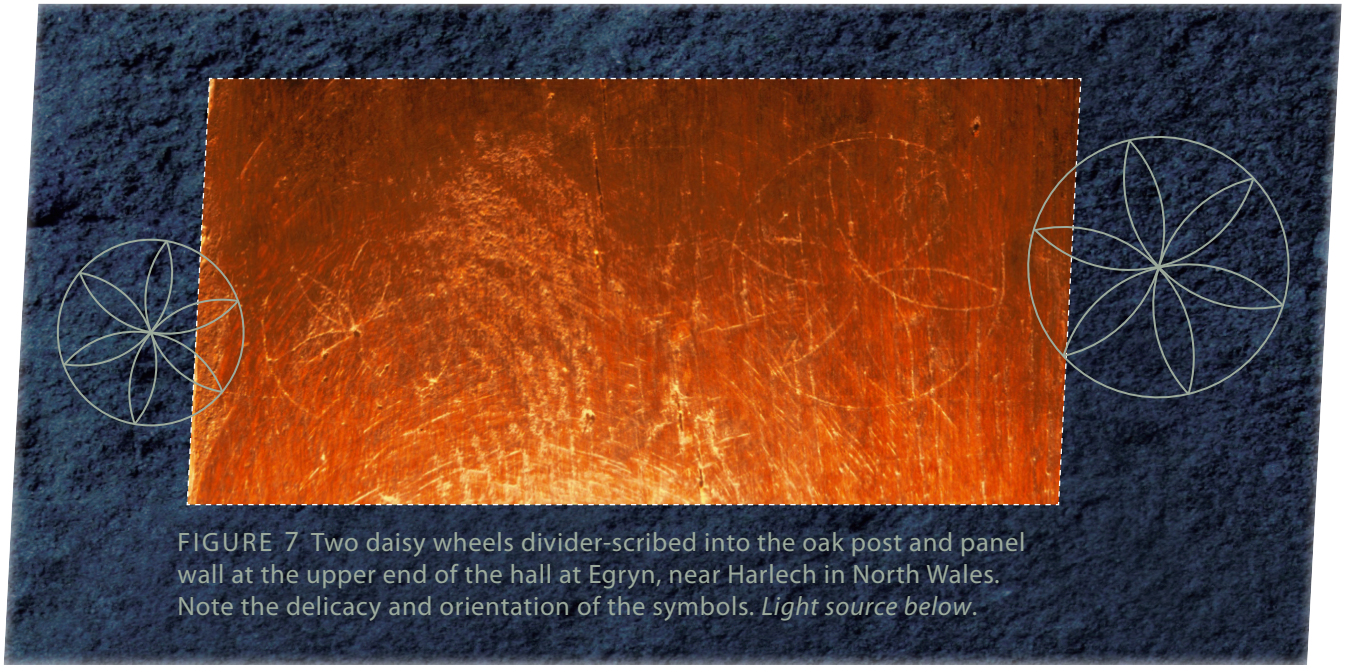


FIGURE 7 Two daisy wheels divider-scribed into the oak post and panel wall at the upper end of the hall at Egryn, near Harlech in North Wales. Note the delicacy and orientation of the symbols. *Light source below.*

RECORDING GEOMETRICAL SYMBOLS IN HISTORIC BUILDINGS

If you discover a geometrical symbol carved or scribed into constructional stone or timberwork at your house (or other building such as a barn) there are a number of things that you can do ~

Make a photographic record

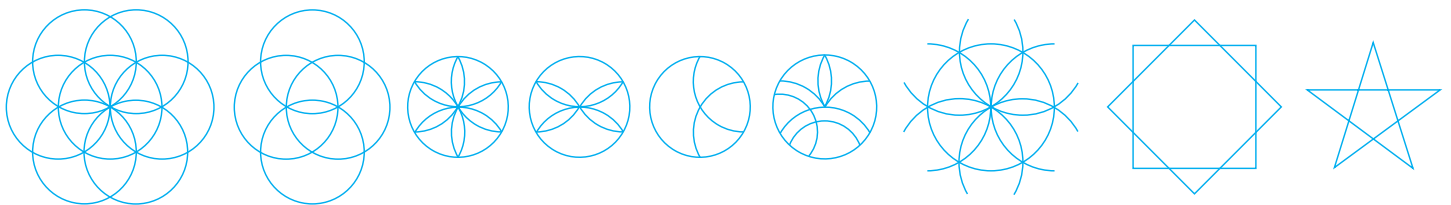
To minimise distortion make sure that the centre of the camera's lens is level with the centre of the symbol. Because many symbols are very finely scribed they will not show in frontal lighting or strong daylight. Artificial lighting from above or from the side across the symbol's surface gives the best results.

