Stonework in Residential Architecture

by Richard Sammons

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Odd isn't it,

that the wealthiest country in the world builds in the cheapest and most shortsighted way. Nowhere is this manifested more than in our phobia of load-bearing masonry construction.

Since World War II it is hard to find any use of load-bearing masonry, especially in residential work. Here, the standard has been wood frame construction with whatever façade treatment you choose: wood, stucco, brick, or stone veneer.

This method has historical roots that reach back through the centuries. Northern Europe is, for the most, part a *dry-trade* construction culture—meaning timber framing, whereas Southern Europe and the Middle East are primarily *wet-trade* construction cultures—meaning masonry.

An explanation, perhaps over simplified, may be that although brick masonry became popular in England after the fire of London in 1666, Anglo-America inherited both traditions. With our abundance of timber and the bitterness of our winters, wood construction won out.

The logic of the frame permeated the engineering structures of the nineteenth century in the United States as evidenced by bridge trestles and steel frames for building. When concrete became available, we then formed it also into posts and beams (with steel reinforcement) rather than walls, arches and vaults, the natural forms of masonry which generally require no reinforcement.

Our classical architecture, filtered through Roman and Renaissance practices, is largely an art of masonry construction. The illogical act of frame and cladding construction techniques for masonry forms could be argued to have led largely to an abandonment of the classical tradition in favor of modernism. The loss of this masonry tradition is one of the great cultural tragedies ever to befall the human race. Frame construction is expedient, but for longevity and sustainability, traditional masonry construction is clearly superior.

Proponents of load-bearing architecture do exist, England's Quinlan Terry being the most visible. Terry inherited the office of the unrepentant classical architect, Raymond Erith. He continued Erith's work, building seven-story load-bearing brick office buildings and country houses through the dark ages of the 1960s, '70s and '80s.

Other architects such as Julian Bicknell, Robert Adam, Demetri Porphyrios, John Blatteau and Alvin Holm, led a growing revival of classicism from the 1980s forward. Julian Bicknell's Henbury Rotunda is most notable; Demetri Porphyrios is now designing a new Gothic quadrangle in fieldstone for Princeton University.

Our architecture firm joined this movement in 1992. As a young architect, I also couldn't see the logic of building in frame while expressing the construction in masonry. The *honesty* issue didn't bother me, as the entire history of architecture is full of one material imitating another, usually to delightful effect. No, the problem I had was one of longevity and robustness of the construction. For example, with brick veneer, all of the thermal stress of the structure is concentrated within the 4 inches of isolated exterior "skin," thus requiring expansion joints, weep holes, internal water proofing, etc. Thick-walled masonry buildings provide a heat sink, which disperses thermal stresses. An exception to this is the "packed" frame. In prewar steel construction, it was typical to pack masonry between the steel framing so that the masonry veneer was backed up by masonry, thereby stiffing the frame.

Another determining issue for my preference was that masonry, once freed by its hidden supporting structures, has a tendency to be used in ways totally irrational to masonry construction. From McMansions to strip malls to the recent Federal Building in Washington D.C., masonry is used in ways that it could never hold itself up.

Therefore, not wanting to fall into these practices, it was my job as an architect to convince the client to spend the extra money to build in a more permanent way.

The first job where we succeeded at this was a house on a hill in Washington, Connecticut called Litchfield, a diminutive Georgian baroque villa. The plan is based on a plan of the eighteen century architectRobert Morris from his book *Rural Architecture*However, the character was inspired by the Scots architect William Adam, the father of the more famous sons. The construction is a bonded 12" brick and block wall with independent wood framing on the interior. Having won the argument for load-bearing masonry, we lost the argument for cut stone. The detailing here is an acid-washed cast stone, and the castings are full depth and solid. The skewbacks at the pediment corners are well over 500 pounds each but mostly the stones are in the "two man" weight. Texas Carved Stone Company made a fountain for the courtyard from