

28. Facts about Glass: Jewels

Like insertions in a previous blog, the idea of jewels in stained glass is simple whilst a very high level of skill is required! 'Jewels' were often used to decorate the hems of clothing to emphasise the important status of the wearer. This involved bonding or inserting coloured pieces of glass into clear glass, which created a jewel-like effect, inspiring the name 'jewels' or 'gems'. The Boppard panels don't have any examples of the jewel technique, but there are some splendid examples in the Burrell Collection.

There are two different types of techniques used to create 'jewels' in stained glass. The first involved an early form of fusing, where a coloured piece of glass was cut to the desired shape and placed on top of a piece of clear glass. Paint was then applied around the edge of the coloured glass and it was fired in a kiln to soften the paint so that it would hold the two pieces of glass together. A twelfth century monk, Theophilus, wrote about this technique in his treatise "On Diverse Arts". He says:

"If in these windows you want to set on the painted glass precious stones of another colour-hyacinths or emeralds*... you can do it in this way without using lead... take pieces of blue glass and shape from them as many hyacinths as there are places to fill. Shape emeralds out of green glass...When they have been carefully fitted and set in position, paint an opaque pigment around them with a brush, in such a way that none of the pigment flows between the two pieces of glass. Fire them in the kiln with the other pieces [of glass] and they will stick on so well that they will never fall off."

*Words Theophilus used to describe the colours of the glass jewels



BURRELL COLLECTION – ST BARBARA



DETAIL OF GLASS GEMS FIRED ON TOP OF THE
CLEAR GLASS

Unfortunately however, over time many of them did fall off. This could be due to any number of reasons; the two pieces of glass were not fired at a high enough temperature for the two pieces to fuse together, if there was any fusion occurring between the two pieces of glass different rates of expansion when heated and cooled could create stresses and lead to them breaking apart, the paint layer was often very thin, and over time weathering can cause the paint to deteriorate.

This photo shows one red and one green jewel remaining, with clear glass painted with shapes where other jewels were originally attached.

The panel of St. Barbara (on display in the South Gallery) contains an excellent example of this technique, with a series of these glass jewels fused along the border of her dress:

The second technique involves cutting a hole and filling it with another piece of glass, usually of a different colour. This is very similar to the technique used for insertions. These jewels differ from insertions in that rather than using lead to hold the new piece of glass in place, it is bonded to the surrounding glass using glass paint. The new piece of glass is made to fit the hole as tightly as possible then the remaining gap is filled with paint and the whole is then heated in a kiln until the paint melts (melting before the rest of the glass) fusing the whole assembly together.

This technique could be used on quite small pieces that would be spoilt by using lead to hold the insert in place. Unfortunately, with heat expansion and the rigours of weather, the paint holding the jewels in place can deteriorate and the jewels have often fallen out. The resulting hole was then often filled with lead to keep the rain and wind at bay.

The Shield of Thomas Harowdon, referred to in several previous blogs, has an excellent example of jewels, including ones that have fallen out and subsequently been filled in with lead, such as the one on the left in this detail:

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J. G. Hawthorne and C. S. Smith "Theophilus On Divers Arts" 1963.



SHIELD OF THOMAS HAROWDON
DETAIL OF JEWELS



SHIELD OF THOMAS HAROWDON