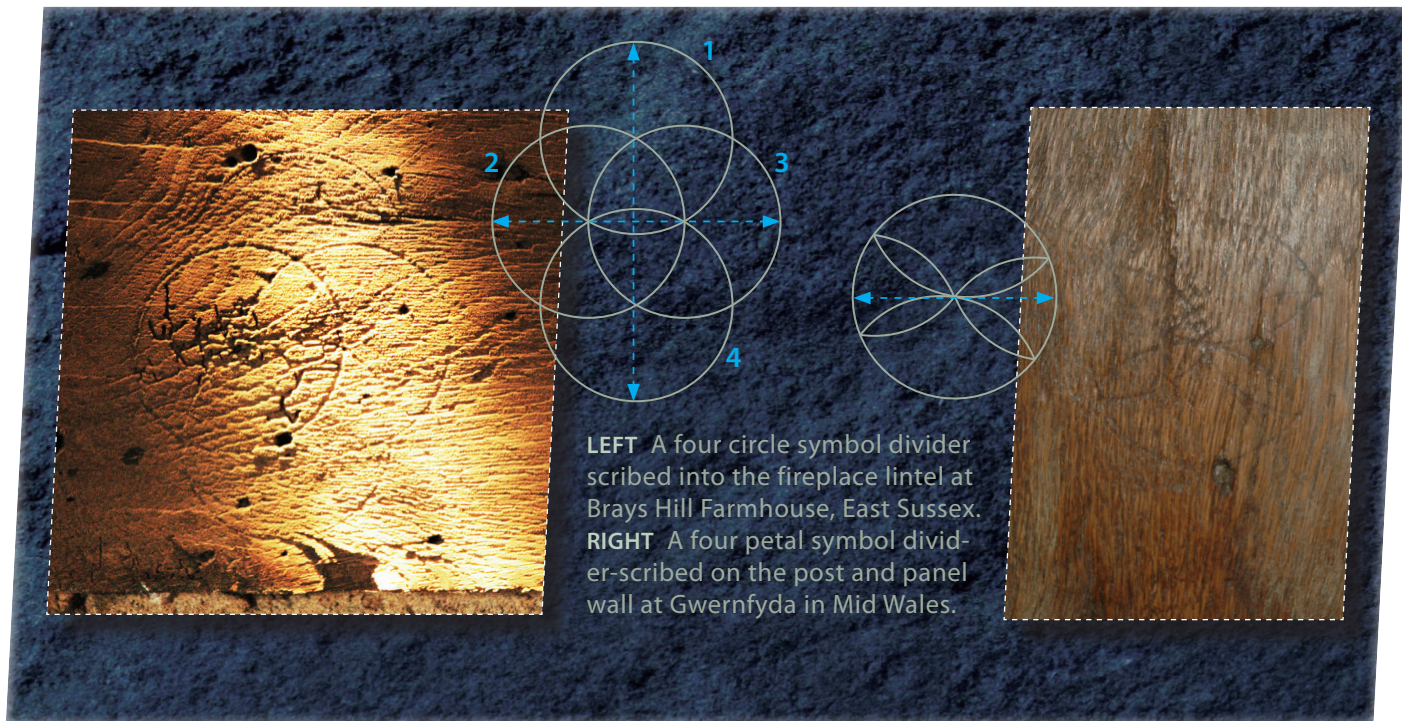
Take a rubbing

Use a dark, waxy crayon on a soft but firm tissue paper. Make sure the tissue remains static while you take the rubbing by taping its edges to the surface. Use tape such as masking tape which will be easy to remove without damaging the surface patina of the masonry or timber.

Draw the symbol

If the symbol is composed of circles it can be re-recorded using a compass. Take radii from the symbol's circles and redraw the symbol accurately. >





Take measurements

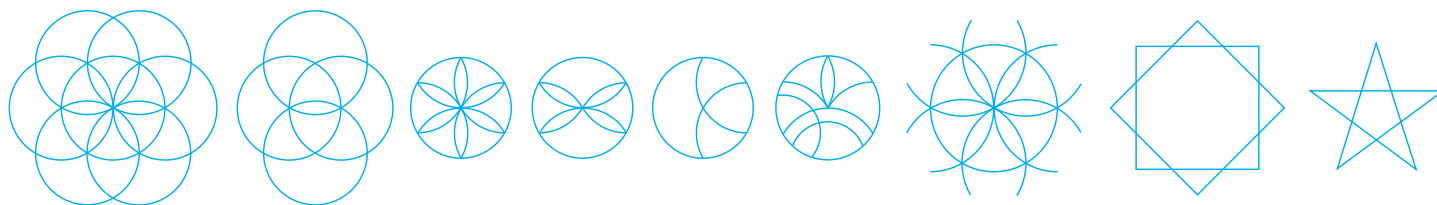
If the symbol is a daisy wheel record the diameter of the outer circle first. If it is a more complex image (above) first measure the symbol's full height and width. Then number the circles and measure each individual circle's diameter. It is useful to make a copy of your photograph or rubbing and to write the measurements on it. Use Imperial measurements (inches and fractions of inches) if possible as these were the dimensions in use when the symbol was scribed.

Record your symbol

Once you have a photograph or rubbing of the symbol and its measurements add any other information you have about the building such as its building date, location, method of construction (stone, brick, timber or combination of materials), etc. Then send copies (with your name, address and contact details) to ~

laurie@historicbuildinggeometry.uk

Your information will help to record the distribution of symbols in the UK.



www.historicbuildinggeometry.uk

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