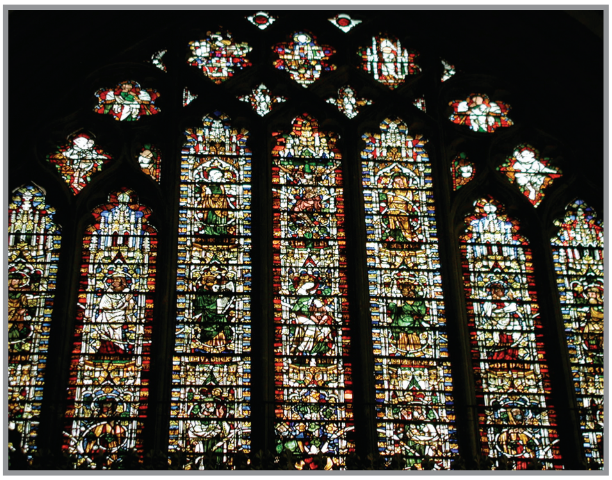
Review: 'An under-appreciated masterpiece: conservation of the great Jesse Tree window in Wells cathedral' lecture by Steve Clare ACR FMGP



In November, the BBC News announced that the final pieces of scaffolding had been removed from the Jesse Window at Wells cathedral in Somerset, after a lengthy restoration. Although the news report referred to a 'meticulous three-year restoration project', only BSMGP members who attended Steve Clare's lecture knew just how special the window is, and how much longer the project had in fact taken, as much of the work had been carried out in his Wells studio.

The 1340–45 window, high up at the East end of the choir, is a broad 7-light window depicting the Tree of Jesse (i.e. Jesus's genealogy). It is widely considered one of the finest Jesse Trees in the world partly because of its unusual color palette. Rather than the deep blues and rubies as often seen, its major colours are greens and golds, both pot metal and silver stain (photo above) – hence to locals it is fondly known as 'The Golden Window'.

It is a part of one of the major English collections of medieval stained glass – though many of lower windows were damaged by Parliamentarians in 1642 and 1643, and remade as 'pie' windows. According to local legend, this window escaped when a soldier who started climbing up to the window to destroy it fell to his death, thus deterring others who may have thought to complete the task!

The major conservation programme was begun in 2010. However, Steve's involvement had begun over 20 years ago while working at Alfred Fisher's studio, when he produced a preliminary report on it. Not only were many leads bowing, causing glass in the panels to bulge, sometimes crack and become loose, but mould growth encouraged by condensation was lifting the paint and corroding the glass, while limescale buildup had obscured the colours. In total, half a million pounds would need to be spent to restore it.

The Friends of Wells Cathedral set to work raising the cash, and a colloborative effort between various experts began, which included the cathedral architect, consultants, external advisory groups, art historians, conservation scientists, conservators from other disciplines, the FAC and CFCE, as well as Steve's team, to research different aspects, weigh up the options and jointly make decisions.

At an early stage, the team evaluated different approaches to external glazing, as this was to be installed as protection against further damage before work began on restoring individual panels. The fact that the window was difficult to see from the road was a critical factor in decisions. To assess the visual impact of different solutions, Steve's team tried 20 different treatments, including making their own Debitus glazing and kiln-softened glass, and metal coatings. They had decided they wanted to keep the stained glass in its original position, and add external panels that could readily be opened up to access the original glass in future conservation work. A scale model of the external glazing was constructed, and different hinges and brackets were tested. The result was that the team settled on a site-specific solution in well-crafted patinated architectural bronze with silver-soldered joints (as lead-soldered bronze often failed), stainless steel hinge pins (as Steve worried about the shear stresses in bronze pins) and neoprene gaskets set into the surface that effectively sealed themselves in. To his disgust, Steve found that he couldn't get this done in the UK but had to go to Germany. For the glazing, the architect had suggested diamond-shaped quarries to match those in the other windows surrounding it on the exterior – Steve agreed and used a 50:50 mix of Lamberts restoration glass and horticultural glass to give visual interest.

Meanwhile, the site survey evaluated the present condition of the windows, cleaning methods, etc. A staement of historical significance was prepared by the historians. The lab analysis done at Bristol University found coke deposits caused by 'Gurney' heating stokes in addition to microbial corrosion. The year-long environmental survey using data loggers to record wet–dry cycles on the glass surfaces gave a clear condensation cycle on the inner surfaces. Finally, armed with all this data, the team jointly decided that the glass needed cleaning but not complete releading. The work then had to go out to tender, so the team had to produce a detailed method statement.

The decision for 'minimal intervention' was a big one, as the work needed to be 'future proof' for 200 years. Partial releading to preserve historical lead where possible meant that the existing lead matrix needed reinforcing. Partially collapsed areas were given little bridges of new lead and new perimeter leads. For internal releading, 3/16" lead was used, and a map was made of lead types to be used that would match the historical timeline provided by the archivist.

The team used back-painting on the leaves of the glass, which harmonized with the stonework and avoided the need to stress glass by removing it from its framework. Glass that was only lightly corroded was left. If affected by manganese browning (below) it was lightly cleaned (no chemicals, just ionized water). This alone greatly enhanced the brilliance of the colour.

Glass cracks were edge-bonded, loose paint layers were consolidated, and options for repainting important details were discussed with, unsurprisingly, some disagreements. Specifically, the face of Christ – the focal point of the window – was missing, which was possibly the work of iconoclasts, and an unpainted of crown glass had been inserted. Although the art historians disagreed, Steve argued for the need to restore viewers' ability to read a face here, and luckily the Dean agreed with him! So the glasspainter painted a new face on a modern piece of glass, which was soldered over the front of the existing glass piece. To unify this visuallly with the surrounding pieces, 'mock corrosion' was also added on this piece.

Finally the panels were ready to be remounted.The panels were supported by bars that follow the leadwork, to which they were tied with copper ties. These in turn were held in by machine screws. For the bottom sills, mesh had been tried but had gummed up. Air gaps were made to allow condensation to escape, though at the conservation consultant's suggestion these were kept quite small, as large gaps let in air that bounces between the two glass surfaces causing turbulent currents as it rises, whereas small gaps allow it to rise more smoothly.

And so, at last, viewers can appreciate the fantastic quality of this glass, and its painted details ... and I for one will be making a beeline to Wells to take a fresh look as soon as possible! *Chris Wyard*