TIMBER FRAMING

JOURNAL OF THE TIMBER FRAMERS GUILD
Number 31, March 1994

Chris Madigan

Historic Framing

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Light-Framing American Culture

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A Simple Quaker House

PRESERVATION VS. RESTORATION

L. Andrew Nash

IN my 20 years of working on old buildings, preservation has taken a back seat to restoration. But preserving a building usually saves more historic fabric and is often more affordable for the client. Preserving a building is sometimes an overlooked alternative that can be strongly argued for.

Some definitions: Restoration is putting something back into a prior position, place or condition. Reconstruction is putting something taken apart back together, doing restoration as necessary. Reproduction attempts to make a new object exactly like an old one. Preservation seeks to maintain a thing intact or in unchanged form.

The Smithfield (New York) Community Center, originally built in 1820 as the Presbyterian Church, suffered decay problems in the cribbing at the bottom of its steeple posts. Replacing the cribbing ("restoration") was to be a fairly complicated job costing $8,000, while steel beams could do the structural job at half the price. The owner chose steel and while this may sound blasphemous to a timber framer, in the end you can see the original crib and the steel replacement higher up on the posts, the building's history written in the fabric.

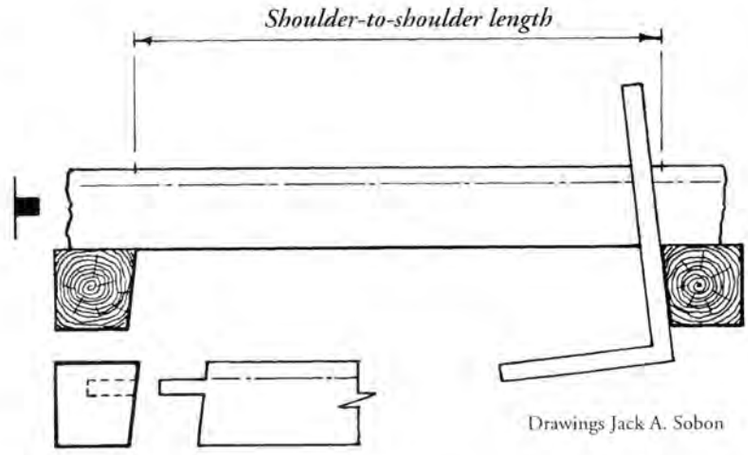
Randy Nash

I have been in some restored buildings that I didn't like. I would rather see the original than a building whose fabric has been removed and replaced with someone else's interpretation.

SCRIBE RULE, SQUARE RULE

Jack A. Sobon

MOST frames cut before 1800 in this country were laid out according to what we call the Scribe Rule, a way of accounting for significant variations in section of timbers where they meet at joints. Scribing timbers requires their being physically arranged so as to project lines of intersection from one to another. To fit beams to non-orthogonal surfaces, they must be set over the beams they will meet and "tumbled" to obtain the correct positions and lines for cutting shoulders (illustration). In cases such as tenon shoulders to bear against irregular surfaces, joints must be partially cut and assembled in order to obtain the necessary lines. Drawbored pin positions must be found by fully assembling mortise-and-tenon joints and then marking the tenon through holes in the mortised piece.



Drawings Jack A. Sobon

Devices such as the two-foot mark (illustrated) ensure the desired overall dimensions of an assembly regardless of variations in the breadth of components typically hewn and tapered in section.

The Square Rule technique, which appeared in this country just after 1800 and by 1832 is referred to in literature as a standard approach, eliminates most handling of the timbers by supposing a perfect rectangular solid free of taper contained within each real piece of timber (illustration). If the supposed timber is in every case smaller than the real one, this conception allows prior calculation of every dimension in the frame, including dimensions at the joints, and it allows (indeed requires) cutting orthogonal surfaces at the joints. Assuming correct calculations and workmanship, a frame may be entirely prefabricated without trial fittings in complete confidence that it will go together at its first raising. On the other hand, sizing flats must be cut at every mortise location to obtain the ideal dimension within the timber (illustration) and tenons must be worked to standard heights.

Although English framers, who work with short or crooked timber, continue to this day to use a version of the scribe rule, for American timber, which runs straight, the square rule has become the general method.