

## David Macdonald: *Carving out a Reputation for Quality*

David Macdonald, Managing Director of Laurence McIntosh Architectural Joiners, described the firm's approach to the restoration of the fixed woodwork of the GSA library, following the fire of 2014.

As detailed drawings already existed and priorities had been fully explained by the client, their main initial requirement had been to create accurate costings for various work packages. They had to produce prototypes to confirm every aspect of quality to the client and costs to themselves. A key part of the prototype phase was a complete 6m by 4m section of the library with floor supports and all wood finishes.

It was decided to manufacture and fully finish woodwork in a new workshop, minimising site work and overall cost and also maximising quality. Only final assembly would take place on site. Detailed fabrication drawings covering grain, structure and fixings were also required before the 'bulk production' could start. They had to use a US supplier of nails who had bought the original Glasgow nail-making machine. Woods included American Poplar, Douglas Fir, Tulipwood from the US and Canadian Maple. Supports were made of two square pieces of tulipwood and a tulipwood fascia covering a same-sized square pine centre. The tulipwood was an individually chosen trunk of slow-growing kiln-dried material. Carving the tulipwood was all done by hand and required the highest skills; the front and back of carved panels were complex and different.



Samples of carving and painted scallops

The method and fineness of sanding required attention; final sanding by hand was chosen as more authentic. Nail holes were predrilled to avoid splitting. Standard paint finishes were difficult to determine; in the end a 1:3 mix of burnt and raw umber was selected as the best match. The paint was applied and rubbed off and then the wood was waxed. Painting the scallops on decorative poles was more complex. The non-paint surface was waxed to avoid paint running onto it. The scallops were then primed with a water-based paint and successive layers built up gradually increasing the paint density. The final coat was applied to an incompletely dry penultimate coat to give a slightly grainy texture.

The original design lacked structural flexibility and some structural members had split as wood dried out. A top joint was improved as it was considered structurally essential. It was also decided to tenon in the bottoms of posts for stability. Dowels were made more accurately. The floorboard finish was roughened to match the original – possibly a riven surface. As joint details were not specified by Mackintosh, individual craftsmen were allowed to make them in their own way in accordance with the same overall design. Flaws in assembly or manufacture were not deliberately replicated, but the odd errant hammer mark was required.

This had been an excellent project to take part in, benefitting from strong leadership and teamwork.

*Jeremy Rycroft*